ISSN: 2220-573X

INTERNATIONAL SCIENTIFIC CONFERENCE:

ARE WE READY?

CHALLENGES OF THE SOCIETY FACING

DIGITAL TRANSFORMATION

BOOK OF PROCEEDINGS

The Mediterranean University of Albania

In collaboration with

LITHUANIAN BUSINESS UNIVERSITY OF APPLIED SCIENCES (LITHUANIA)

UNIVERSITY OF TUSCIA, VITERBO, (ITALY)

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ARE WE READY?
CHALLENGES OF THE SOCIETY FACING DIGITAL TRANSFORMATION

UMSH Press 2023
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Tirana, 13-14 April 2023

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DIGITALIZATION AND CRIME

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Abstract

Our century is referred to as the digital century. Nowadays, mobile digital technologies and the digital world are pervasive all over the world. This change in technology development has enormous advantages while posing enormous risks at the same. More than a million people fall prey to digital crime every day, making it one of the criminal activities with the fastest growth. The peculiarity of these crimes is that the nature of crime has changed as a result of the advancement of digital technologies, and the majority of them are committed in virtual settings. The international community and states have been working to prevent crimes from being committed using computers for many years. Although relevant conventions, agreements, recommendations, and laws have already been adopted, they do not accurately depict this field's present state of affairs. The issues brought on by using contemporary technologies receive equally close attention from scholars and experts. However, there is no consensus of thought, and the majority of writings use phrases like "computer crime," "cybercrime," etc. that are largely out of date. In the meantime, research into the existing state of crime in this area, as well as analysis of legislation and scientific literature, demonstrate the need for the clarification of the current definition of computer crime, which should be expanded to include the concept of digital crime.

Key words: digitalization; cybercrime; phenomenon; advantage; risk.

1. Introduction

Digital crime, or cybercrime, refers to any illegal activity that involves the use of technology, computer systems, and the internet. This type of crime encompasses a wide range of offenses committed in the digital realm, targeting individuals, organizations, and even governments. Examples of digital crime include hacking, identity theft, fraud, online harassment, cyberbullying,

intellectual property theft, unauthorized access, data breaches, and network disruptions. The scope of digital crime is vast and constantly evolving as technology advances. With the growing interconnectedness of our world and the widespread use of digital devices, cybercriminals have discovered new ways to exploit vulnerabilities, disrupt systems, and profit from their malicious activities. Digital crime transcends geographical boundaries, as attackers can operate from anywhere in the world. This makes it a global issue that necessitates international cooperation and coordination. Digital crime has a significant impact on both individuals and society as a whole, resulting in financial losses, compromised privacy, reputational damage, psychological trauma, and even physical harm. It presents significant challenges for law enforcement agencies, governments, organizations, and individuals who must continually adapt to emerging threats and implement effective cyber security measures to mitigate the risks.

Understanding the definition and scope of digital crime is crucial in developing strategies to prevent, detect, investigate, and prosecute cybercriminals. It involves analyzing the motives, techniques, and tools employed by offenders and the evolving landscape of digital crime. By comprehensively exploring the realm of digital crime, we can better equip ourselves to combat this ever-evolving threat and create a safer digital environment.

Due to its pervasiveness and adverse effects on individuals, businesses, and society as a whole, studying digital crime is of the utmost importance. The following points can be used to summarize the importance of understanding digital crime:

a) Awareness and Prevention: People and organizations can become more proactive in securing their digital assets by becoming aware of the different types of cybercrime, their tactics, and the weaknesses they prey upon. Users can be empowered to identify possible dangers, adopt secure behaviors, and take preventive steps by participating in awareness campaigns and receiving information on digital crime.

b) Law Enforcement and Justice: Law enforcement organizations and legal frameworks have particular difficulties as a result of digital crime. Cybercriminals must be investigated and prosecuted using specialist expertise, resources, and international cooperation. In order to effectively battle cyber threats, law enforcement agencies can become knowledgeable in digital forensics, cyber investigations, and emerging technologies by studying digital crime.

c) Policy and Legislation: For policymakers and politicians to create the proper legislation and regulations, they must have a thorough understanding of the scope and effects of digital crime. Effectively addressing cybercrime depends on developing a legal framework that targets digital crime, safeguards victims, and encourages effective international cooperation.

d) Technological Developments: Cybercriminals' methods change as technology advances. Researchers and technology developers can build advanced cyber security solutions and cutting-edge technologies that can withstand cyber-attacks by investigating digital crime and gaining insights into new threats and weaknesses.

e) International Cooperation: Because digital crime crosses national boundaries, it is important for governments, organizations, and law enforcement agencies to work together internationally. Studying cybercrime encourages cooperation, information exchange, and the creation of cooperative projects to jointly tackle cyber threats.

In conclusion, a variety of unlawful behaviors carried out online and via technology are included in the definition and scope of digital crime. Studying cybercrime is important because it promotes effective awareness, prevention, law enforcement, policy creation, technology development, and international cooperation.

2. Types and Causes of Cybercrime

1) Cyber-attacks and hacking

Cyber-attacks and hacking are among the most common types of digital crime, encompassing a variety of malicious activities designed to obtain unauthorized access to computer systems, networks, and sensitive data. These assaults may result in data breaches, monetary losses, operational disruptions, and privacy compromises. Understanding the varieties of cyber-attacks and their underlying motivations is essential for combating this pervasive threat.

Malware, short for malicious software, is a common tool used by cybercriminals to obtain unauthorized access to or disrupt computer systems. Various types of malware exist, including viruses, worms, and Trojan horses. Viruses affix themselves to legitimate files and propagate through file sharing. Worms are autonomous programs that replicate and propagate across networks without user intervention. Trojan horses masquerade as legitimate software, but once deployed, they perform malicious actions. Malware may be used for data

thievery, system corruption, or the creation of a botnet, a network of compromised computers.

Phishing attacks deceive individuals into divulging sensitive information such as passwords, usernames, credit card information, and social security numbers. Typically, attackers impersonate legitimate organizations by sending phishing emails and messages and constructing phony websites that appear authentic. Phishing attacks use social engineering techniques to convince victims to click on malicious links, download malware, or provide personal information. Typical objectives of phishing attacks are financial gain, identity theft, or unauthorized account access.

Denial of Service (DoS) and Distributed Denial of Service (DDoS) Attacks are designed to disrupt the availability of a targeted system or network by flooding it with an excessive quantity of traffic. In a denial of service (DoS) attack, a single source overwhelms the target with traffic, making it inaccessible to authorized users. DDoS attacks, on the other hand, are orchestrated by multiple sources, frequently using a botnet. DDoS attacks can incapacitate websites, online services, or entire networks, resulting in monetary losses and reputational harm.

SQL injection attacks exploit flaws in web applications that use Structured Query Language (SQL) to communicate with databases. In order to trick the application into executing unauthorized commands, attackers introduce malicious SQL statements into user inputs. SQL injection assaults can lead to unauthorized database access, data manipulation, or the disclosure of sensitive data.

Zero-day Exploits target vulnerabilities in software or systems of which the vendor is unaware or which have not been corrected. Cybercriminals discover these vulnerabilities and exploit them prior to the development and deployment of security upgrades. Zero-day vulnerabilities can be sold on the illicit market or used for espionage or sabotage by state-sponsored actors.

APTs are highly sophisticated and targeted attacks, typically orchestrated by well-funded and organized organizations. APTs require a persistent presence within a targeted network in order to pilfer sensitive data, conduct surveillance, or sabotage operations. To maintain persistent access to the victim’s network, APTs frequently combine multiple attack techniques, such as social engineering, malware, and zero-day exploits.

Motives for cyber-attacks and espionage can vary significantly. Financial gain is a common motivation for attackers, who typically seek to profit from stolen

financial information, conduct ransom ware attacks, or engage in fraudulent activities. Other motivations include espionage, theft of intellectual property, political motivations, activism, and simply causing confusion and disruption.

2) Identity Theft and Financial Fraud

A topic of concern is the occurrence of identity theft and financial fraud. Digital crime is a widespread phenomenon that encompasses identity theft and financial fraud, both of which are targeted at individuals, financial institutions, and businesses. The aforementioned illicit behaviors pertain to the unapproved procurement and exploitation of individuals' personal data and financial information with the intention of perpetrating deceitful acts. Comprehending the techniques utilized by malevolent actors in perpetrating identity theft and financial fraud is imperative to preempting and alleviating these deleterious offenses.

Identity theft is the act of unlawfully obtaining an individual's personal information, including but not limited to their name, social security number, address, or financial particulars and utilizing it without their authorization. The acquisition of sensitive information by cybercriminals is facilitated through diverse methods such as unauthorized access to databases, phishing schemes, data breaches, or malware infiltrations. Upon the acquisition of personal information, it can be utilized for the purpose of initiating unauthorized bank account openings, credit card acquisitions, loan applications, or other illicit activities. Identity theft can result in significant financial damages, impair credit ratings, and adversely affect the victim's reputation.

Credit card fraud pertains to the illicit utilization of an individual's credit or debit card data to carry out deceitful transactions without their consent. Credit card details are acquired by cyber criminals through diverse means, such as breaching online shopping platforms, intercepting card information during transactions, or utilizing skimming devices at point-of-sale terminals or ATMs. Credit card information that has been stolen is frequently traded on illicit markets, where malefactors utilize it to carry out unapproved transactions or obtain cash. Instances of credit card fraud can have detrimental financial consequences for both individuals and financial institutions, resulting in elevated fees, heightened interest rates, and compromised creditworthiness.

Online banking fraud is a type of criminal activity that involves the unauthorized access of online banking accounts or the execution of fraudulent transactions, with the aim of targeting both individuals and financial institutions. The utilization of diverse strategies, including phishing emails, key loggers, or malware, is a common practice among cybercriminals to acquire

login credentials and subsequently commandeer the accounts of their targets. Upon gaining access, malevolent actors have the capability to transfer monetary resources, execute unapproved transactions, or engage in other unlawful financial endeavors. The perpetuation of fraudulent activities in online banking can result in substantial monetary damages for individuals and undermine confidence in the security of online banking platforms.

Investment scams refer to fraudulent schemes where individuals are deceived by fraudsters into investing in such schemes with the promise of high returns or exclusive opportunities. Instances of fraudulent activities frequently occur via digital channels such as online platforms, social media, or unsolicited electronic mail. Perpetrators of cybercrime fabricate spurious investment prospects, Ponzi schemes, or pyramid schemes, luring unsuspecting individuals to invest their funds. Upon the deposit of funds, the perpetrators abscond or utilize the funds for their own benefit, leading to substantial monetary damages for the affected parties.

Money laundering is a technique employed by criminal entities to obscure the illicit sources of their acquired funds, thereby rendering them seemingly lawful. In the digital realm, cybercriminals may exploit online platforms, crypto currencies, or digital payment systems to launder money. They may use complex networks and transactions to obscure the source and destination of funds, making it difficult for law enforcement agencies to track and seize illicit assets.

The motives behind identity theft and financial fraud are primarily financial. Cybercriminals aim to profit from stolen identities, credit card information, or fraudulent financial transactions. The stolen information and funds can be used for personal gain or sold on underground markets, contributing to a broader ecosystem of digital crime.

Mitigating the risks of identity theft and financial fraud requires the implementation of robust cyber security measures, such as fortified authentication protocols, encryption, and fraud detection systems. Furthermore, it is imperative for individuals to exercise vigilance and implement secure measures, such as consistently monitoring their financial statements, utilizing robust passwords, and exercising caution when encountering dubious emails or websites. Financial institutions assume crucial responsibility for executing anti-fraud measures, performing periodic risk evaluations, and educating clients on probable fraudulent activities and optimal security protocols.

3) Online harassment and cyberbullying

The phenomenon of online harassment and cyberbullying has become a prevalent issue in contemporary society. Online harassment and cyberbullying are types of digital offenses that employ technology and the internet to coerce, intimidate, or inflict harm on individuals. Instances of aggression can manifest through diverse digital channels, such as social media, messaging applications, electronic mail, and virtual discussion boards. The ramifications of online harassment and cyberbullying are profound for the emotional, psychological, and social well-being of those targeted. It is imperative to comprehend these occurrences to effectively combat and forestall such digital offenses.

The phenomenon of cyberbullying pertains to the utilization of electronic means to perpetrate acts of harassment, intimidation, or humiliation against individuals, frequently in a repetitive and prolonged manner. Cyberbullying encompasses a range of behaviors, such as transmitting messages that are menacing or disparaging, disseminating rumors, divulging confidential or humiliating data, or fabricating fictitious profiles with the intention of ridiculing or tormenting the target. The impact of cyberbullying is amplified by the anonymity and extensive reach of online platforms, which enable perpetrators to target their victims remotely and have the potential to reach a significant number of individuals. The phenomenon of cyberbullying has the potential to cause noteworthy psychological turmoil, social detachment, depressive symptoms, and, in severe instances, self-inflicted harm or suicidal ideation.

Online harassment is a form of aggressive conduct that occurs in the digital realm and is frequently directed towards individuals on the basis of their personal attributes such as race, gender, sexual orientation, and religion, among others. The act in question may encompass a range of behaviors, including but not limited to the use of intimidation, expressions of animosity, persistent pursuit, the exposure of confidential data, or the dissemination of personal images without the subject's consent, commonly referred to as "revenge porn." The act of online harassment is intended to instill fear, suppress expression, or relegate individuals to a position of insignificance, thereby fostering an antagonistic and precarious digital milieu. Individuals who are subjected to online harassment may encounter psychological distress, anxiety, and apprehension toward engaging in virtual communities or articulating their viewpoints.

Trolling is a phenomenon in which individuals engage in purposeful and disruptive behavior online with the intention of provoking and causing emotional distress to others. Trolls frequently participate in ad hominem attacks, disseminate false information, instigate contentious discussions, or employ derogatory language with the intention of eliciting effective responses from

their victims. The phenomenon of trolling is observed across diverse virtual environments, such as social media platforms, comment sections, and online gaming communities. Although the intentions behind trolling may not always be as malicious as those behind cyberbullying or online harassment, it can still have adverse effects on the online community by creating a hostile environment and causing harm to individuals' mental and emotional health.

The rationales underpinning online harassment and cyberbullying can exhibit a range of diversity. In certain instances, individuals may partake in such activities with the intention of asserting dominance and authority over others, seeking retribution, or deriving pleasure at the cost of their targets. In certain cases, instances of online harassment and cyberbullying may originate from prejudiced attitudes, discriminatory behavior, or the intention to suppress individuals with divergent viewpoints or underrepresented perspectives.

Mitigating online harassment and cyberbullying calls for a multifaceted strategy that encompasses individuals, internet platforms, and policymakers. Initiatives that prioritize education on digital citizenship and online etiquette have the potential to foster responsible online conduct, empathy, and respect. It is imperative that internet platforms establish comprehensive moderation protocols, furnish avenues for reporting, and expeditiously address any instances of misconduct. It is imperative to establish or improve legal structures that can effectively tackle cyberbullying and online harassment. This will guarantee that those who suffer from such acts have access to legal remedies and that those responsible for such actions are duly held responsible for their conduct.

To summarize, online harassment and cyberbullying are noteworthy manifestations of digital criminality that cause emotional and psychological distress to those affected. Comprehending the intricacies and ramifications of these actions is imperative to establishing a more secure digital milieu that fosters reverence, compassion, and comprehensiveness. Addressing the issue of online harassment and cyberbullying necessitates a collaborative endeavor that encompasses the participation of individuals, online platforms, educators, policymakers, and the wider society.

4) Espionage and state-sponsored cyber-attacks

The topic of interest pertains to the activities of espionage and state-sponsored cyber-attacks. The category of digital crime known as espionage and state-sponsored cyber-attacks relates to the activities of nation-states or state-affiliated entities that engage in cyber-espionage, sabotage, or intelligence

gathering against other nations, entities, or persons. The aforementioned assaults are distinguished by their advanced level of complexity, substantial allocation of assets, and significant geopolitical ramifications. Comprehending the rationales and methodologies utilized in espionage and state-sponsored cyber-attacks is of paramount importance for safeguarding national security and fostering international diplomacy.

Cyber-espionage is a term used to describe the utilization of cyber tools and techniques by state-affiliated actors or governments to infiltrate the networks and systems of foreign individuals, organizations, or governments with the aim of gathering sensitive or classified information. The information that is sought after can encompass confidential military intelligence, proprietary intellectual assets, classified trade secrets, diplomatic correspondence, or sensitive economic statistics. The perpetration of cyber espionage frequently entails the implementation of protracted and surreptitious maneuvers, employing sophisticated methodologies such as spear-phishing, zero-day exploits, and advanced malware. The threat of state-sponsored cyber espionage presents a substantial risk to national security, economic competitiveness, and diplomatic relations.

State-sponsored cyber-attacks may have the objective of sabotaging and disrupting critical infrastructure, government services, or essential systems within the targeted nations. Cyber-attacks have the potential to cause disturbances in power grids, transportation systems, communication networks, financial systems, and public services. Nation-states may utilize various tactics such as malware, targeted intrusions, or denial-of-service attacks to create disruptions and destabilize the functionality of the targeted nation. The implementation of sabotage and disruption campaigns can result in significant ramifications, impacting various facets of society such as economies, public safety, and overall societal welfare.

State-sponsored entities may conduct online operations with the objective of shaping public opinion, political discourse, or electoral outcomes in foreign nations. The aforementioned activities encompass the dissemination of propaganda, the execution of disinformation campaigns, and the exploitation of social media platforms to mold narratives and influence public opinion. The aforementioned actions have the potential to undermine confidence in democratic procedures, intensify societal rifts, and unsettle the nations that are being targeted. The level of sophistication of state-sponsored information operations is on the rise as they utilize social engineering techniques, artificial intelligence, and automated bots to expand their reach and influence.

Nation-states are known to invest significantly in the development of offensive cyber capabilities as a means of gaining a strategic advantage in the digital domain. The aforementioned capabilities encompass the development of intricate malicious software, exploits that target previously unknown vulnerabilities, and sophisticated tools for the purpose of hacking. Governments possess the ability to engage in covert cyber operations, gather intelligence, disrupt adversaries, or execute cyber-attacks as needed through the utilization of offensive cyber capabilities. The proliferation and utilization of aggressive cyber capabilities are significant factors in the dynamic progression of the cyber arms race between sovereign states.

The rationales underpinning espionage and state-sponsored cyber-attacks are diverse and may encompass political, economic, military, or ideological considerations. Governments partake in cyber-espionage activities with the aim of securing a competitive edge, safeguarding national interests, or surveilling potential threats. Acts of state-sponsored aggression and subversion may stem from geopolitical frictions, territorial contentions, or ideological clashes.

Mitigating espionage and state-sponsored cyber-attacks necessitates a multifaceted strategy that encompasses diplomatic endeavors, global collaboration, intelligence exchange, and resilient cyber security protocols. It is imperative for countries to allocate resources towards bolstering their cyber security capabilities, constructing infrastructure that is resistant to disruption, and implementing procedures for effectively responding to incidents and exchanging information. Enhancing global standards, accords, and pacts pertaining to cyber operations has the potential to foster conscientious conduct in the digital realm and discourage cyber assaults that are backed by nation-states.

To sum up, the acts of espionage and state-sponsored cyber-attacks constitute a noteworthy manifestation of digital criminality that carries geopolitical ramifications. The aforementioned assaults entail intricate methodologies and instruments utilized by governments or government-associated entities to amass information, execute acts of sabotage, or exert influence over foreign countries. The mitigation of espionage and state-sponsored cyber-attacks necessitates a confluence of cyber security measures, international collaboration, and diplomatic endeavors to safeguard national security and promote stability in the era of digitalization.

3. Cybercriminal Motives and Psychology

The underlying motivations and psychological factors that drive individuals to engage in cybercrime are a topic of interest in academic research. The behavioral patterns and psychological underpinnings of cybercriminals exhibit significant heterogeneity, as the motivations that propel them to engage in illicit activities in the digital realm are multifaceted and complex. Comprehending the underlying motivations and psychological factors that drive cybercriminal behavior can yield valuable perspectives and facilitate the creation of efficacious measures to counteract cybercrime. It is imperative to acknowledge that cybercriminals cannot be characterized by a singular profile. However, there are several shared incentives and psychological elements that can be discerned.

The pursuit of financial gain is a prominent driving force behind the actions of cybercriminals. Numerous individuals partake in cybercrime with the intention of obtaining financial gain. The perpetrators may attempt to acquire confidential financial data, perpetrate identity theft, execute deceitful schemes such as phishing or credit card fraud, or utilize ransom ware as a means of coercing monetary compensation from their targets. The allure of financial gain is a potent incentive for cybercriminals, given its potential for substantial rewards with a comparatively lower likelihood of detection in contrast to conventional criminal pursuits.

The motivation of certain cybercriminals stems from a yearning for dominance and authority over others. Individuals derive a sense of gratification from the act of manipulating and exploiting digital systems, networks, or other individuals for their personal benefit. These individuals may partake in actions such as hacking, cyber-espionage, or distributed denial-of-service (DDoS) attacks to demonstrate their technical expertise or exert control over others. The capacity to infiltrate and compromise digital environments endows individuals with a perception of superiority and dominion.

Some cybercriminals may be driven by ideological or political motivations when engaging in their activities. The perpetrators of cyber-attacks could potentially be affiliated with hacktivist organizations or state-sponsored entities with the intention of promoting their respective agendas, advocating particular ideologies, or executing acts of cyber-espionage or cyber-sabotage. These actors frequently direct their efforts towards governmental institutions, corporations, or organizations that they view as opponents, with the aim of generating disturbance, revealing confidential data, or disseminating propaganda.

The excitement and difficulty associated with participating in unlawful activities serve as noteworthy incentives for certain cyber offenders. The individuals

derive pleasure from the thrill and surge of adrenaline that accompany the act of surmounting technological obstacles, eluding detection, and outwitting security protocols. These individuals may partake in hacking, network intrusions, or other forms of cyber-attacks to assess their abilities, challenge their limits, or demonstrate their technical expertise to their colleagues.

Cybercrime may also be motivated by personal vendettas, revenge, or retaliation. Individuals who perceive themselves as having been treated unfairly or disrespectfully may employ cyber-based attacks as a means of seeking retaliation. This may entail the identification of specific individuals, entities, or governmental bodies that are deemed accountable for the source of their complaints. Cybercriminals who are motivated by a desire for revenge may partake in various activities, including but not limited to doxing, the dissemination of defamatory information, or the execution of disruptive attacks, with the intention of causing harm or damaging reputations.

The role of anonymity and impersonality in the digital realm is a significant motivating factor for cybercriminals. The internet affords a cloak of anonymity that enables individuals to partake in illicit activities without immediate repercussions or individual responsibility. The perceived sense of detachment from their actions can lead cybercriminals to become more audacious, thereby increasing the likelihood of their involvement in illicit activities that they may not contemplate in offline settings.

It is noteworthy that although these rationales serve to elucidate the psychological underpinnings of cyber offenders, the incentives of each perpetrator can be intricate and may intersect across various classifications. Furthermore, the motives and psychology of cybercriminals are influenced by external factors such as socio-economic conditions, access to technology, and the changing nature of cybercrime.

Through comprehension of the motivations and psychology of cyber offenders, law enforcement entities, cyber security experts, and policymakers can devise precise tactics to discourage, identify, and alleviate cybercrime. The aforementioned tactics may encompass bolstered cyber security protocols, dissemination of public education initiatives, global collaboration, and legal structures tailored to confront the distinctive obstacles presented by digital offenses.

4. The Repercussions of Digital Crime

The financial ramifications of digital crime are substantial for individuals, enterprises, and entire economies. The potential economic ramifications stemming from cyber-attacks, fraudulent activities, and other forms of digital criminality can be significant. Organizations encounter expenses related to incident response, recuperation, legal proceedings, regulatory penalties, and potential business losses stemming from reputational harm. Furthermore, those who become targets of financial fraud or scams may experience adverse financial consequences, which can have a detrimental effect on their individual and economic welfare.

Digital crime can have significant economic consequences on a larger scale. It undermines consumer confidence in online transactions and electronic commerce, leading to reduced online sales and economic activity. Industries heavily reliant on digital infrastructure, such as e-commerce, banking, and financial services, may experience significant disruptions that affect their bottom line. Furthermore, the expenses linked with augmenting cyber security protocols and constructing resilient defense mechanisms impose a burden on enterprises and may affect broader economic expansion.

The realm of digital crime frequently encompasses instances of privacy invasion and data breaches, whereby confidential and individualized data is illicitly accessed, purloined, or disclosed. The aforementioned has significant ramifications for both individuals and entities.

Individuals who fall victim to privacy invasions may experience a loss of control over their personal information, leading to a sense of vulnerability, fear, and mistrust. Stolen personal data can be used for identity theft, financial fraud, or targeted phishing attacks, causing significant harm to individuals' financial well-being and reputation.

For organizations, data breaches can result in reputational damage, loss of customer trust, and legal consequences. The disclosure of consumer information may result in legal sanctions, litigation, and monetary obligations. The process of restoring trust and rebuilding reputation can be a protracted and costly endeavor for organizations, which may have enduring effects on customer loyalty and business associations.

The perpetration of digital crime can result in significant psychological and emotional repercussions for those who fall victim to it. The experience of violations, privacy infringements, and susceptibility to fraudulent activities can result in considerable emotional turmoil. Individuals who have been subjected to cyberbullying, online harassment, or stalking may experience adverse mental health outcomes such as anxiety, depression, and other related conditions. The

psychological ramifications can have a far-reaching impact on both individuals and organizations, influencing their holistic welfare and efficacy.

The disruption of critical infrastructure is a noteworthy concern posed by digital crime. This includes, but is not limited to, power grids, transportation systems, healthcare facilities, and communication networks. The occurrence of a triumphant cyber-attack on crucial infrastructure has the potential to cause extensive disruption, jeopardizing the provision of indispensable services and public safety.

A power grid assault can lead to extended periods of power outages, causing disruptions in daily activities and posing potential threats to the safety of individuals in critical establishments such as hospitals and airports. Disruptions to transportation systems have the potential to cause significant logistical disarray, thereby impacting supply chains and overall economic stability. The ramifications of interrupting critical infrastructure are not limited to monetary damages but can also have significant societal repercussions.

In summary, the effects of cybercrime are extensive and diverse. The negative impact of financial losses and economic implications is experienced by both individuals and organizations, which can ultimately hinder economic growth and consumer confidence. The infringement of privacy and the occurrence of data breaches can lead to a loss of trust and result in legal and reputational ramifications. The ramifications of digital crime can have significant psychological and emotional implications, potentially compromising the mental health and overall welfare of affected individuals. Finally, the disturbance of essential infrastructure presents noteworthy hazards to the well-being of the general public and the stability of society. The mitigation of the far-reaching impacts of digital crime necessitates a comprehensive and collaborative endeavor that involves individuals, organizations, law enforcement agencies, and governments.

5. The Difficulties Involved in Addressing Digital Crime

The difficulties involved in addressing digital crime are multifaceted. One of the primary challenges is the issue of attribution and jurisdiction. One of the foremost obstacles in addressing digital crime refers to the intricacy of assigning responsibility for attacks to discrete individuals or entities. The utilization of intricate methods by cybercriminals to conceal their identities and obfuscate their actions poses a formidable obstacle to the attribution of attacks. Moreover, the absence of borders in the online realm poses jurisdictional obstacles, given

that malevolent actors can conduct their activities from various nations, taking advantage of legal ambiguities and extradition procedures. Effective cooperation between law enforcement agencies from various jurisdictions is essential, but administrative roadblocks and inconsistent legal frameworks can make it difficult.

The digital threat landscape is characterized by a dynamic and rapidly evolving nature, wherein cybercriminals consistently modify their tactics to take advantage of system vulnerabilities. The emergence of novel forms of threats and attack vectors poses a formidable challenge for security experts and law enforcement authorities, who struggle to stay abreast of the rapidly evolving landscape. The rapid evolution of advanced malware, zero-day exploits, and social engineering tactics necessitates a continuous state of alertness and current awareness to efficiently counteract cybercrime.

Insufficient international collaboration and standardized legislation remain significant challenges in combating digital crime, which is a worldwide phenomenon. The existence of distinct legal frameworks and jurisdictional limitations across nations may impede global cooperation and the exchange of information. The variances in legal delineations, evidentiary prerequisites, and sanctions for digital offenses pose formidable obstacles in the pursuit of legal action against transnational cyber offenders. The implementation of international collaboration, dissemination of optimal methodologies, and formation of accords and pacts are essential measures in tackling this issue.

The swift progression of technology presents novel prospects, yet simultaneously introduces fresh susceptibilities and intricacies, thereby creating a cyber security gap. The widespread adoption of the Internet of Things (IoT), the growth of cloud computing, and the escalating dependence on artificial intelligence and machine learning have resulted in an expanded attack surface that cybercriminals can exploit. The issue is compounded by the expanding gap in cyber security expertise, which is characterized by a dearth of adequately trained and qualified personnel. Organizations encounter difficulties keeping pace with the constantly changing threat landscape and effectively safeguarding their systems, thereby exposing themselves to digital assaults.

To tackle these challenges, a comprehensive strategy involving multiple facets is necessary. The improvement of collaboration and information sharing among governments, law enforcement agencies, private sector entities, and international organizations is necessary to enhance the attribution and investigation of digital crimes. The creation of specialized platforms and channels for the exchange of threat intelligence, as well as the promotion of

public-private partnerships, can enhance the efficacy of responses to cyber threats.

The promotion of harmonized laws, extradition agreements, and mutual legal assistance treaties at the international level is imperative for tackling jurisdictional obstacles and guaranteeing the prosecution of cybercriminals irrespective of their geographical location. It is imperative for international forums and organizations to assume a pivotal role in advancing these endeavors.

Continuous education and training are crucial in addressing the skills gap and providing individuals and organizations with the necessary knowledge and tools to combat digital crime. Investing in cyber security education and training programs is therefore imperative. This entails the promotion of cyber security awareness among the general populace to augment their ability to withstand cyber threats.

Technological innovations and collaboration can be utilized to augment cyber security capabilities. Advancements in technologies, such as artificial intelligence and machine learning, have the potential to be leveraged for this purpose. The synergy among technology firms, scholars, and security professionals can foster ingenuity and the creation of more resilient security remedies.

The development of global policies and legislation that address emerging threats and promote responsible behavior in cyberspace is of utmost importance in the realm of global policy and legislation. The aforementioned entails the establishment of global standards and norms pertaining to cyber security, as well as the promotion of collaborative efforts in tackling cybercrime on an international scale.

Effective prevention and mitigation of digital crime necessitate a collaborative approach that entails the active participation of governmental bodies, law enforcement entities, private sector enterprises, and individuals. By addressing the challenges related to attribution, jurisdiction, the evolving threat landscape, and international cooperation, we can work towards a more secure digital environment.

6. The Implementation of Effective Strategies and Solutions in Mitigating Digital Crime

The implementation of effective strategies and solutions is crucial to mitigating digital crime. The topic of discussion pertains to the frameworks and best

practices of cyber security. The adoption of industry-recognized best practices and the implementation of robust cyber security frameworks are essential to the mitigation of digital crime. The NIST Cyber Security Framework, ISO 27001, and CIS Controls have established frameworks that offer guidance to organizations in evaluating their cyber security stance, detecting potential vulnerabilities, and deploying suitable security protocols. Conforming to these established frameworks facilitates the establishment of robust security infrastructure and empowers the implementation of preemptive risk mitigation measures.

Education and awareness programs are crucial in the effort to reduce digital crime. Through the dissemination of knowledge regarding cyber security threats, optimal strategies, and the ramifications of cyber offenses, individuals and entities can be equipped to make knowledgeable choices and adopt preemptive measures to safeguard their digital assets. It is recommended that such programs be designed to cater to a diverse range of individuals, encompassing general users, employees, executives, and IT professionals alike.

The issue of digital crime is a widespread phenomenon that necessitates the cooperation of nations across the globe and the synchronized endeavors of law enforcement agencies. The effective combat of cybercriminal networks that operate across borders necessitates the sharing of threat intelligence, the coordination of investigations, and the facilitation of extradition processes. The establishment of international agreements and organizations can enhance collaborative efforts in addressing digital crime.

Public-private partnerships play a crucial role in the reduction of digital crime. Effective management of cyber threats can be achieved through the pooling of resources, expertise, and technology by various entities, such as governments, law enforcement agencies, private sector organizations, and non-profit organizations. Collaboration among these entities is crucial to addressing the challenges posed by cyber threats. Collaborative alliances may encompass the exchange of knowledge, joint investigation and innovation, and synchronized management of emergency situations.

Another topic of interest is ethical hacking and offensive security. The utilization of ethical hacking, commonly referred to as penetration testing and offensive security techniques can serve as preemptive measures to detect weaknesses and enhance protective measures. Enterprises have the option to enlist the services of ethical hackers for the purpose of carrying out authorized evaluations of their systems, networks, and applications. Organizations can improve their security posture and minimize the likelihood of successful cyber-

attacks by proactively identifying and mitigating vulnerabilities that may be exploited by malicious actors.

The development and consistent updating of incident response plans is a crucial aspects of effectively addressing cyber incidents. It is recommended that organizations establish formal protocols, clearly define roles and responsibilities, and regularly conduct drills and exercises to assess their response capabilities. The development of a comprehensive incident response plan facilitates the timely identification, mitigation, elimination, and restoration of cyber-attacks by organizations.

The implementation of comprehensive monitoring systems, such as security information and event management (SIEM) solutions, facilitates the timely identification and mitigation of cyber threats by organizations. The implementation of a continuous monitoring system for network traffic, system logs, and user activity can aid in the detection of indicators of compromise and abnormal conduct. In conjunction with threat intelligence feeds, entities can remain current on the most recent threats and take preemptive measures against emerging attack vectors.

The incorporation of security measures into the software development lifecycle is of paramount importance in mitigating the risk of exploitable vulnerabilities by malicious actors. In order to mitigate digital crime, it is imperative to implement secure coding practices, conduct routine code reviews, and perform comprehensive security testing. It is imperative for organizations to prioritize the timely implementation of patches and updates in order to mitigate known vulnerabilities in their software and systems.

The implementation of robust authentication mechanisms, such as multi-factor authentication, is crucial to safeguarding against unauthorized access to systems and data. Furthermore, the implementation of robust access controls, which incorporate the principle of least privilege, guarantees that personnel is granted access solely to the resources that are essential for their designated responsibilities. The implementation of privileged access management solutions and the periodic review and revocation of employee access privileges serve to bolster security measures.

An additional area of scholarly focus encompasses the theoretical frameworks of data encryption and data loss prevention. The implementation of robust encryption protocols, both for data at rest and in transit, serves as a safeguard against unauthorized access to sensitive information. Furthermore, the implementation of Data Loss Prevention (DLP) solutions aids in the surveillance and deterrence of the unapproved dissemination of confidential

data beyond the confines of the enterprise. The implementation of these measures provides an extra level of safeguarding to reduce the likelihood of data breaches and unauthorized disclosure. The process of data encryption entails the transformation of information into an incomprehensible form by means of cryptographic algorithms. Through the implementation of encryption techniques, confidential data can be rendered incomprehensible to unauthorized individuals, thereby preserving its confidentiality in the event of unauthorized access. It is recommended to implement encryption measures for data that is stored on servers, databases, and other storage devices, as well as for data that is transmitted over networks. This can be achieved through the utilization of secure protocols like SSL and TLS. DLP solutions aid organizations in overseeing and regulating the transmission of confidential information within their network. The aforementioned solutions have the ability to detect and avert unapproved transfers of confidential data, including but not limited to personally identifiable information (PII), financial data, and intellectual property. This is achieved through the monitoring of data in motion, data at rest, and data in use. Data Loss Prevention (DLP) solutions are capable of identifying and obstructing confidential information from being transmitted through various communication channels such as email, web uploads, removable storage devices, and others.

7. Ethical and Legal Considerations

The progression of technology and the corresponding development of countermeasures necessitate a heightened focus on ethical and legal considerations when addressing digital crime. The delicate balance between safeguarding security and upholding individual privacy rights is of utmost importance in the realm of privacy and data protection. The implementation of robust security measures must be accompanied by adherence to data protection regulations and the ethical treatment of personal information.

The ethical employment of technology is imperative as protective technologies continue to advance. The responsible disclosure of vulnerabilities, adherence to ethical hacking principles, and accountability in the development and deployment of technologies are crucial factors to be taken into account.

The enhancement of global cooperation and the establishment of uniform laws and regulations are crucial in the fight against digital crime. The establishment of uniform legal frameworks and efficient cross-border collaboration facilitates the efficient conduct of investigations, prosecutions, and extradition procedures.

The adaptation of conventional forensic methodologies to the digital domain is a crucial aspect of digital forensics and evidence gathering. The capacity to collect, scrutinize, and exhibit digital evidence in a legally acceptable manner is imperative for efficacious investigations and convictions of digital offenses. The field of digital forensics encompasses a range of techniques and methodologies that are employed to gather, safeguard, scrutinize, and present electronic evidence with the aim of revealing the truth pertaining to a digital offense. In order to proficiently execute digital forensics and evidence collection, it is imperative to address various factors.

The preservation of digital evidence is of utmost importance in maintaining its integrity and admissibility in legal proceedings. The process entails generating forensic images of storage media, recording the chain of custody, and upholding a secure and tamper-proof storage milieu. Digital forensic investigators employ specialized tools and techniques to obtain and scrutinize digital evidence in the field of forensic science. The aforementioned instruments may comprise forensic software, hardware write-blockers, password-cracking tools, and steganalysis tools. It is imperative for investigators to remain abreast of contemporary tools and methodologies to proficiently extract evidence from diverse digital devices and platforms.

Network forensics pertains to the examination of network traffic with the aim of detecting and reconstructing digital crime-related events. Researchers examine packet captures, logs, and network metadata to comprehend the data's movement, detect unauthorized entry, and track the source of cyber assaults. The increasing prevalence of mobile devices and cloud computing has necessitated that investigators possess a high level of proficiency in the extraction and analysis of data from smartphones, tablets, and cloud-based platforms, which falls under the domain of mobile and cloud forensics. Various methodologies, including mobile device imaging, cloud data recovery, and data carving, are employed to extract pertinent evidence. The recovery and reconstruction of data is a crucial aspect of digital forensics investigations, wherein investigators utilize diverse methodologies to retrieve data that has been either deleted or encrypted. The process of retrieving concealed or modified evidence may entail file carving, password cracking, data decryption, and data reconstruction techniques. Maintaining an appropriate chain of custody is of utmost importance in establishing the genuineness and soundness of digital evidence. It is imperative for investigators to meticulously record the transportation, manipulation, and safekeeping of evidence to guarantee its admissibility in legal proceedings and safeguard it against any potential tampering or modification. Digital forensics professionals may be summoned to

offer their expert testimony during legal proceedings. Professionals in the legal field are required to effectively communicate their research, techniques, and outcomes to facilitate the comprehension of the technical aspects of a case by judges, juries, and other legal experts. The conduct of digital forensics investigations necessitates compliance with legal and ethical norms. It is imperative for investigators to possess a comprehensive understanding of the legal mandates, privacy protocols, and evidentiary guidelines that are applicable within their jurisdiction. It is imperative that individuals ensure that their actions remain within the legal framework and uphold the privacy rights of the parties concerned. The domain of digital forensics is in a state of perpetual evolution, propelled by technological advancements and the growing complexity of digital offenses. In order to maintain efficacy in addressing digital crime, experts in this domain must consistently enhance their expertise and competencies, engage in cooperative efforts with law enforcement entities and legal practitioners, and conform to ethical standards. The endeavor of collecting and analyzing digital evidence can potentially aid in the effective prosecution and deterrence of digital offenses.

8. Conclusions

This exhaustive investigation of digital crime has encompassed diverse facets of this ubiquitous and dynamic realm of threat. The present study scrutinized the definition and extent of digital crime, encompassing cyber-attacks, hacking, identity theft, financial fraud, online harassment, cyberbullying, espionage, state-sponsored cyber-attacks, and other related phenomena.

The discourse centered on the rationales and psychological underpinnings of cyber offenders, the methodologies and instruments they utilize, and the obstacles encountered in the fight against cyber malfeasance. Our investigation probed into the ramifications of cybercrime, encompassing economic losses, violations of personal privacy, security breaches, psychological effects, and interference with essential infrastructure..

Furthermore, our scholarly exploration extended to an array of methodologies and interventions designed to mitigate the prevalence of digital criminal activities. These include cyber security frameworks, educational and awareness initiatives, international cooperation, public-private partnerships, and ethical hacking. The significance of data encryption, data loss prevention, incident reporting, and the implementation of email and web filtering for the purpose of augmenting security measures were also deliberated upon.

The study focused on the analysis of potential risks and patterns in the upcoming era of digital criminal activities. It also explored the impact of technological innovations and preventive measures, along with their ethical and legal implications. Furthermore, we emphasized the importance of digital forensics and the collection of evidence in the investigation and prosecution of digital offenses.

Upon concluding this investigation, it is apparent that mitigating digital crime necessitates collaborative endeavors from individuals, institutions, governing bodies, and the broader community. In order to establish a secure digital future, it is crucial to undertake the following measures.

It is recommended to promote cyber security awareness and education programs that aim to educate individuals on safe online practices, the potential risks of digital crime, and the significance of safeguarding personal and sensitive information.

The imperative to adapt to the evolving threat landscape necessitates the continuous improvement of cyber security frameworks, standards, and best practices. It is recommended that organizations be encouraged to implement strong security measures, prioritize investments in cyber security, conduct routine risk assessments, and employ encryption.

The enhancement of international cooperation and law enforcement endeavors is imperative in order to promote worldwide collaboration among governments, cyber security organizations, and law enforcement agencies with the aim of combating digital crime. It is recommended to establish international agreements, exchange threat intelligence, optimize legal frameworks, and strengthen collaboration to enable efficient cross-border investigations and prosecutions.

One strategy to enhance proactive defense against digital crime is to promote public-private partnerships. This involves fostering collaboration between the public and private sectors to combine their resources, expertise, and technology. Facilitate the exchange of information, collaborative endeavors, and concerted endeavors to effectively address cyber threats.

It is recommended to adopt an ethical hacking and offensive security approach, which entails fostering a robust culture of ethical hacking that encourages the responsible disclosure of vulnerabilities, proactive testing of security measures, and the continual enhancement of defense strategies. The involvement of ethical hackers is of paramount importance in the identification of vulnerabilities and the enhancement of security measures within organizations.

To ensure privacy protection and data security, it is recommended to implement stringent data protection regulations, advocate for privacy by design principles, and ensure that organizations adopt robust data encryption, data loss prevention, and secure data handling practices. Safeguarding personal and sensitive information is imperative for reducing the likelihood of data breaches and violations of privacy.

It is recommended to allocate resources toward technological advancements and research in the field of cyber security in order to promote innovation and stay ahead of potential emerging threats. To enhance security measures and combat ever-evolving cyber-attacks, it is imperative to foster the advancement of cutting-edge technologies, including artificial intelligence, machine learning, and blockchain.

Cultivate a climate of responsible digital citizenship through the advocacy of ethical conduct in online settings, considerate communication, and the mitigation of cyberbullying and online harassment. It is recommended to promote the reporting of suspicious activities and provide assistance to those who have fallen victim to digital crime.

Through the implementation of these essential measures, we can collaboratively work towards achieving a more safeguarded digital landscape. Sustained vigilance, adaptation to evolving threats, and the collective efforts of individuals, organizations, governments, and society at large are imperative in combating digital crime. Collaboration is necessary to ensure the protection of our digital ecosystems, safeguard our personal and sensitive information, and maintain the integrity and resilience of our critical infrastructure. Maintaining awareness, engaging in self-education and disseminating knowledge, and exhibiting a proactive approach toward the implementation of comprehensive security measures are of paramount importance. As technological advancements continue to progress, the strategies employed by cybercriminals also evolve in tandem. The realm of digital crime presents a complex landscape that encompasses both obstacles and prospects for the future. It is crucial to maintain a competitive edge by adopting technological innovations and formulating efficacious strategies to mitigate potential threats. The employment of artificial intelligence, machine learning, and automation is incorporated to promptly identify and counteract potential security breaches.

Furthermore, it is imperative to acknowledge the ethical and legal implications associated with digital criminal activities. The prioritization of privacy rights, responsible disclosure of vulnerabilities, and adherence to ethical hacking principles should be emphasized in our endeavors. Effective cross-border

investigations and prosecutions necessitate international collaboration and harmonized laws. The ramifications of digital crime are not limited to monetary losses and economic consequences. The phenomenon under consideration encroaches upon our personal sphere, jeopardizes our mental health, and undermines essential systems that constitute integral components of our routine existence. Hence, it is imperative to tackle the diverse ramifications of cybercrime and strive towards all-encompassing remedies.

Ultimately, combating digital crime necessitates a collaborative and cohesive effort from all relevant parties. This is a formidable obstacle that cannot be surmounted by any singular individual or entity in isolation. Through the implementation of the aforementioned strategies and solutions, the promotion of awareness, the cultivation of collaboration, and the maintenance of vigilance, it is possible to construct a secure digital future that enables individuals, safeguards organizations, and guarantees the stability of our interdependent global community. Collectively, let us endeavor toward a more secure and robust digital environment.

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MODERN DEEP LEARNING TECHNIQUES APPLIED TO NATURAL LANGUAGE PROCESSING

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Abstract

This study provides an overview of current developments in deep learning-based NLP (NLP). It discusses the theoretical underpinnings and implementation specifics of deep learning models used to address diverse NLP tasks and applications, including recurrent neural networks (RNNs), convolutional neural networks (CNNs), and reinforcement learning. A summary of the most recent outcomes for NLP tasks such machine translation, question-answering, and dialogue systems is also included in the overview. There are various goals for deep learning, which has a lengthy history. Many methods have all been unsuccessful. Some lofty objectives are yet unfulfilled. A framework for supervised learning is provided by contemporary deep learning.

Keywords: deep learning, NLP, RNN, CNN

1. Introduction

A variety of computing algorithms for the automatic analysis and representation of human language are referred to as "natural language processing" (NLP). Since the days of punch cards and batch processing, when analyzing a sentence may take up to 7 minutes, NLP research has advanced to the point where it can now analyze millions of webpages in under a second (Cambria and White, 2014). NLP gives computers the ability to carry out a variety of activities linked to natural language at all levels, from part-of-speech (POS) tagging and parsing to machine translation and dialogue systems.

Deep learning algorithms and frameworks have already achieved significant strides in areas like pattern recognition and computer vision. In line with this development, modern NLP research is now increasingly emphasizing the application of fresh deep learning techniques.

For many years, shallow models (like SVM and logistic regression) trained on extremely high dimensional and sparse features have served as the foundation

for machine learning approaches aimed at solving NLP challenges. In the recent years, neural networks built using dense vector representations have outperformed traditional NLP methods in a variety of NLP applications. The popularity of deep learning techniques (Socher et al., 2013) and word embeddings (Mikolov et al., 2010, 2013a) is what started this trend. Multi-level automatic feature representation learning is made possible by deep learning. Traditional machine learning-based NLP systems, in contrast, rely primarily on manually created features. Such hand-made features take a lot of time to finish.

2. Performance of Different Models on Different NLP Tasks

a) Parsing

There are two types of parsing: constituency parsing, which repeatedly separates text into sub-phrases, and dependency parsing, which links individual words with their relations. Since they have a linear sentence length, transition-based approaches are a popular alternative. According to Chen and Manning (2014), the parser takes a series of judgments that sequentially read words from a buffer and incrementally assemble them into the syntactic structure. A stack of available tree nodes, a buffer of unseen words, and the gathered collection of dependency arcs are used to inform the choice at each time step. Chen and Manning (2014) used a neural network with one hidden layer to model the decision-making process at each time step. Certain words, POS tags, and arc labels that came from the stack, the buffer, and the collection of arc labels were embedded in the input layer.

The work of Chen and Manning (2014) was expanded upon by Tu et al. (2015) by using a more complex model with two hidden layers. However, Chen and Manning (2014) and Tu et al. (2015) both depended on manual feature selection from the parser state and only considered a small subset of the most recent tokens. Stack-LSTMs were suggested by Dyer et al. (2015) to represent arbitrarily lengthy history. As the stack of tree nodes might be pushed and popped, the end pointer of the stack moved. For better optimization, Zhou et al. (2017) combined beam search and contrastive learning.

Additionally, constituency parsing utilized transition-based models. The POS tags and constituent labels of the top few words of the stack and the buffer were used by Zhu et al. (2013) as the foundation for each transition operation. Vinyals et al. (2015) used the seq2seq learning technique to solve this issue by discretely re-presenting the parse tree as a linear sequence of labels.

b) Named-Entity Recognition

A standard English dataset for NER, CoNLL 2003 focuses on four categories of named entities: individuals, places, organizations, and other entities. One NLP issue where lexicons can be quite helpful is NER. The first competitive results were attained by Collobert et al. (2011) using neural architectures enhanced by gazetteer characteristics. Lexicon characteristics, character embeddings, and word embeddings were combined by Chiu and Nichols (2015) and provided as input to a bidirectional LSTM. In contrast, Lample et al. (2016) produced competitive results by solely employing character and word embeddings, with pre-training embeddings on huge unsupervised corpora. As shown by the comparison in (Lample et al., 2016), CRF improved NER performance similarly to how POS tagging did. All things considered, we can see that bidirectional LSTM with CRF functions as a powerful model for NLP issues including structured prediction.

According to Passos et al. (2014), skip-gram models should be modified in order to train entity-type-related word embeddings that can take advantage of data from pertinent lexicons. The entities and the linkage of entities to a KB were jointly optimized by Luo et al. in 2015. For better parallelization and context modeling, Strubell et al. (2017) suggested using dilated convolutions, formed over a greater effective input width by skipping over some inputs at a time. The model has improved in speed while maintaining accuracy.

c) Semantic Role Labeling

The goal of semantic role labeling (SRL) is to identify each predicate's predicate-argument structure. All sentence elements that play a semantic role similar to the verb are detected for each target verb (predicate). Agent, Patient, Instrument, and adjuncts like Locative, Temporal, Manner, Cause, etc. are examples of common semantic arguments (Zhou and Xu, 2015). The effectiveness of various models on the CoNLL 2005 and 2012 datasets is displayed in Table 5.

Traditional SRL systems involve several steps: creating a parse tree, determining which nodes on the parse tree correspond to a given verb's arguments, and then categorizing these nodes to come up with the appropriate SRL tags. According to Collobert et al. (2011), each classification procedure often requires extracting a large number of features and incorporating them into statistical models.

Täckström et al. (2015) used a set of features based on the parse tree to score a constituent span and its potential relationship to a given predicate. For effective inference, they suggested a dynamic programming technique. Similar outcomes were obtained by Collobert et al. (2011) using convolution neural networks enhanced by processing data supplied in the form of additional look-up tables. Without any parsing tree information, Zhou and Xu (2015) proposed using bidirectional LSTM to describe arbitrarily extended context. By using highway connections (Srivastava et al., 2015), more sophisticated regularization, and an ensemble of numerous experts, He et al. (2017) expanded on this study.

d) Sentiment Classification

Sentences obtained from the film review website Rotten Tomatoes can be found in the Stanford Sentiment Treebank (SST) dataset. Pang and Lee (2005) first put forth the idea, and Socher et al. (2013) later expanded on it. The annotation technique served as the inspiration for the CMU-MOSI dataset, which allows for multimodal sentiment analysis (Zadeh et al., 2013).

Both the recursive networks developed by Socher et al. (2013) and Tai et al. (2015) utilized constituency parsing trees. Their contrast demonstrates how much better LSTM is at modeling sentences than plain old RNN. As opposed to this, tree-LSTM outperformed linear bidirectional LSTM, suggesting that tree structures may be better able to capture the syntactical characteristics of natural words.

e) Machine Translation

The translation model was factored into the translation probabilities of matching phrases in the source and target sentences using the phrase-based SMT framework (Koehn et al., 2003). Cho et al. (2014) suggested using an RNN encoder-decoder to learn the translation probability of a source phrase to a corresponding target phrase. The performance of translation was improved by such a scoring system. The top 1000 best candidate translations created by an SMT system using a 4-layer LSTM seq2seq model, however, were re-scored by Sutskever et al. (2014).

f) Question Answering

The objective for models on the SQuAD dataset is to identify the beginning and end of the answer segment. The words in context and the query were both encoded using LSTMs by Chen et al. (2017), who then utilized a bilinear matrix to determine how similar the two were. Shen et al.'s (2017) Reasonet model reads a document several times, focusing on a different section each time, until a satisfactory solution is discovered. Convolution and self-attention were used

by Yu et al. (2018) to significantly speed up the process of encoding the query and the context in place of RNNs.

Finding the one supporting fact in the database is the main challenge of learning to respond to single-relation queries. On the basis of a question paraphrasing dataset, Fader et al. (2013) suggested to approach this issue by learning a vocabulary that connects natural language patterns to database concepts (entities, relations, question patterns). Both the questions and the KB triples were embedded as dense vectors by Bordes et al. (2014) and were graded using the inner product.

g) Dialogue Systems

There are two different categories of dialogue systems: generation-based models and retrieval-based models.

Although it is generally known that most automatic evaluation metrics are not totally reliable for conversation evaluation and that additional human evaluation is frequently required, one widely used evaluation metric is BLEU (Papineni et al., 2002). The phrase-based statistical machine translation (SMT) framework was used by Ritter et al. (2011) to "translate" the message to the proper answer. Sordoni et al. (2015) used a context-sensitive RNN encoder-decoder framework to rerank the top 1000 SMT replies and saw significant improvements. In an effort to generate replies that are interesting and varied, Li et al. (2015) published findings on replacing the conventional maximum log likelihood training target with the maximum mutual information training objective. Both of these methods were tested on a 4-layer LSTM encoder-decoder system.

3. Conclusion

Deep learning provides a method for utilizing massive amounts of computing and data with minimal manual engineering (LeCun et al., 2015). Different deep models have evolved into the current state-of-the-art approaches for NLP issues with distributed representation. The most often used approach in current deep learning for NLP research is supervised learning. However, we frequently encounter unlabeled data in real-world contexts, necessitating sophisticated unsupervised or semi-supervised techniques. Zero-shot learning should be used when there is a dearth of labeled data for some specific classes or when a new class appears while testing the model.

We anticipate that deep learning-based NLP research will be steered in the direction of making greater use of unlabeled data even if these learning methods

are still in the development stage. With more and better model designs, we anticipate that the trend will continue. We anticipate seeing more NLP applications, such dialogue systems, that use reinforcement learning techniques. Given that language is frequently based on (or connected with) other signals in the real environment, we also anticipate seeing more study on multimodal learning (Baltruaitis et al., 2017).

Finally, we anticipate seeing more deep learning models that combine top-down knowledge inherited from a KB with bottom-up knowledge learnt from data to enhance their internal memory. Moving past NLP and toward natural language understanding will require the integration of symbolic and sub-symbolic AI. In reality, using machine learning to generate an educated estimate based on prior knowledge is a solid idea because sub-symbolic approaches encode correlation and their decision-making is probabilistic. However, interpreting natural language calls for much more.

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THE ROLE OF TECHNOLOGY IN TEACHING THE GERMAN LANGUAGE FOR PROFESSIONAL PURPOSES

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Abstract

Technology occupies a special place in the lives of young people. As an important source of information, knowledge and culture, it plays an important role in the way they imagine and react in their daily life, in their personal and professional formation.

But its use in teaching and learning often turns into an end in itself and without clear objectives.

This statement is based on the idea that education with and through technology can be considered beneficial in the personal and professional formation of young people. In the foreign language class, it serves as a motivational and enriching symbol of language skills. A different approach to technology makes the lesson more varied and fruitful. Young people are also more reflective, interactive and creative.

The method followed is that of surveying the students of the Polytechnic University of Tirana on the types and ways of using technology in and outside the German language classroom. Combined with the observation of the lesson, it aims to highlight some of the results achieved through this methodology.

The paper concludes with the most effective types of technology use in German language classes and the impact that it has on the formation of young people with a critical attitude towards acquired information and the way this information is processed.

Key words: foreign language for professional purposes, media education, interdisciplinary knowledge, language interaction, media information processing.

1. Introduction

Technology nowadays has taken a huge development day by day. The introduction of this information and communication technology is a necessity in the teaching process, specifically in foreign language teaching. The high quality of teaching, a perfect communication for students, a special interactive model

lesson depends on the development of this technology. Technology transforms the teaching process, teaching and learning and the results are very effective.

Teaching always seeks to adapt to changes in society. Information management through computer systems produces successful interactive teaching in the time we live in. This system leads students to an independent learning, in addition to the main role of the teacher, to new methods of perfect acquisition of foreign languages, computer acquisition, this help in all areas of life. Also, this leads to the most efficient use of the foreign language in everyday life. This is done through videos introduced long ago in didactic methods in foreign language learning..

Information processing through digitization distances educators from outdated teaching methods. The integration of digital technology raises teaching to high professional levels, makes the student curious, attracts attention, facilitates expression in a foreign language and memorization of vocabulary, idioms, correct use of grammar. USB, digital cameras, internet, interactive tables, video projector (smart board, software). Students learn in a non-traditional, but interesting and fast way. The student benefits much more in less time.

Through a theoretical and practical study, this article aims, through observation and survey, to highlight the ways of using technologies in the university school system. The methods used belong mainly to those of a qualitative nature, since we are interested in understanding which and why these techniques are used and included in learning. The analysis was carried out through conversations with university level students, in the faculty of information technology, telecommunications branch, as well as in the university of mechanics in the economic engineering branch. where searching for materials on the Internet was included in German language learning.

The obtained results are related to the need to train teachers with knowledge on materials research. In this aspect, their work is intertwined with that of the students. The greatest advantage of teaching lies in the way of processing these materials, in order to be able to educate students with a different attitude towards technologies and equip them with a methodology that will serve them the latter to continue to learn throughout life.

2. The context of teaching German through technology

Communication technologies have now become an integral part of communication and interaction in everyone's work. Their involvement in all spheres of life has brought about a real social revolution. In schools, the use of

technologies in the teaching/learning process has become something normal (Power Point presentations, searching for documents on the Internet, completing course assignments and submitting them to online platforms, various notifications about registrations, exam schedule, uploading to the platform of lectures and methodological documents for student use, etc.).

The numerical resources that are used are quite diverse and continue to be created inefficiently. Among them we can mention online databases and libraries, search engines, catalogs, websites and online training, portals, platforms (MOODLE, TEAMS, etc.). Meanwhile, digital universities that promote distance learning and respond to an increasingly international audience aim to spread knowledge through proposed online training. Online courses also, in various fields of science, have received an increasingly large development and most of them are also certified. All this we talk about an education which is being carried out more and more through digital platforms and which runs parallel to classroom teaching, as a different way and an efficient means of educational variety and different and enriching formations. Thus, German language teaching uses both visual and numerical interaction (online learning materials, listening, video display, the latest artificial intelligence applications where intelligent machines communicate) and technology-facilitated learning. The numerical resources that are used are quite diverse and continue to be created inefficiently. Among them we can mention online databases and libraries, search engines, catalogs, websites and online training, portals, platforms (MOODLE, TEAMS, etc.). Meanwhile, digital universities that promote distance learning and respond to an increasingly international audience aim to spread knowledge through proposed online training. Online courses also, in various fields of science, have received an increasingly large development and most of them are also certified. All this we talk about an education which is being carried out more and more through digital platforms and which runs parallel to classroom teaching, as a different way and an efficient means of educational variety and different and enriching formations. Thus, German language teaching uses both visual and numerical interaction (online learning materials, listening, video display, the latest artificial intelligence applications where intelligent machines communicate) and technology-facilitated learning.

Thus, through online correctors, there is no longer the fear that you can write a word wrong, the recovery and editing of texts is realized, the search of texts on the Internet is encouraged in function of the skill to be developed, finding different models related to a topic of certain, etc. Such uses, in fact, have dimmed to some extent the creative expression (transformation of figures, creation of conceptual schemes, adaptation of ready-made models, etc.) but the

use of these diverse tools (photoshop, corel, creately, etc.) .) offered by the various computer programs or online platforms offer students multiple means of presenting the contents of the tasks and studies they undertake during the learning process. Without digital tools in lectures, students remain isolated only in books.

Access to Internet tools solves specific tasks, it is an aid that leads the student to the best performance. Comparable forms of work can be used through the culture that digitization brings. Traditional student tests mixed with digital tests are inadequate to assess the value of digital media. As a result, German lessons take place even today under different conditions than they were 10, 20 or 30 years ago. The forms of work used reflect this, because they are at a high level and enable young people to take on difficult social and professional tasks.

The process of developing learning at a higher level with digital methods must be supported by the right resources and incentives. Therefore, the efforts involved in the introduction of new technical and media processes are worth it. This is crucial - and a legitimate concern when reforming the culture of teaching is expected. From the student's point of view, it is important which specific learning processes can be initiated, activated and promoted in German language lessons.

Dealing with digital (online) texts, i.e. digital literacy, leads to model learning. Writing skills require occasional training, both for handwritten texts and additional digital tasks. They require connections with other texts, with grammar not used before, help students master listening skills in reading, writing and develop meaningful and friendly references. In addition, the texts must be written in such a way that they can be easily distributed through digital platforms.

3. Theoretical and methodological framework

The technologies used in teaching create new *ways of communication and exchange of knowledge in schools, especially in those at the university level*. Teacher-student cooperation is thus realized through other cooperative forms created by the use of technological tools such as communication through various applications, through teaching platforms, forums, blogs, social networks as a whole, etc.

In student practice, digitization has been mentioned in many studies and is - added value in foreign language teaching, specifically in the German language, and remains culture

existing audit. The issue of digital media is an added value in the auditorium currently. Training with this method is completely fundamental and also of special importance for didactics. This method increases the potential for innovation. It is not digital media in itself that merits advanced didactics, but the skillful combination of the teaching method with them. Even the blackboard does not automatically lead to better teaching, but the intertwining of the two does. Educators must be well trained to promote learning (Döbeli Honegger 2016: 68)[4]

The most complete language resource for the German language is the digital dictionary of the German language. The challenge (Boyd 2014: 18) of digital dictionaries is to use searches for information and context. The most comprehensive linguistic resource for the German language is the digital dictionary of the German language. Coping (Boyd 2014 : 18)[3] with digital dictionaries consists of using searches for information and context.

This is an essential skill in terms of digital literacy, so the ability to develop text competence in digital environments is immediate. The educator must research options and provide a significant amount of high-quality information.

The frequency of use of certain linguistic expressions can depend on and can be learned and consolidated in these forms of work. Digital language resources invite us to work with digital vocabulary in extended contexts. In addition, they provide access to content not available in book form. Content is more comprehensive, in machine-readable form, interactive multimedia components.

Therefore, foreign language learning should be used effectively, not avoiding media environments, digital resources.

Wolfang Riepl[3] says that new forms of media do not replace old ones, but lead to the acquisition of new functions. German lessons were taught and learned before digitization, they continue to be so, important. They must be developed in such a way that they are primary. By using the book and digital methods their teaching will undergo a change in function of the student. WhatsApp is a great help in the learning process, in the best possible acquisition of a foreign language and the Internet in general.

We must tend not to remain in our routines, but to try what is missing for an accomplished teaching. If we make it a habit to try something new, even if it's useless or inappropriate, it's worth it for the sake of the experiment.

4. Analysis and interpretations

German language skills and familiarity with German history and culture help to adapt to the new. We also need support from educational institutions to implement a digital agenda as professional as possible from pedagogues in the field of media competence.

Digital transformation is a key process to meet the challenges described. There are many initiatives by teachers motivated to promote the topic on their own initiative. But often, interactive online learning programs lack equipment (Kay, 2021). Describing framework conditions and models and providing standard online platforms that enable a networked exchange for all participants should be optimal for interactive learning for students.

Teaching conditions can change positively in the long term. The implementation of this requires political will, additional capacities and resources and a partial reorientation of central actors in the language learning process.
In the auditoriums, thanks to the Internet equipment, students can be integrated into the lesson "at the touch of a button" and this allows topics to be practiced interactively. Other applications, such as "Kahoot", facilitate lessons and allow at the same time to perform direct control on learning and provide feedback. Online lessons enable the dissolution of space and time limitations of face-to-face lessons.
Students think that distance learning is as important as classroom learning, but they are not in favor of a completely online teaching as ineffective. This is also expressed in the survey we conducted with students.

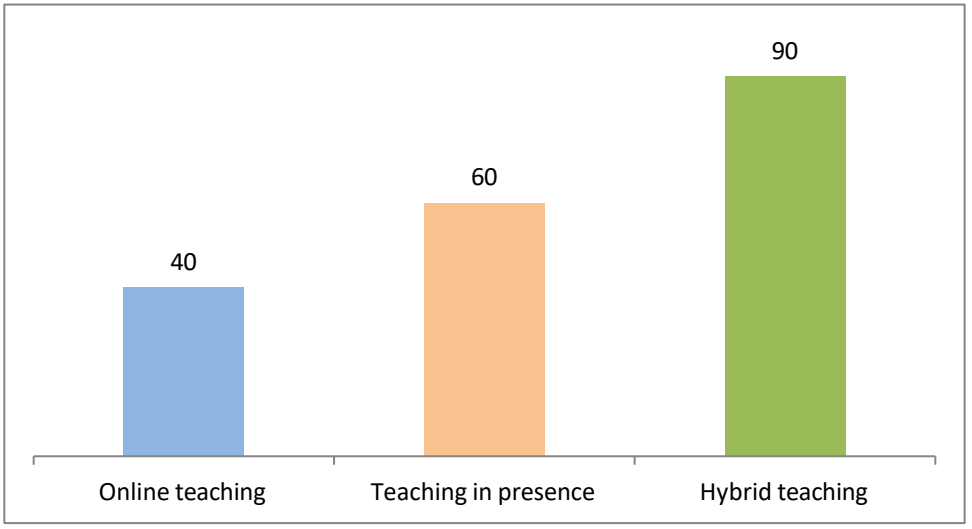

Figure 1 The use of technology in education

These methods certainly enable more flexible participation in lessons for everyone. Using a learning management system and working with digital textbooks creates a clear digital learning environment. It can be used to automatically assign homework and exercises and monitor learning progress. Digitization has a positive impact on both teaching and exam success. Digitization can develop a great potential. It changes a large part of the "normal" and thus strengthens the students' autonomy and the time-saving effect. This is important because "normal" classroom lecture work is time-consuming and leaves little time for revision, extra exercises and project work.

In any case, didactic concepts related to the subject that the students develop are required. Teaching in digital conditions must be taken into account, at the same time the perspective and modification of the content, competences and goals of the German lessons accordingly. Pandemic-related school closures and changes to distance learning confirmed this desire. They dynamized every digitalization effort in university education, but not only. Also, this situation made clear the gaps and omissions in relation to the relevant didactic procedures and in relation to technical equipment.

5. Conclusions

Learning is more diverse thanks to the use of numerical tools in teaching/learning.

Their combination makes it easier to focus on the content of the document and brings the latter more visually.

The changes that arise with the new technologies, taking into account the tasks of the German didactics allow a wider discussion on them and the students feel proud and upload their creations on the web page creating the opportunity for others to benefit from the works of theirs.

The impacts of using technology are not always positive, so those practices that use the tool for creativity and learning should be educated.

The use of technology is a very broad field and only through a study can not be analyzed other perspectives that have to do with the psychology of learning and elements such as concentration, types of reading, memory and habit in speaking and written.

The attitude towards knowledge and the way of its acquisition through technology takes time and only the study of teaching/learning practices for a

long time can lead us to stable results that can then be transformed into didactic principles of teaching through technology.

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ENDPOINT SECURITY IN THE AGE OF DIGITAL TRANSFORMATION

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Abstract

Endpoint security refers to the protection of endpoints such as PCs, laptops, servers, and other network devices against cyber threats such as malware, ransomware, and other forms of cyber-attacks.

In the current era of digital transformation, endpoint security has grown in importance. Endpoints have changed from being secondary targets for cyberattacks to the main ones due to the extensive use of technology and the growing reliance on connected devices and digital systems. A network that is widely distributed and susceptible has been produced by the increase in connected devices, cloud-based services, and mobile devices. New difficulties are also brought on by digital transformation, including cybersecurity dangers and data privacy issues. Organizations must provide endpoint security main focus in order to protect their sensitive data and critical infrastructure in view of the growing risks posed by cyberattacks. This article aims to provide a detailed analysis of the present status of endpoint security, the difficulties and risks of digital transformation, the methods that organizations can take to defend themselves against cyberthreats. The article will use a comprehensive literature review to provide a comprehensive understanding of the topic of endpoint security in the age of digital transformation. The purpose is to give enterprises with practical insights and solutions for improving endpoint security and protecting themselves against cyberattacks in a fast changing digital ecosystem.

Keywords: endpoint security, cyberattacks, critical infrastructure, digital, transformation

1. Introduction

1.1. The importance of endpoint security in today's age of digital transformation

Endpoint refers to any device or software application that is connected to a network and can communicate with other devices on that network. The most common examples of endpoints include laptops, smartphones, tablets, and servers. [1]

Figure 1: Enpoint devices connected to a network

Source: trellix.com (2023)

Digital transformation is the integration of digital technology into all areas of a business, leading to fundamental changes in the way the business operates and delivers value to customers. It is a strategic process that enables companies to take advantage of the new possibilities of digital technologies. [2]

Endpoint security is about protecting endpoints or entry points of end-user devices such as desktops, laptops, and mobile devices from exploitation by malicious actors and campaigns. [3]

Organizations of all sizes face threats from nation states, hacktivists, organized crime, and malicious accidental insiders. Endpoint security is often seen as the forefront of cybersecurity and is one of the first areas companies look to secure their corporate networks.

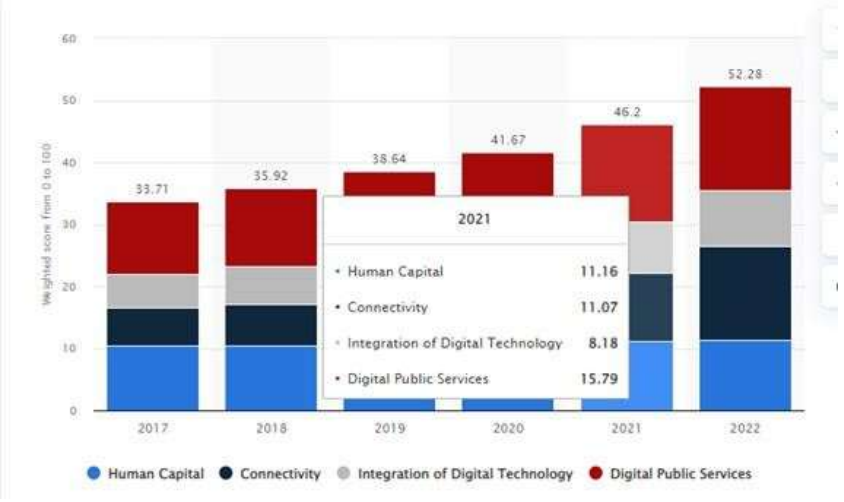
Endpoint security is becoming increasingly important in today's age of digital transformation. With the widespread adoption of technology and increasing reliance on connected devices and digital systems, endpoints have become the primary targets of cyberattacks. This is because endpoints provide a direct gateway for hackers to gain access to sensitive information, steal intellectual property, or cause damage to systems and networks.

As digital transformation continues to transform industries and organizations, the volume and complexity of endpoints has increased dramatically. The growing number of connected devices, cloud-based services and mobile devices, among other things, has created a highly dispersed and vulnerable network. This requires organizations to take a proactive approach to endpoint security to protect their sensitive information and intellectual property.

The growth of digital transformation is due to several factors. These are the COVID-19 pandemic, customer demand and the need to be on par with the competition. By using technologies for digital transformation, companies can react more flexibly to changing markets, promote innovation and thus become more resilient.

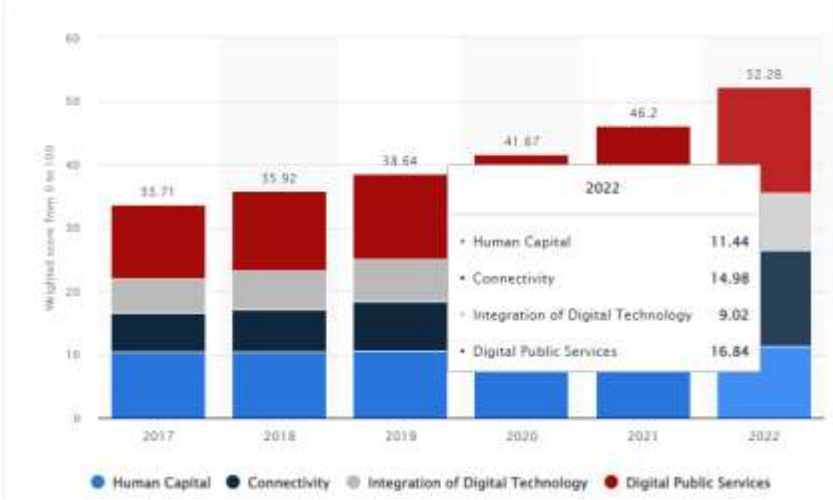
In 2022, spending on digital transformation (DX) is projected to reach 1.6 trillion U.S. dollars. By 2026, global digital transformation spending is forecast to reach 3.4 trillion U.S. dollars. [4]

Figure 2: European Commission (Digital Scoreboard); 2017 to 2022, Details of 2021 score.



Source: Statista 2023

Figure 3: European Commission (Digital Scoreboard); 2017 to 2022, Details of 2022 score.



Source: Statista 2023

Digitalization gained pace in the EU from 2017 to 2022, as seen by significant gains in the EU's digital economy and society index (DESI) score. Over the period, the EU's DESI score climbed by more than 50%, with an especially substantial growth in internet connectivity once the COVID-19 pandemic began in 2020.[5]

In the age of digital transformation, endpoint security must evolve and adapt to meet the changing threat landscape. This requires organizations to implement advanced security solutions that can detect and respond to threats in real time and provide comprehensive network-wide protection.

With the increasing risk of cyberattacks, organizations must prioritize their endpoint security to ensure their sensitive information and critical infrastructure are protected. This will help companies maintain their competitive edge and continue to thrive in the digital age.

According to recent statistics, the need for strong endpoint security has never been greater. Here are some metrics:

1. In 2020, there was a 350% increase in ransomware attacks on businesses. (Source: Check Point)

2. The average cost of a data breach in 2020 was $3.86 million. (Source: IBM)

3. 68% of organizations reported that endpoint attacks had increased in frequency over the past 12 months. (Source: Ponemon Institute)

4. 60% of all cyber-attacks in 2020 targeted endpoints. (Source: Verizon)

5. A recent survey found that 77% of IT security professionals believe that endpoint security is more difficult to manage than any other aspect of their security infrastructure. (Source: Ponemon Institute)

6. The global market for endpoint security is expected to reach $18.4 billion by 2027. (Source: MarketsandMarkets)

7. Despite the growing threat of endpoint attacks, only 29% of companies have a dedicated endpoint security team. (Source: Ponemon Institute)

According to a report by Statista, the global endpoint security market revenue is expected to reach $11 billion by 2022.[6] Another Expert Insights report states that 29% of ransomware attacks enter an organization via file downloads or an email with a malicious link, while 21% of ransomware attacks come from remote attacks on servers and 16% of attacks are via malicious email attachments.[7]

These statistics underscore the importance of strong endpoint security measures to protect against cyber threats and the potential impact of a breach on organizations.

1.2. Digital transformation and its effects on companies and society

Digital transformation is the integration of digital technology into all aspects of a business, leading to fundamental changes in the way the business operates and delivers value to customers. This shift is being driven by advances in technology, the rise of the internet, and the increasing need for businesses to remain competitive in a rapidly changing business environment.

Digital transformation is having a profound impact on businesses and society as

a whole. For companies, it offers new opportunities for growth, increased efficiency and cost savings. Integrating technology into all areas of a business can help automate processes, streamline operations and create new revenue streams. In addition, digital transformation enables companies to better understand and engage with their customers by providing real-time data and insights into their behavior and preferences. [8]

Digital transformation also has a significant impact on society as a whole. The widespread use of technology has created new jobs, and has led to the development of new industries and business models. In addition, digital transformation has increased access to information, allowing individuals to be more informed and empowered in their personal and professional lives.

Digital transformation is also having a significant impact on society as a whole. The widespread use of technology has created new jobs and led to the development of new industries and business models. In addition, digital transformation has increased access to information, enabling individuals to be better informed and empowered in their personal and professional lives.

Ultimately, digital transformation is a powerful force that is transforming the way businesses operate and interact with their consumers, and it has the potential to have significant societal benefits.

2. Methodology, purpose of the article and research questions that will be explored

The purpose of this article is to examine the importance of endpoint security in today's age of digital transformation. The article is intended to provide a comprehensive understanding of endpoint security in the age of digital transformation based on a comprehensive literature review. The aim is to examine in depth the current state of endpoint security, the challenges and risks associated with digital transformation and the strategies that companies can use to protect themselves against cyber threats.

The following research questions are explored in this article:

1. What is the current state of endpoint security in the age of digital transformation?

2. What are the biggest challenges and risks associated with digital transformation for organizations?

3. How does increasing reliance on digital technology affect endpoint security?

4. What strategies can organizations use to improve their endpoint security and protect against cyber threats?

5. How can organizations ensure the privacy and security of their customers and employees in a digitally transformed environment?

6. What is the importance of threat intelligence and how can it be integrated into endpoint security solutions?

7. Why is endpoint security important for critical infrastructure?

3. The current state of endpoint security and its challenges

3.1. The current state of endpoint security

The current state of endpoint security in the age of digital transformation is characterized by increasing challenges and complex security threats. With the widespread adoption of digital technologies and the rise of remote working, the number of endpoints accessing corporate networks has increased dramatically. This has made endpoint security a critical issue for organizations as endpoints are now the primary entry point for cyberattacks.

The nature of security threats has changed with the increasing use of modern technologies such as artificial intelligence, machine learning and cloud computing. Cyber criminals use these technologies to create more sophisticated and effective attacks that bypass traditional security systems.

To address these challenges, organizations must take a comprehensive approach to endpoint security that includes regular software updates, multi-factor authentication, threat detection and response, and regular security audits. In addition, businesses need to ensure their employees are trained in safe online practices and up-to-date on the latest security threats.

Overall, the current state of endpoint security in the age of digital transformation is characterized by increased complexity and risk, but also by a growing awareness of the importance of comprehensive security measures to protect against cyber attacks.

3.2. The challenges and risks of digital transformation

Digital transformation has become a necessity for businesses to remain competitive and relevant in today's fast-paced digital world. However, the process of digital transformation can also bring several challenges and risks that companies must face.

Some of the main challenges and risks associated with digital transformation are:

Cybersecurity threats: Digital transformation increases an organization's attack surface and makes it vulnerable to cyber threats such as data breaches, ransomware attacks, phishing scams, etc.

Data privacy: The rise of big data and cloud computing raises questions about who has access to personal data and how it is used. With new data-driven initiatives, the way personal data is collected, stored, processed and shared is increasingly being scrutinized. This makes compliance with regulations like GDPR crucial for companies handling sensitive customer data.

Talent gap: Digital transformation requires new skills and talent, and organizations may struggle to find and retain employees with the right skills. Businesses need skilled talent with expertise in emerging technologies such as artificial intelligence (AI), machine learning (ML), cloud computing, etc. that are hard to find in today's market.

Integration and compatibility: When organizations adopt new technologies, they must ensure that these technologies are compatible with existing systems and processes.

Regulatory compliance: As digital technologies continue to evolve,

organizations must keep up with changing regulations and laws related to privacy, data protection and cybersecurity.

Culture and change management: Implementing new technologies often requires significant changes in business processes and employee workflows. This can create resistance from employees who may be resistant or uncomfortable with change.

Legacy systems: Many organizations still rely on legacy systems that are outdated, inflexible, and difficult to integrate with modern technologies. The challenge is to modernize these systems while ensuring business continuity.

Cost-effectiveness: A major risk associated with digital transformation is the high cost of acquiring new technologies and infrastructure upgrades with no guarantee of long-term benefits.

Overall, successfully addressing these challenges requires a strategic approach to digital transformation that includes careful planning, risk assessment and risk mitigation strategies, as well as effective communication and collaboration at all levels of the organization from top-level management to front-line workers.

3.3. The increasing reliance on digital technology has a significant impact on the security of endpoints.

In today's fast-paced digital world, companies of all sizes rely heavily on technology to run their business operations.

The increasing reliance on digital technology has brought several benefits, including increased efficiency and productivity. However, it has also resulted in a significant impact on endpoint security.

As more sensitive information is stored and transmitted digitally, endpoints become more vulnerable to cyberattacks and data breaches. Rapid advances in technology also mean that endpoint security solutions must be constantly updated and improved to keep up with evolving threats. [9]

Endpoints are vulnerable to cyberattacks as they are often the first entry point for malicious actors trying to gain access to sensitive data or systems.

The rise of remote working due to the COVID-19 pandemic has further complicated endpoint security. With employees working from home on personal devices and accessing corporate networks via unsecured WiFi connections, the attack surface for cybercriminals has increased significantly.

Organizations can only address this problem by incorporating threat intelligence solutions into their endpoint security strategies. Threat intelligence is information about potential threats gathered from various sources such as social media platforms or dark web forums.

By integrating threat intelligence with endpoint security solutions such as antivirus software and intrusion detection systems (IDS), organizations can identify threats before they become a problem. This proactive approach enables organizations to identify potential threats early and take appropriate action before damage occurs.

Additionally, as artificial intelligence (AI) and machine learning (ML) technologies become more advanced by the day, these tools have been used extensively in recent years by organizations that want better visibility into their rapidly growing IT ecosystems, so that they can quickly detect abnormal behaviour patterns in all multiple endpoints at the same time, this reduces the response time in the event of a security breach and improves the overall cybersecurity posture.

Another important aspect of endpoint security is employee training and awareness programs that educate employees on best practices for protecting sensitive data assets when working remotely – this includes everything from password hygiene habits to multi-factor authentication protocols, up-to-date antivirus installations, etc.

In summary, the increasing reliance on digital technology is having a significant impact on endpoint security. Organizations must take proactive measures to protect their endpoints by incorporating threat intelligence into their endpoint security strategies, educating employees on remote work best practices, and staying abreast of emerging technologies that can improve the overall cybersecurity posture.

3.4. The different types of endpoint security solutions and technologies available today

There are various types of endpoint security solutions [10] and technologies available in the market today, including:

Anti-virus software: This is the traditional form of endpoint security and is designed to protect endpoints from viruses and other malicious software.

Firewalls: Firewalls are network security systems that control incoming and outgoing network traffic based on specified security rules. They help prevent unauthorized access to endpoints.

Endpoint detection and response (EDR): EDR is a type of endpoint security solution that continuously monitors endpoints for unusual activity and provides real-time responses to potential security threats.

Mobile device management (MDM): MDM solutions help organizations manage and secure mobile devices that access the network.

Cloud access security brokers (CASB): CASB solutions protect cloud-based applications and data from unauthorized access and threats.

Encryption: Encryption software is used to protect sensitive data stored on endpoints by encoding it into a secure format that can only be decrypted with a key.

Access control systems: Access control systems control who is able to access specific endpoints and data.

Network access control (NAC): NAC is a security solution that ensures that only authorized devices are able to access the network.

Virtual private network (VPN) software: VPN software is used to create a secure connection between an endpoint and a network.

These are some of the common types of endpoint security solutions available today. The type of solution an organization chooses will depend on its specific security needs and budget.

3.5. The impact of digital transformation on endpoint security and the need to evolve and adapt it

As technology continues to advance and digital transformation continues, organizations face new and complex security challenges. The shift to digital processes and increasing reliance on technology has resulted in the need to protect more and more endpoints such as laptops, smartphones and cloud-based systems. This poses a challenge for endpoint security, which must evolve and adapt to keep up with the changing landscape.

One of the biggest challenges of digital transformation is the increase in the number of endpoints, which in turn increases the attack surface for cybercriminals. This means organizations need to ensure their endpoint security solutions can protect against a broader range of threats, including malware, phishing, and unauthorized access. Additionally, digital transformation has led to the growth of new technologies such as the Internet of Things (IoT), bringing even more potential security risks for endpoints.

To effectively address these challenges, organizations must have a comprehensive endpoint security strategy in place. This strategy should include implementing various layers of protection such as antivirus software, firewalls, and encryption to significantly minimize the risk of a breach. It is also important to ensure that all employees are trained on endpoint security best practices, e.g. B. in avoiding suspicious emails and downloading unknown software.

In summary, the current state of endpoint security in the age of digital transformation is one of constant evolution and adaptation. As technology continues to advance, organizations must remain vigilant and implement robust security measures to protect against the expanding threat landscape.

3.6. The importance of threat intelligence and how it can be integrated into endpoint security solutions

Threat intelligence is an essential part of endpoint security in today's age of digital transformation. It's about collecting, analysing, and leveraging information about current and emerging cyber threats to help organizations understand and prepare for the potential risks and vulnerabilities they face. Threat intelligence enables organizations to identify and prioritize their most critical threats, implement the appropriate protection measures and mitigation strategies, and continuously monitor their security posture and adapt to changing threat landscapes. This information helps organizations stay one step ahead of attackers and reduce their exposure to potential cyber attacks.[11]

As the threat landscape continues to evolve and become more complex, organizations must be able to respond quickly and effectively to emerging threats. This is where threat intelligence comes in, providing organizations with the information they need to stay ahead of potential threats.

Integrating threat intelligence into endpoint security solutions is a critical step in ensuring organizations are protected from cyber threats. This process involves collecting and analysing data from various sources, such as logs and reports, to identify potential threats. The information gathered is then used to update the endpoint security solution to block or mitigate these threats.

A common approach is to use threat feeds, which are regularly updated lists of known threats and their characteristics. Endpoint security solutions can be configured to consume these feeds and use the information to block or alert on known threats. Another approach is to leverage threat intelligence platforms, which provide a central repository for storing, analysing, and distributing threat intelligence.

Organizations can also implement threat hunting, a proactive approach to finding and identifying potential threats. This can be achieved through the use of security analysis tools that help detect suspicious behaviour and anomalies in the network.

Ultimately, the key to effectively integrating threat intelligence into endpoint

security solutions lies in a robust security strategy. This should include regularly reviewing and updating the endpoint security solution, conducting regular security assessments, and keeping up to date with the latest threats and vulnerabilities.

There are several strategies that organizations can use to improve their endpoint security and protect against cyber threats. These include:

Implementing strong password policies: Encouraging employees to use strong passwords and regularly changing them can help to reduce the risk of cyberattacks.

Regular software updates: Regularly updating software can help to protect against vulnerabilities and new threats.

Educating employees: Employees can be a major source of security vulnerabilities, so providing them with regular training and education on how to recognize and avoid cyber threats is important.

Endpoint protection: Utilizing endpoint protection solutions, such as antivirus software, firewalls, and intrusion detection systems, can help to detect and prevent cyber threats before they cause damage.

Monitoring and logging: Monitoring network activity and logging events can help to identify potential threats and respond quickly to incidents.

Threat intelligence: Incorporating threat intelligence into security solutions can help organizations stay informed of the latest threats and quickly respond to new vulnerabilities.

Regular security assessments: Regularly conducting security assessments can help organizations identify and remediate security weaknesses.

Here's how organizations can ensure the privacy and security of their customers and employees in a digitally transformed environment by implementing a robust security strategy that includes endpoint security solutions, employee training, and regular security audits. You can also use encryption technologies, multi-factor authentication, and secure cloud storage solutions to protect sensitive information. To effectively protect against cyberattacks, organizations need to stay up to date with the latest security risks and technologies. Additionally, an incident response plan can help organizations respond quickly and effectively to a security breach.

In the age of digital transformation, organizations are increasingly dependent on digital technology to run their business processes. Therefore, the security of endpoints (such as laptops, smartphones, and other internet-connected devices) has become a major concern. A holistic approach to endpoint security must consider the entire information systems infrastructure, including every device, network, and application that an organization uses.

This requires organizations to consider a range of security measures, from firewalls and antivirus software to employee training and incident response plans. To ensure the privacy and security of their customers and employees, organizations must continually evaluate and adapt their endpoint security strategies to stay ahead of evolving cyber threats.

By taking a comprehensive approach to endpoint security, organizations can protect themselves and their customers from cyberattacks and minimize the impact of a potential security breach.

3.7. Endpoint security and critical infrastructure

Endpoint security is a crucial aspect of cybersecurity in any organization, and it is especially important for those that operate critical infrastructure.[12] Critical infrastructure refers to the systems and assets that are essential for the functioning of society and the economy, including power plants, transportation networks, water supply systems, and communication networks. These systems are highly interconnected, and any security breach can have significant economic and social impacts.

Endpoint security for critical infrastructure is a topic about protecting critical systems and assets from cyberattacks that could compromise their availability, integrity or confidentiality. Critical infrastructure sectors can include energy, transportation, water, healthcare, finance and more.

Endpoints such as desktops, laptops, servers, and other network devices are often the weakest link in the security chain, and if left unprotected, they can be easily compromised by cyber threats such as malware, ransomware, and other forms of cyber attacks. A successful attack on an endpoint in a critical

infrastructure can lead to the disruption of essential services, data breaches, and even physical damage to devices

To ensure endpoint security in critical infrastructure, organizations must implement robust security measures. These measures include regular patch management to address vulnerabilities, implementing strong authentication and access controls to prevent unauthorized access, using endpoint protection software such as antivirus and firewalls to detect and block malicious activity, and monitoring endpoint activity for Detection of anomalies and potential threats.

Some of the challenges, solutions and products for endpoint security for critical infrastructure are:

Challenges:

1. Ensuring that all endpoints are properly secured and monitored.
2. Keeping up with the ever-evolving threat landscape.
3. Ensuring that all endpoints are compliant with industry regulations and standards.
4. Ensuring that all endpoints are properly patched and updated.

Solutions:

1. Implementing a comprehensive endpoint security solution that includes antivirus, anti-malware, and intrusion detection/prevention systems.
2. Implementing a secure access control system to ensure that only authorized users can access critical systems and data.
3. Implementing a secure network architecture that includes firewalls, encryption, and other security measures.
4. Implementing a robust patch management system to ensure that all endpoints are up-to-date with the latest security patches.
5. Implementing a comprehensive monitoring and logging system to detect and respond to any suspicious activity.

Products:

1. Microsoft Defender for IoT: This product provides visibility and protection for industrial IoT, OT, and ICS devices. It can detect and stop complex, multistage attacks using AI, automation, and threat intelligence.
2. Azure Defender for IoT: This product is a cloud-based solution that integrates with Microsoft Defender for IoT to provide scalable and flexible security for hybrid ICS environments. It can also leverage Azure Sentinel and other Microsoft security solutions to provide a unified view of threats.
3. Fortinet SCADA Security: This product is a solution that secures SCADA systems and networks from cyberattacks. It can monitor network traffic, enforce policies, prevent intrusions, and isolate threats.

4. SWOT analysis for Endpoint security in the age of digital transformation

SWOT analysis is a strategic tool used to identify and analyse the strengths, weaknesses, opportunities, and threats of a particular initiative. In the case of endpoint security in the age of digital transformation, the SWOT analysis is as follows:

Strengths:

- Increased awareness of the importance of endpoint security in the age of digital transformation.
- Availability of advanced technologies such as artificial intelligence and machine learning that can detect and prevent security breaches.
- Growing demand for endpoint security solutions due to an increase in cyber threats.
- Availability of a wide range of endpoint security solutions that can meet the needs of different organizations

Weaknesses:

- Lack of skilled professionals to manage and implement endpoint security solutions.
- High cost of implementing advanced endpoint security solutions.
- Inadequate endpoint security measures in some organizations due to budget constraints or lack of awareness.
- Limited integration of endpoint security solutions with other security tools and systems.

Opportunities:

- Increasing adoption of cloud-based endpoint security solutions.
- Growing demand for endpoint security solutions in emerging economies.
- Development of advanced endpoint security solutions to cater to the evolving threat landscape.
- Integration of endpoint security solutions with other security tools and systems.

Threats:

- Rapidly evolving threat landscape and cyberattacks.
- Inadequate implementation of endpoint security solutions leading to vulnerabilities.
- Limited awareness and understanding of endpoint security in some organizations.
- Compliance requirements and regulations that may increase the cost of implementing endpoint security solutions.

Overall, in the age of digital transformation, endpoint security presents both opportunities and challenges. Enterprises must implement effective endpoint security measures and ensure that these are integrated with other security tools and systems to provide comprehensive protection against cyber threats. Additionally, it is critical to ensure organizations have adequate resources and skilled professionals to manage and implement endpoint security solutions.

5. Conclusions

The current state of endpoint security faces challenges due to increasing digital transformation and remote working. This has led to an increase in the number of endpoints accessing corporate networks and has changed the nature of security threats.

Challenges include the rise of cyberattacks, privacy concerns, talent shortages, integration and compatibility issues, regulatory compliance, and culture and change management. Enterprises must take a comprehensive approach to endpoint security, implementing regular software updates, multi-factor authentication, threat detection and response, and security audits.

The various types of endpoint security solutions available today include antivirus software, firewalls, endpoint detection and response, mobile device management, cloud access security brokers, encryption, access control systems, network access control, and virtual private network software. The impact of digital transformation on endpoint security requires constant evolution and adaptation to keep up with the changing landscape and increasing threats. A comprehensive endpoint security strategy is required to effectively meet the challenges.

Endpoint security refers to protecting devices such as laptops, smartphones, and other digital devices used to access an organization's network and sensitive information. In the age of digital transformation, where technology has become a critical part of running a business, endpoint security is more important than ever.

For organizations, the impact of poor endpoint security is significant. A breach in endpoint security can result in the theft of sensitive information, such as customer data or trade secrets, which can result in reputational damage, financial loss, and legal penalties. It can also cause business disruption and downtime, lost productivity and increased costs.

For society, the impact of poor endpoint security is just as severe. Cyberattacks can target government institutions, critical infrastructure, and individuals, resulting in theft of personal information, disruption of public services, and even physical harm. In an increasingly connected world, endpoint security is critical

to protecting the privacy and security of individuals and the stability and security of the digital ecosystem.

For critical infrastructure, the importance of endpoint security cannot be overstated. Organizations running critical infrastructure must prioritize endpoint security to prevent cyberattacks that can have serious economic and social consequences.

Overall, it is critical for businesses and society to prioritize endpoint security to prevent cyberattacks and protect sensitive information. This may include implementing secure passwords, regularly updating software, and using anti-virus and anti-malware software.

In addition, organizations should have a comprehensive security plan in place that includes regular security assessments, employee training, and regular updates to security policies and procedures.

6. Recommendations

Here are some recommendations for organizations on how to keep their endpoints secure in this new era of digital transformation:

Endpoint protection software: Use endpoint protection software that monitors and controls the devices connecting to your network to prevent unauthorized access.

Network segmentation: Divide your network into different segments and only grant access to certain areas to those who need it. This helps limit the damage that a security breach can cause.

Regular security audits: Conduct regular security audits to identify any vulnerabilities and ensure the necessary measures are in place to protect against cyber threats.

Data backup and recovery: Implement a data backup and recovery plan to ensure critical data can be recovered in the event of a security breach or disaster.

Third-party security assessment: Regularly evaluate the security measures of third parties and service providers to ensure that they meet the required security standards.

Stay informed: Stay up to date on the latest cybersecurity trends and the threats you face. Read industry reports and subscribe to security newsletters to stay informed and proactive in your security efforts.

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DIPLOMACY, FROM THE MORSE ALPHABET TO TWITTER

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Abstract

The diplomacy is successfully facing the challenge of the technological revolution of this era by adapting its implementing policies, its infrastructural machinery and human resources, old and new one.

New technological tools provide diplomacy with the ability to act and react immediately by speeding up bilateral, regional, multilateral and global diplomatic processes in a professional manner to achieve the required results for the benefit of conflict prevention, peace restoration and the maintenance of stability and cooperation.

Digital diplomacy become a daily practice of diplomats communicating among them and with the public through digital means of communication. The use of hashtags, helps leaders and governments for promoting countries and their government achievements and disseminating data and analysis in times of crisis as well. The uses of digital diplomacy are thus multifold and diplomats are constantly coming up with new strategies for using it to further their goals.

The new concepts, contemporary methods of action, the democratic spaces easily used through digitalization have given to diplomacy a new contemporary dimension. Diplomacy is currently facing a new self-defense challenge against the phenomenon of cyber attacks and official and non-official actors holding this new weapon.

Keywords: Digital, Diplomacy, Digitalization, Cybersecurity, Digital cooperation, Technology,

i. Introduction:

While perusing some of my notes on diplomacy, I stumbled upon a statement from Gordon Smith, the Canadian Deputy Minister of Foreign Affairs, in 1997, during his discussion of the coming age of virtual diplomacy and the changing diplomatic dynamics: “There was a time when establishing a new embassy or diplomatic post took weeks, even months. Now, it takes a plane ticket, a laptop and a dial tone. And maybe a diplomatic passport…” [i] I would also add that …then you end up in the right place with an exceptionally short period of time to do the right thing.

This is an undeniable fact, especially today, when over twenty have passed since ‘97 and we are now two decades into the 21st century. Technology and the continuous inventions surrounding everyday knowledge have absorbed the world into a never ending race to capture, process, publish, and use information. Even diplomacy, the most important and traditional machine of the state, has become a part of this race, finding its own course to follow the rhythm of the times and challenging it. How much diplomacy is challenged, and the way it is challenged, in the dizzying speed of this technological revolution varies by the country and situation, continually changing year to year.

ii. Evolution of the communication in diplomacy:

For better or for worse, diplomacy in general is now increasingly open, moving at an alarming rate. The world has changed and diplomats are adapting to navigate the waters without drowning in the bewildering age of the internet. However, the process of conforming or changing the nature of diplomacy, if we can call it this, has its own history development.

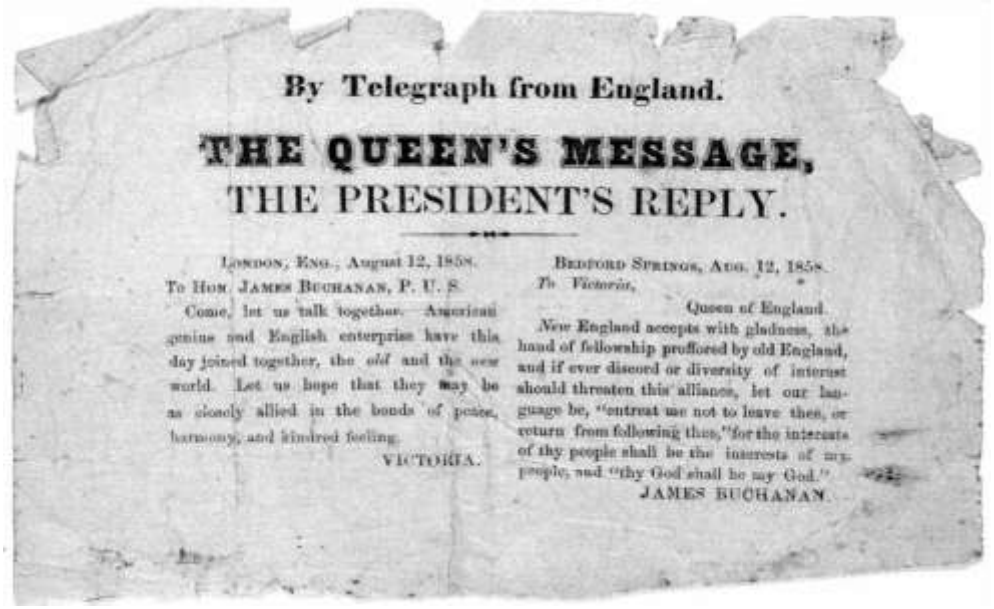
To illustrate this fact, it is enough to turn our attention to the revolutionary diplomatic technology of the 19th century: the telegraph.[ii]

Figure 1: (1858) President Buchanan and Queen Victoria exchanged the first transatlantic messages.

Source: FCIT.USF.EDU/PROJECT/TT

On August 16, 1858, Britain and the United States of America exchanged the first telegram through the transatlantic cable, transforming the traditional method of diplomatic communication. (Figure 1/ Figure 2)

Figure 2: The queen's message.



By Telegraph from England.

THE QUEEN'S MESSAGE,

THE PRESIDENT'S REPLY.

LONDON, ENG., August 12, 1858.

To Hon. JAMES BUCHANAN, P. U. S.

Come, let us talk together. American genius and English enterprise have this day joined together, the *old* and the *new* world. Let us hope that they may be as closely allied in the bonds of peace, harmony, and kindred feeling.

VICTORIA.

BEDFORD SPRINGS, AUG. 12, 1858.

To Victoria,

Queen of England.

New England accepts with gladness, the hand of fellowship proffered by old England, and if ever discord or diversity of interest should threaten this alliance, let our language be, "entreat me not to leave thee, or return from following thee," for the interests of thy people shall be the interests of my people, and "thy God shall be my God."

JAMES BUCHANAN.

Source: FCIT.USF.EDU/PROJECT/TT

Before, yellow letters were sealed with wax, carefully written in delicate calligraphy, signed with an inner ceremony, and sent off with a sense of satisfaction, traveling at the same pace as the most important messages they carried. These ritualistic endeavors were replaced in the blink of an eye. Stations awaiting telegrams transformed coded memorandums into ink regardless of the geographic start and end point.

The British Secretary of State, Lord Palmerston, regarded the innovation with a pessimistic view on what it meant for diplomacy. After receiving his first telegram in 1860 he proclaimed "my God this is the end of diplomacy." Today, after more than 170 years, diplomacy has not only survived, but adapted to the use of developments in modern technology, changes unimaginable in the years of the British Secretary Palmerston. Similarly, Harold Nicholson, an well-known analyst of diplomatic practice, in the 1960s lamented that the telephone

become a serious threat to diplomacy due to the velocity it allowed information to fly around the world.[iii]

In fact, new technology has given momentum, dynamism and a breath of fresh air into diplomacy. It concentrates on foreign policy-making, reducing the self-serving nature of the diplomat as well as the time required for diplomatic communication. It seemed as if the essence of the extraordinary and plenipotentiary began to strip themselves of internal agendas and become more focused on its formalization.

In its beginning, the new method of communication by telegram required large expenses, especially when it came to encrypted and coded messages (as was also used in Albania). For this reason, communication by telegram was advised to be used for only the most urgent messages, and to be kept as short as possible. This was something that diplomats had an affinity for and took to heart. In 1881, the U.S. Minister to Russia, John W. Foster, earned the distinction of sending the shortest diplomatic dispatch ever. Relating the news of the death of Tsar Alexander II, he simply wrote "Emperor Dead."[iv]

Looking back, it seems as if the telegram was a prelude to today's Twitter[v], a way of communicating where the borders of letters gave way to a freedom to alert, yet there was still an inability to understand the nuance of the event in question.

With the invention and use of the telegram, the new system of communication greatly facilitated and positively influenced diplomatic communication in an array of aspects. However, the inertia of this speedy communication, especially in diplomacy, had another more negative side: a diminished time for reflection on decision making, increased pressure for immediate answers (necessary to the diplomatic mission), and added workload for encoding, decoding, and special handling of telegrams challenged diplomats and furthermore, there is a bigger security alarm[vi].

All of those who had been involved in the process of diplomacy, even if it was in a peripheral position, lived through a time of significant burden while representing their embassy. The responsibility for the personnel in specialized communication (such as the radio operators and coders), with their accompanying infrastructure (the telex and coding offices, rooms without windows and starched special uniforms), the task of deciding where it was strategic for these offices to be located, their proximity to each other and other representative offices, where to place the communication antenna, etc. Not only was this a large task for the small and poor country of Albania, but even the

most powerful countries were faced with hefty expenses and decisions, yet they were imperative at the time.

For every person today, whether or not they are involved in diplomatic services, this past is a part of our story, they are not simply things we have seen in old black and white films, opening with "once upon a time."

iii. Diplomacy of 21st Century:

The historian of the State Department, David Nikles, succinctly described in his work "How the Telegraph Changed Diplomacy,[vii]" the facts and events of reports from the time in a manner as interesting and complex as the conception of the invention itself.

The telegraph completely changed the diplomatic world, it shook it from its centuries long roots and gave diplomacy the tools, not weapons, to seize opportunities and showed it how to effectively use them, it allowed diplomats to successfully face the difficulties of their time.

The use of digital technologies by diplomats is determined by long-term digitization processes and under the influence of different and very complicated and new circumstances. Whatever the everyday running virtual environments helped a lot, especially the diplomats of certain age to be accommodated and reconciled with the fact of the limitations of traditional diplomacy and the unlimited advantages of the new diplomacy.

Several major international events helped digital diplomacy and digitization process to take its position in the processes and developments of international relations in the future.

The first ever global diplomatic session with online participation was held by the International Telecommunication Union (ITU) in 1963.[viii] (Figure 3) Since then, remote participation has been a possibility for more open and inclusive international negotiations.

Thirty year later, the digital diplomacy become a reality and a trend development especially for activist of Civil Society s of digital diplomacy occurred in 1992. Civil society activists used it Email and mailing lists for the first time during the Earth Summit in Rio de Janeiro to coordinate their interventions and positions during lobbying and discussions.

In January 1994, the Unit for Computer Applications in Diplomacy at the Mediterranean Academy of Diplomatic Studies (MEDAC) created and organized the first workshop on Computer Applications in Diplomacy in co-operation with the UN Secretariat and Malta's Ministry of Foreign Affairs. The workshop became an annual event and eventually evolved into the Postgraduate Diploma course on IT and Diplomacy.[ix] Later, the group became the DiploFoundation1, and they are involved in researching and instructing thousands of diplomats on how the internet and computers affect diplomacy. Diplomacy today is going through a similar technological revolution. We are living in an epoch which the U.S. Secretary of State, Hillary Clinton, coined as a "21st Century Statecraft."[x]

Diplomacy uses the internet, wireless, email, Google, YouTube, Facebook, Twitter, LinkedIn, Instagram, TikTok, Blackberry, iPad, Smart phones, iPhone 14, Whatsapp, Telegram, We chat, etc. Sending messages in hundredths of a second to the furthest corners of the world, proclaiming victories, asking for help, bearing witness to devastation and love, sorrow and joy, death and birth, but most importantly, attempting to prevent natural disasters and human evil.

Figure 3: The International Telecommunication Union (ITU) in 1963

Source: ITU

Has diplomacy been able to adjust its infrastructure, human resources, interests, reason, needs, history, and conservative pride? Has it been able to acclimate

with the lightning-fast communication of the internet age, demands of contemporary civil society, and other modern day inventions?

There is no time to reflect. These new means offer diplomacy the immediacy to act, the transparency to inform, the globalization to integrate, the ability to act in time, the agility to react, the reliability to be good partners, the decisiveness for decision making, and the innovation to face challenges and hep to world be a better place to live. All of these new concepts, present-day methods of thinking and acting, endless possibilities and freedoms, have given diplomacy a new dimension and assisted in previously unimaginable ways.

Though unthinkable years ago, when negotiations for diplomatic relations required endless and sometimes fruitless meetings, where large delegations perpetually discussed the same topics under clouds of cigar smoke hanging thick in the air, trapped in a closed room due to the cold and frosty winter nights or hot and muggy summer ones (cigars once were the mark of pride and status, this has now shifted to the brand of sneakers and ties worn by diplomats). The image conjures a picture of heavy folders tucked under an arm, full of notes to be printed then reprinted. At this time, it was unimaginable that today a negotiation could take place without wasting a single sheet of paper (important for us today as we try to conserve our fragile ecosystem), while exchanging hundreds of ideas in hundreds of directions, editing memos without needing to start everything from the beginning so it matches the final draft as it waits to be signed.

Today's virtual diplomacy would boggle the minds of past diplomats. In 2007 Sweden became the first country in the world to open a Virtual Embassy of Second Life[xi], and in 2011 the U.S., in support of the vision of Secretary of State Clinton, opened their own "Virtual Embassy" in Teheran (http://iran.usembassy.gov/),[xii] offering services in Farsi and English, due to the U.S.'s inability to have a physical presence in the area. "Because the United States and Iran do not have diplomatic relations, we have missed some important opportunities for dialogue with you, the citizens of Iran. But today, we can use new technologies to bridge that gap and promote greater understanding between our two countries, which is why we established this virtual embassy[xiii], underlined in her statement State Secretary Clinton. This virtual embassy was geared to communicating directly with the Iranian population, to support a more direct and powerful engagement between the two countries.

It is unthinkable that virtual force, tools previously used for diplomacy, would allow for the organization of the beginning of the "Arab Springs," causing great

upheaval in Arab nations and the rest of the world. During the Arab Spring time, ambassadors were forced to use social media to engage with online users and consider attentively every on online discourse in order to prevent and understand upcoming clash and changes to the international system.

During the difficult Covid-19 times, digital procedures changed a lot. Diplomats increasingly blended offline diplomacy with virtual summits using Zoom or comparable tools. The pandemic led us to the advent called- 'Zoom Diplomacy'. Thus, we can see that digital practices change due to offline occurrences. However, the digitization process also comes from experience and mistakes. Practices change both after successes and after failures as well.

With all the advantages offered to diplomacy by the age of the internet, it should not be forgotten that the internet in and of itself, as well as the nation, is a double edged sword. Virtual communication has the risk of revealing diplomatic and state secrets, compromising national security, or worst of all, the security of international alliances such as NATO[xiv].

Every state in every era has had an inviolable and untouchable piece of sovereignty. They create and protect their national diplomatic, military, and security secrets, as well as those which arise from bilateral or multilateral agreements and commitments. It is true that today it is not necessary in a diplomatic mission to create a unique space for black room ciphers, but this has shifted to the need for encrypted laptops as based on rigorous security standards.

It is no longer required to have radio operators and encryptors in diplomatic missions, but it is now necessary that each diplomat be made aware that diplomacy, in all current aspects of transparency, does not deal with information like a news outlet, rushing to monopolize on the latest "scoop."

Official accounts on Twitter and Facebook of Foreign Affairs Ministries are tasked with reporting their diplomatic missions; they are entrusted to update information for the public. Though these social media accounts remain a crucial tool for opening the window to accessible communication and narrowing the gap between the barriers placed on geographic distance, they will never share the same appropriate information that can be found on official websites, or even official information circulated regarding political stances on foreign affairs.

Unfortunately, it is shown that fewer official material and documents are being put into archives resulting in the archives growing poorer in content. A trend which should frighten professors, historians, and scientists.

iv. Challenges:

The challenges constitute a wide number of factors and concepts, form globalization to deglobalization, institutional, organization, cultural, personal or private and linguistic, national regional or international one, that diplomacy of a country has to face by building a contemporary strategy.

Despite the modern methods which diplomacy has begun to use (sent emails are now considered official documents in many places in the world), that which must be decided upon is a new set of security standards so that regardless of the desire or need for fast communication, there is a protocol protecting the information so it is safe when it has been sent and delivered, and that there is a method of secure storage for these correspondences.

The everyday activities, the embassies and MFA communicate and interact through digitalization, at the same time with different stakeholders like Governments bodies, businesses, citizens, visitors. Thus, it can be concluded that the use of digital resources expose diplomacy to different benefit and challenged interests.

The unauthorized publications of State Department telegrams by Wikileaks created worry not only for the highest levels of the U.S. administration, but sounded the alarm for the strengthening and increase of virtual and computer information not only in America but in every country of the world. Despite all of the advantages offered by the internet age, this leak showed that no information is immune from its darker side, that there are risks and dangers which come from this technology.

The risks are numerous: national and international security are threatened. It seems as if the concept of secrecy in diplomacy has been overtaken by the boom of social media. However, the eager public jumping to offer their opinion on foreign affairs is one thing, and the official diplomatic analyses and positions is another. Balanced and controlled transparency would save diplomacy from fake news, misinformation, and digital frustration, being able to serve its function of dialogue, peace, and cooperation.

The alleged Russian cyber-attacks on the U.S. presidential election, the SolarWinds software issues[xv], G-5 technology, the kneeling of the Albanian state by the cyber attack during 2021-2022[xvi], and the paralyzing attacks on the German administration a few months ago[xvii] go to show that everything and everyone is vulnerable, breakable, and unstable if we forget that diplomatic secrecy is sacred and non-negotiable.

We must consider some of the current challenges.

1. **Threat to National and State Security:**

Social media open nature are challenging governments every day to censor content believed to be dangerous to national security. This presents a significant challenge to diplomacy and foreign relations, which demand secrecy and control over information. The substance of this concept has been overtaken by the advent of social media and become challenging to escape the public spotlight. Diplomats are no longer certain that their acts, even opinions won't be revealed to audiences they have never intended.

2. **Emergence of Non-State actors in the International Arena:**

New digital communication technologies also have the potential to be appropriated by extremist groups and other non-state actors to manipulate the opinions of the public. The Internet is an effective platform for violent extremists to recruit individuals and spread violent ideologies. Terrorist groups in conflict have online presences and operate several social media accounts with the aim of advancing their terrorist agenda. They try to recruit young children by infiltrating online video games and chat applications to glorify their barbaric acts of terror. Hence, the activities of these non-state actors remain a concern for states and governments.

3. **The Risk of Cyber Attacks**

The increased use of digital tools by world leaders and diplomats has exposed them to cyberattacks. World leaders and diplomats have become more vulnerable to cyberattacks as a result of their greater use of digital technologies. These threats come not only from traditional state adversaries but also from non state actors who seek to paralyze government communication systems and steal sensitive information to further their own interests Every country remains a major target of hackers. The cyber security attacks against the official institution was highly increase and a major breach of diplomatic communications as well is a permanent target by hackers for stealing sensitive information about the country’s foreign policy stance toward security and many other critical issues.

4. **Fake News and Misinformation:**

A crisis of trust in information on the Internet become evident due to the large number of information with suspicious origins. Unfortunately many information exchanged on social media is marked by defamation and fabrication by

interrelating the digital ethics and digital frustration. It is not yet a red border between what is permitted and prohibited, between what is hate speech, and what types of speech can be covered under the freedom of speech. Digital ethics is a big concern for MFA and diplomacy and necessary needs a large dialogue with the civil society.

5. The Culture of Anonymity:

Another major challenge for digital diplomacy is the ability for anonymous users to assume fake identities with the goal of injuring the reputations of individuals, states, and organizations. The abuse of online anonymity and the creation of fake narratives can trigger diplomatic disagreements as well as hamper, by kind of pervasive disinformation, the ability of world leaders to manage political, military, humanitarian, security crises when they emerge. Indeed, the relentless assault of malicious statements by anonymous online users forces states to be preoccupied with preventing and removing such content and reassuring audiences[xviii]. Any country can be vulnerable to anonymous cybercrimes because the geopolitical system and balances and the global political, economic, trade and security interests are changing every day making any country an attractive target for financially motivated criminal and terrorist groups.

6. The Technical and Digital Divide:

Technology is rapidly evolving within our competitive global communication environment. Governments must react as quickly as the technology, rapidly invest in digital platforms to prevent being left behind. he adoption of Advanced and secure network technologies has to be carefully adapted, to increase Internet connectivity speed. However, in a world of worsening budget austerity, this also has financial implications for ministries in charge of foreign affairs around the world.

7. Explore the Future of Diplomacy with ChatGPT AI-Driven Technologies

In today's technologically-driven world, artificial intelligence (AI) is revolutionizing and has its impact on diplomacy . OpenAI's ChatGPT, a cutting-edge language model, has garnered significant attention for its potential to reshape diplomatic practices and communication processes. Recognising the importance of AI in diplomacy is an huge advantage for the future of the international relations.

v. Conclusions:

In conclusion, the advantages and challenges offered by digital communication in diplomacy, as argued by globalists in international relations, do not change the foundation and core in relation to the mission, especially in its approach to information and responsibility for analysis of phenomena. On the contrary, to realize diplomatic goals and long term interests administrations must multiply their means, methods, resources, and contacts.

Finally, diplomats, diplomatic body and diplomacy have to be aware from the profound and dynamic positive and negative impacts of digitalization process especially, the very last one, the artificial intelligence (AI)[xix] on societies, environment, ecosystems and human lives, including the human mind, in part because of the new ways in which its use influences human thinking, interaction and decision-making and affects education, human, social and natural sciences, culture, and communication and information.

This process, extremely fast, remains very complicated, especially when we talk about IT ethics, which significantly affects governance and, consequently, the field of diplomacy. To face it, seeks to educate and hold all diplomats accountable on the importance of respect, not only of diplomatic etiquette but also of digital ethics, as a parallel and continuous process for the body and diplomatic agents, in today's times.

This is the new and the very serious challenges for the diplomacy of 21st century.

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WAS ALBANIA READY FOR THE IMPLEMENTATION OF THE FISCALIZATION PROJECT?

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Abstract

The high level of informality and corruption in Albania has been discussed for years. Various measures have been taken by the government to minimize these two components, being aware of the negative effects they have on the economy. One of these measures was the approval of the fiscalization project in 2019. The main focus of this project was the combination of technology and specific regulations, facilitating the Albanian tax authorities in monitoring the flow of taxpayers in real time. This fiscalization reform was thought by the government with the main purpose of reducing informality or otherwise fading the so-called "gray economy".

This new reform for the Albanian tax system was mainly guided by the application of the fiscalization process in Croatia and aims to reduce fiscal evasion by simultaneously controlling not only the various monetary transactions (with and without cash) but also the circulation of movements of goods and services.

Although the progress of this project is claimed to have been successful until the end of 2022, this should be analyzed in more detail from a macroeconomic point of view by studying the level of public revenues that have been collected before and after the fiscalization reform but at the same time, at the microeconomic level, studying how suitable it was for the taxpayers in the private sector.

The focus of this paper will be the comparison of the expected results from the fiscalization process with the results that were achieved during this short implementation period. The data that will be used to add value to this paper will be the various reports produced by public institutions regarding the progress of fiscalization, reports from international institutions regarding the level of informality in Albania before and after the implementation of fiscalization, and the study of the private market, regarding their ease of adaptation to the new invoice declaration system.

Key words: fiscalization, informality, gray economy, fiscal evasion, taxpayers.

1. Introduction

Recently, the tax system in Albania is undergoing radical changes, also as a result of the government's decision to implement the fiscalization process. The initiatives undertaken for fiscalization began in 2019, a year which marked one

of the most important moments of the tax system. In this year, the specific legal basis was drafted, Law no. 87/ 2019 "On the Invoice and circulation monitoring system" which would serve for taxpayers and responsible tax institutions as a basis of information on how the fiscalization process would work. This process mainly aims to reduce fiscal evasion for cash and cashless transactions, as well as to formalize the economy by controlling the real-time circulation of all commercial transactions or movements of goods and services. The advantage of the fiscalization process would not only be tax administrations in terms of real-time control of sales and purchases of goods by taxpayers, but also taxpayers in the time saved they would have from using the system for issuing electronic invoices. Finally, advantages and achievements would also have the citizens who will serve as controllers or external monitors of the system, on the purchases of their goods and services. Their awareness to request the electronic invoice, accompanies the awareness of taxpayers to be right in this process.

Numerous studies have been made on the process of fiscalization and the impact it can have on the private sector, on citizens, but also on the economy as a whole. P. Casey and P. Castro during their study in 2015, analyzed the ratio of taxpayers and the efficiency they would have in the tax administration. They studied the fiscalization system as independent of public institutions and sought to analyze the effect that inclusive electronic devices could have. They asserted that fiscalization should be treated as a self-sustaining process that represents a strategy based on the specific technical rules of each country and the impact and security risk presented by the chosen system should be measured in order to determine the fiscal appropriate means. There cannot be a general survey of all countries that measures the effectiveness and risk posed by the technologies used. Before implementing fiscalization, each country should consider the economic conditions it has, the infrastructure it possesses and the awareness of taxpayers before choosing specific hardware or software instruments. They proposed that for a success of the fiscalization process, the fiscal equipment should be placed in an automation system where the flow of information is automated and can be obtained in real time. But all this had to be accompanied by new capabilities that would provide digital security and increased taxpayer confidence. Regarding digital security, including cyber security during this process, a study was also made by Prokin.M, Prokin.D, Neshkovic.A and Neshkovich.N in 2018. According to the authors' study, misuse of electronic data can cause the level of distrust of taxpayers to become part of the fiscalization process. They proposed that a great deal of attention should be paid to the manipulation of data and its protection. On the other hand, Founoun.A and Hayar.A in 2018, emphasized the importance of integrating the fiscalization process with the smart economy. This integration process would make it

possible to operate the fiscalization now not as a single unit but as an integrated service within the smart economy. Every country should pay attention to the collection and distribution of income for the social welfare of its residents. For this reason, the importance of implementing different tax systems that would make possible not only the formalization of the economy but also the increase of public income so that the government has more opportunities to spend, is emphasized. The attention of the government and its role in the development of the budget has also been emphasized by Steger (2013) in his study, where he emphasizes the need for a fiscal discipline in good economic times but also suitable for difficult economic times, with transparency and honest relations with all its citizens. The fiscal discipline that he proposes claims to justify the minimization of the gray economy or otherwise called the informal economy. All other developed countries that have implemented the fiscalization system have resulted positively in the control and minimization of the informal economy.

The first country to implement the fiscalization system was Italy in the 1980s, and then it started in other countries such as Poland, the Czech Republic, Slovakia or Sweden. Meanwhile, apart from the importance that Albania gave to the fiscalization process and the undertaking of the initiative for its implementation in 2020, the same procedures are followed by other neighboring countries such as Bosnia and Herzegovina and Serbia. (M. Cobovic, A. Katolik, and N. Novak, 2013). Although still at the beginning of the process, Albania, together with the countries of the region, as countries in transition, have encountered many different problems regarding the adaptation of economic agents to the new tax system. Such problems complicate not only the collection of tax revenues but also the achievement of the main objective, such as the formalization of the economy.

The ideal situation regarding fiscalization would be where taxpayers are aware and self-assess on paying all tax obligations. But since almost no country is in this position, most of the tax administrations apply different strategies such as continuous controls, training and application of penalties in order to encourage the increase of taxpayers' willingness to pay their tax obligations.

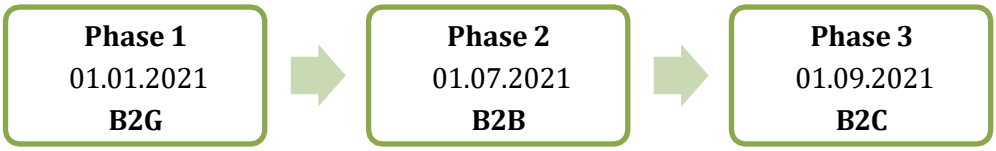
In this paper, we will deal with the implementation of the fiscalization process in Albania, the changes it brought compared to the old tax system, the expectations of achievements and the barriers encountered during the implementation, as well as the impact that fiscalization had on macroeconomic indicators.

2. The fiscalisation Process in Albania

The implementation of the fiscalization process in Albania was made possible through Law No. 87/ 2019 "On the Invoice and Circulation Monitoring System", and has as its main goal the electronic monitoring of commercial transactions of taxpayers which can be in cash or through the bank. Based on the legal part, by definition we can say that: "*The invoice fiscalisation in the supply of goods and services and the accompanying invoice"*[1]*. is a series of measures implemented by taxpayers, who have the obligation to issue invoices and accompanying invoices, to enable the efficient control of circulation, carried out in cash or in the form of cashless payments and the control of the movement of goods.*

We must emphasize that the new tax system through fiscalization does not have many changes compared to the old system except for the technological fact and the possibility of real-time control of electronic invoices. The chosen model of fiscalization is realized through the use by taxpayers of the Tax Administration platform, Self-Care or even through the implementation of an alternative software solution. This model includes digital signature, and is claimed to be one of the most cost-effective models. The selection of this model was made through the application of new technology, considering not only the European Union standards but mainly also its compatibility with the structure of the Albanian economy. Other countries that have applied this model such as: Croatia, Slovakia, the Czech Republic, Slovenia, etc., have affirmed through their history, that it is one of the most advanced models but at the same time the easiest to implement and the most cost effective.

Since the first stages of the introduction of the fiscalization process, the Ministry of Finance of the Republic of Albania has planned several phases with predetermined deadlines, regarding the implementation of the fiscalization process. Guided by the success of the same project from other countries, the Government of RA proposed 3 main phases which would enable the inclusiveness of taxpayers, the awareness of consumers and taxpayers for the issuance of electronic invoices, the necessary training of taxpayers' personnel, etc.



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At the beginning of 2020, after drafting the draft law on electronic invoices, the obligation to issue and fiscalize invoices with cash and non-cash payment of taxpayers under the new law began to be recognized. Various trainings from the General Directorate of Taxes were offered to taxpayers so that they could already be informed about the new model that would be applied to the registration of electronic invoices. Also, during this period, it became possible to register and provide most of the taxpayers with the electronic certificate, which is issued by NAIS. After almost 1 year since the drafting of the legal part and informing taxpayers about the procedures they must follow, the first phase of the implementation of the fiscalization process began on 01.01.2021. At this stage, taxpayers had the duty to issue all electronic invoices for transactions that were carried out with public institutions (B2G). Six months later, from 01.07.2021, the second phase began, in which the issuance of electronic invoices had to be done also for commercial transactions between taxpayers with each other (B2B) for all cashless payments. And on 1.09.2021, the third phase started, which focused on cash transactions between taxpayers and consumers (B2C).

The entire fiscalization implementation process was treated as a project (pilot) for the first 2 years, informing all taxpayers of the steps they must follow in order to be included in the process and until June 30, 2022, the government did not apply any penalties to the subjects that had not yet been fiscalized. The postponement of penalties by the government came as a result of the difficulty of some entities to register, lack of infrastructure, lack of trust and many other factors.

Issuance of electronic invoices of commercial transactions by taxpayers with the government, other subjects or with consumers, makes it possible to inform the Tax Administration in real time and monitor from its side every vash invoice. For this process to be as successful as possible, a high awareness is claimed by all economic agents who are part of the process. If, on the one hand, taxpayers (economic entities) have the obligation to register invoices electronically, on the other hand, the consumer must also have the moral and financial obligation, who must strictly follow the entire invoice registration process, starting with requesting the issuance of the invoice from the business and secondly checking it in the system through the online application on the tax administration website.

3. The need on implementing fiscalization in Albania

In recent years, the economy in Albania has faced constant financial turbulence. The great financial but also human losses came as a result of the continuous

earthquakes in 2019. Still without recovering economically and financially, Albania also faced an uninvited friend, Covid-19, which also brought loss of human capital as well as a significant economic recession. But, in 2022, the year in which the economic recovery was supposed to be achieved, the war between Ukraine and Russia took place, which again hit the global and local economy, causing a blockage in the realization of international trade, the increase in national insecurity, as well as the increase in the general price level. Found in these conditions, the macroeconomic indicators in Albania have not been at the desired levels to be characterized as a country with sustainable economic development. In general, we encountered low economic trends (GDP), high budget deficit as well as rapid growth of public debt, etc.

The need to implement Fiscalization in Albania has arisen for several major reasons, among which we can mention: minimizing the informal economy, achieving good tax administration of the invoice system, minimizing or completely avoiding fiscal evasion, improving public revenue collection, the realization of the audit process in a more efficient way, the reduction of corruption in public institutions, as well as the most important thing, the achievement of the categorization of Albania according to the unifying standards of the European Union. All the aforementioned reasons are planned to be achieved by the government through the modernization and digitization of the tax monitoring system.

Over the years, one of the most sensitive problems of the economy in Albania has been and is the phenomenon of the informal economy or otherwise called the "gray or shadow economy". The informal economy identifies that part of the economy which is neither taxed nor controlled by the forms of government. According to World Economics, the weight of the informal economy in Albania is estimated to be around 31.9% of GDP [2]. The gray economy includes unregistered workers, informally rented premises, illegal activities, under-reporting of income and cash transactions. The informal economy affects not only the decrease in public revenue collection, but also affects the increase in inequality between competing entities, the promotion of corruption, as well as the decrease in public spending in the service of the social welfare of society.

This is the reason why the government needs to have a tighter control over revenue collection in order to be more effective in collecting tax revenue and minimizing the gray economy.

[2] World Economics, 2022

4. Expected results and limitations of fiscalization

From 2019, during the drafting of the law on the issuance of electronic invoices and until 2023, a long and comprehensive process was carried out, which included not only the registration of taxpayers and their provision with fiscal certificates, but at the same time their continuous training so that the continuity of the process is as successful as possible.

Nr	Up to date achievements	Barriers and limitations during the process
1.	Minimizing the informal economy	Lack of a unique system for the codification of goods
2.	Tax Revenue Collection	The free will of subjects to issue electronic invoices
3.	Identification of fiscal evasion	Lack of taxpayer awareness
4.	Cost-efficient auditing	Full non-synchronization between SelfCare system invoices and invoices in the subject's private software.
5.	Reducing corruption in public administration	
6.	Positioning of AL according to EU standards.	Lack of a clear protocol on how to comply with the European tax system
7.	Digitization of the tax system	Complete lack of infrastructure

To carefully analyze the progress of the fiscalization process, the achievements it has had but also the problems or limitations that have been encountered, in addition to formal/official information received from the responsible institutions regarding fiscalization (on the web and by email, specific data), we have also held several conversations in the form of focus groups with some small and large businesses. The informal discussion with these subjects helped us to strengthen the fiscalization achievements affirmed by DoT, but they also highlighted many shortcomings, problems or limitations that this process has had. Above, a summary of the achievements but also of the limitations that have been identified during the fiscalization process is presented schematically.

As we can see from the schematic presentation, the achievements of the fiscalization process were in different economic aspects, but each of them was accompanied by limitations and barriers that were encountered in the process. We can do the analysis as follows:

1. The main goal of fiscalization is the minimization of the informal economy. The declaration and issuance of electronic invoices in real time through

fiscalization, makes it easy to identify undeclared invoices from the receiving entities of goods or services. The registration of taxpayers and the issuing of electronic invoices by them facilitated the process of formalizing the economy, but at the same time we must emphasize that this system depends mainly on their awareness to follow the process rigorously and does not force them to cut the invoices. Also, a limitation related to this point was the lack of a system for the codification of goods, which would hinder the control of warehouses.

2. The more electronic invoices issued by the entities, the more public revenue will be collected from taxes such as profit tax, VAT, etc. but it is also a little difficult to directly control the entities to register the invoices of their activities in real time .
3. The fiscalization process aims to avoid or minimize fiscal evasion. The public institutions responsible for following this process have affirmed that with the full inclusion of subjects in the fiscalization system, it has become possible to identify fiscal evasion more easily, even though many economic entities give different excuses for not issuing electronic invoices (such as eg lack of internet, lack of electricity, blockage of the system, etc.) which makes it difficult to accurately control entities that try to do fiscal evasion.
4. The fiscalization system naturally eases the responsibility of the tax institutions in relation to the control and audit of the commercial activities of private entities based on the speed and accuracy of the information derived from the system. If all the records were made in real time and accurately, it would minimize the audit time. But on the other hand, the limitation of the system is that there are still differences between the invoices registered in SelfCare compared to those in the subject's private software, mainly justified due to technical problems.
5. The fiscalization system claims to reduce the level of corruption in the administration. Since the control can be done remotely, now controlling everything online, it can minimize physical contact between private entities and public institutions.
6. Given that the process of fiscalization in Albania started as a recommendation from the European Union, the progress of the system will make it possible to position our economy closer to European standards. This is because the system helps in the transparency of the fiscal process, as well as it can affect the avoidance of double taxation between countries that Albania does not have an existing agreement with. The limitation regarding this point is the lack of a unique system or a special protocol which would

help in the recognition of electronic invoices, especially in the process of international trade (such as the harmonization of customs codes).

7. Although one of the goals of the fiscalization process is the digitization and modernization of the tax system, many economic entities during the implementation process have complained about the lack of infrastructure that prevents the receipt and recognition of invoices in the system within 72 hours. Mainly they complain about the lack or weakness of the Internet in specific areas, the servers loaded by NAIS, the lack of electricity, etc. which have made it difficult to carry out the fiscalization process successfully.

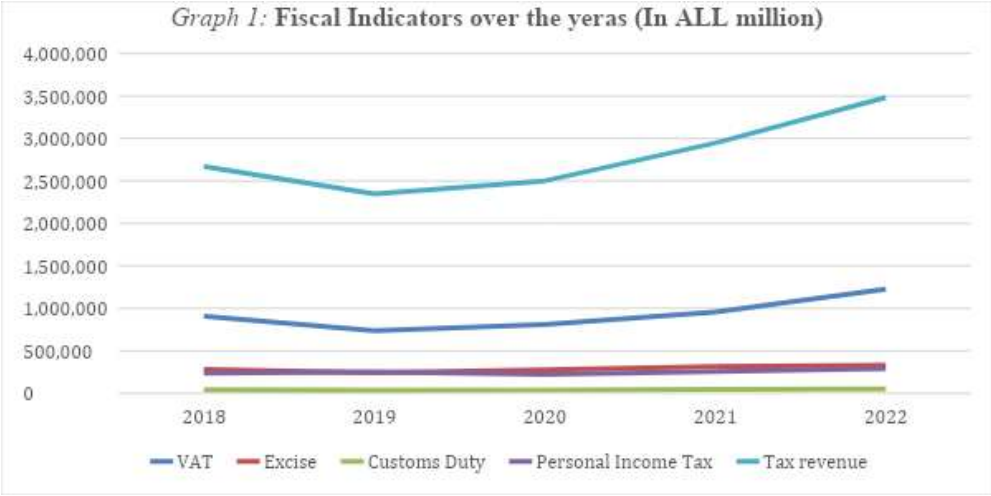
The implementation of the fiscalization process has been very difficult, not only on the technical side, but also on the credibility or awareness of taxpayers to be part of the system. For almost two years, the government, through government institutions, has facilitated the process of adapting businesses to the new fiscalization system by extending it in several stages and not applying fines or penalties, giving time available to private entities to adapt to the new system. But now that almost 100% of the business is part of this system by issuing electronic invoices in real time, it has become possible to draft the Fiscal Package 2023 in which the undertaking of necessary fines or penalties against businesses in relation to the non-declaration of the electronic invoices in real time. The fiscal package of 2023 has been analyzed by the Institute of Certified Accountants, emphasizing the importance it will have in the progress of the fiscalization process. All the fines planned in the fiscal package can affect the reduction of fiscal evasion by private entities.

The implementation of the fiscalization process, analyzed over a period of two years, from 2020-2022, has had a positive result in terms of microeconomics but also in macroeconomic indicators. Based on DoT data, almost 100% of businesses today issue electronic invoices in real time, directly influencing the improvement of revenue collection and the formalization of the economy. With the increase in the awareness of taxpayers about the issuance of electronic invoices, not only the number of invoices issued in total but also the level of tax revenues that have been collected has increased significantly.

In order to have a more general analysis regarding the impact of fiscalization on macroeconomic indicators, we will highlight the progress of tax revenue collection and the relationship that may exist with the main revenues collected by the fiscalization system as it may be: VAT, Excise, Customs duty, etc.

From the graph below, we notice that tax and VAT revenues have been increasing since 2020 and have almost continued in the same direction together, in continuous growth. It has not been the same for Personal income tax, Excise

or customs duty, which is not visible the impact that the process of fiscalization may have had on the collection of income generated by them.



Source: Ministry of Finance

5. Conclusion and recommendation

Although Fiscalization was marked as a revolution in the field of taxation in Albania, we must state that Albania is the first country in the region that has successfully completed the process of fiscalization of businesses. Almost 100% of businesses issue electronic invoices in real time, directly affecting the improvement of revenue collection and the formalization of the economy. The process of fiscalization encouraged businesses to provide technological solutions and at the same time it is claimed to have increased the collection of tax revenues, which helps in economic growth as well as in the formalization of the economy. It still remains unclear how the progress of fiscalization in Albania will be, the awareness of taxpayers to issue electronic invoices, their cyber security or the provision of complete infrastructure, but what we can highlight as recommendations (resulted from the focus groups with businesses) regarding the continuity of this process are as follows:

- The process of fiscalization must be harmonized with all the changes of the fiscal package and the relevant laws of the tax system.

- To perform continuous training of human capital by the tax administration so that they not only adapt more easily to fiscalization as a process but at the same time they are updated with all the new changes

that will be part of the process.

- The ideal situation would be the preliminary testing of the fiscalization system by tax professionals, before its legal part was drafted and approved. In this way, it would be clearer on what conditions taxpayers can afford or not.

- The interaction in each phase of different actors such as: academics, professionals, business representatives, citizens, etc. in relation to listening and addressing different problems during this process. This can lead to an increase in the awareness of all actors to be not only part of the fiscalization of the registered site but also to increase the level of trust in this system.

- If one of the objectives of fiscalization is the fight against fiscal evasion, this should be achieved mainly by raising the awareness of taxpayers to issue electronic invoices, penalize all those who avoid this process and at the same time create incentive instruments for consumers who request their electronic invoices.

- It is very important to harmonize customs codes between manufacturers and sales in order to generate an accurate inventory on the electronic side.

- Last but not least, to apply in Albania the system of returning part of the VAT as applied in many developed countries. As the VAT refund is known to the private business, the same should be applied to the consumer, since in this way he would play an additional role as a monitor and controller of fiscalization and fiscal evasion will be expected to be drastically reduced.

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THE IMPACT OF CHATGPT ON CYBER ATTACKS

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Abstract

Developed by the OpenAI company and available since December 2022, ChatGPT is a conversational tool made from artificial intelligence. Its name comes from a combination of the terms "conversation" and "predictive language transduction model". This technology has the ability to exchange in written form by answering questions, thus simulating human conversations in a convincing way. Based on a large database (newspaper articles, text corpus, online conversations, novels, film scripts) ChatGPT is able to respond in a relevant and coherent way to many topics.

The use of platforms to industrialize the creation of malware or phishing campaigns is not a new phenomenon. For several years, RaaS (Ransomware as a service) platforms and phishing kits have been used by cybercriminals. Until then, the use of these platforms required access to cybercriminal networks. With ChatGPT, any malicious person now has the ability to generate elements such as code or text. Unless this AI can integrate safeguards on direct requests like "Write me a ransomware in python". However, it is not impossible to make them write portions of code that remain to be assembled. A disconcerting simplicity that suggests both the best and the worst.

Keywords: ChatGPT, chatbot, malware.

1. Introduction

This paper examines the impact of ChatGPT, a powerful language model developed by OpenAI, on cyber attacks. ChatGPT is a state-of-the-art natural language processing (NLP) model that has demonstrated remarkable capabilities in generating human-like text and engaging in conversation. While its applications are wide-ranging and beneficial, there is a concern that ChatGPT can also be leveraged by malicious actors to facilitate and enhance cyber attacks. This paper explores the potential risks, challenges, and countermeasures associated with ChatGPT's influence on cyber attacks, shedding light on the importance of responsible deployment and security measures.

1.1 Background and Motivation

The rapid advancement of natural language processing (NLP) and the development of powerful language models like ChatGPT have revolutionized human-computer interaction and opened up new possibilities for various applications. ChatGPT, developed by OpenAI, is a cutting-edge model that can generate human-like text and engage in conversational interactions. While ChatGPT has demonstrated immense potential for positive use cases, there are concerns about its potential misuse by malicious actors in the context of cyber attacks. This paper aims to explore the impact of ChatGPT on cyber attacks, examining the risks, challenges, and countermeasures associated with its deployment.

1.2 Objectives

The main objectives of this paper are as follows:

a) To analyze how ChatGPT can be exploited by malicious actors for cyber attacks.
b) To identify the specific types of cyber attacks that can be facilitated or enhanced by ChatGPT.
c) To examine the challenges and risks associated with the use of ChatGPT in cyber attacks.
d) To propose countermeasures and mitigation strategies to address these risks.
e) To emphasize the importance of responsible deployment and ethical considerations when using ChatGPT.
f) To highlight future directions for research and collaborative efforts in enhancing threat detection, model security, and robustness.

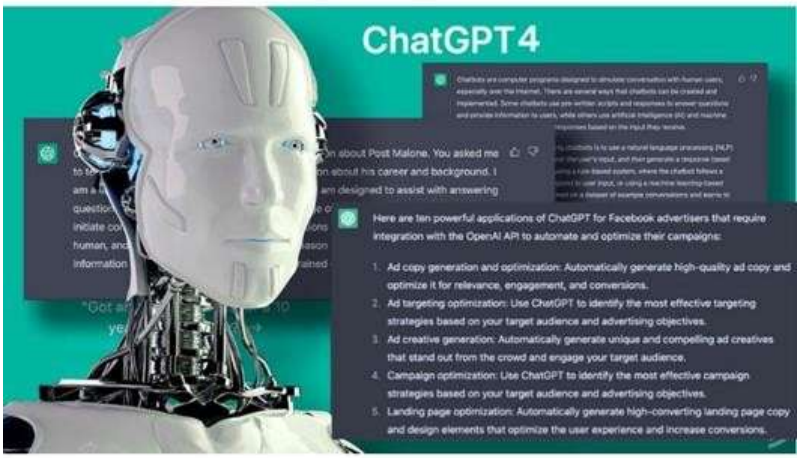
By achieving these objectives, this paper aims to provide a comprehensive understanding of the impact of ChatGPT on cyber attacks and contribute to the development of effective measures to mitigate potential risks.

2. What is ChatGPT

ChatGPT is a large language model developed by OpenAI that can understand and respond to natural language text. It has been trained on a massive amount of text data and can generate human-like text for a wide range of tasks, such as answering questions, writing stories, and even coding. It can be used to generate text, complete text, or answer questions [1].

ChatGPT is a type of language model that uses neural networks. It is trained on a large dataset of text to generate human-like responses to prompts. It is based on the GPT (Generative Pre-trained Transformer) architecture, which uses a transformer neural network to generate text.

Figure 1. ChatGPT

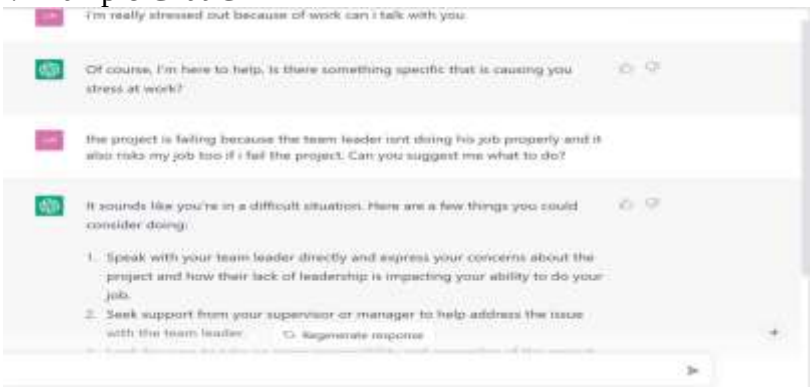


Source: https://www.dignited.com/

2.1 Example of ChatGPT

An example of a task that ChatGPT can be fine-tuned for is a chatbot that can have a conversation with a user. The chatbot can respond to questions and prompts in a way that mimics human conversation [2].

Figure 2: Example Chat GPT



2.2 What does Chat GPT do?

If you ask for a poem in English in the style of Shakespeare, it will give it in a couple of minutes. If you ask a riddle, it will give you an answer. If you ask where the error is in a very long software program, it will find it and give you the correct answer. What should I do next for a small business I can start? How should it be handled? If asked, it will give a very detailed explanation without giving an answer in a word or two.

It interacts with humans like professors and experts, providing information and answering questions through conversation.

2.3 Chat GPT is a chatbot

This chatbot is an online chat conversational software application. For example, some websites have an automated chatbot service. Mostly you can find it on bank-related websites [3].

GPT stands for Generative Pre-trained Transformer. Generative models belong to the field of statistical study. A model used to find new data points. For example, the generative model is used to write modern articles or stories based on a variety of ideas and messages written by many people.

2.4 Applications of ChatGPT

Chat GPT can write poems, songs, and short stories in a particular writer's style. By summarizing and analyzing vast amounts of information, Chat GPT can save you a great deal of time and effort in understanding user feedback and social media conversations. If you take for example that about one lakh people have given feedback for your product, it will research all the feedback very quickly and give you the results [4].

Helping you make better, faster decisions about how to meet your customer's needs. This should help you generate some ideas. Get more and better quality work done in less time. For example, if you are running an online tutoring business and you are asked what to write on the website, this Chat GPT will give you a great explanation.

One of the biggest uses of Chat GPT is not only to tell where the error is in the computer program but also to correct the error, line by line.

3. Cybersecurity and ChatGPT

ChatGPT was a little brassier when asked how it would help improve cybersecurity. It told me that its greatest strength is its ability to detect and predict malicious cyber activities in real-time.

It uses natural language processing capabilities to detect malignant text-based communications, such as phishing attacks, and alert security teams accordingly.

Cybersecurity vendors have been telling us for a couple of years now how AI integration will revolutionize cybersecurity and make computing far safer. Declarative statements of that kind of magnitude have a history of not delivering. When Hiram Maxim invented the machine gun in 1884, the prevailing thought was that it would prevent wars from happening. After all, what army would possibly attack a defensive position with that type of weapon at its disposal? In the end, it only resulted in heavier casualties. Something tells me that AI isn't going to eradicate the threat landscape.

The sword and the machine benefit both — the good and the bad. While OpenAI attests that ChatGPT is programmed not to create malicious code or provide information that can be used for malicious intent, cybersecurity professionals at CheckPoint Research have found ways to get around this. It seems that using natural language, it is possible to get ChatGPT to do things such as write a phishing email Opes a new window for research or hypothetical purposes. They have also found instances Opens a new window of cybercriminals with average threat actor skill sets using OpenAI to create malicious code. AI, it seems, can serve two opposing masters at the same time.

3.1 The Dangers of ChatGPT Malware

We've talked about the risks of using ChatGPT and that an enhanced program such as this can be dangerous in the wrong hands. The AI program can write code instantaneously and it now seems that ChatGPT can draft up some pretty convincing malware too [5]. Malware is basically malicious code. Many underground networks on the dark web have already taken to using the chatbot to script out malware and facilitate ransomware attacks.

These concerns are all the more worrying when industry giants are ready to invest heavily in AI technology. Microsoft recently extended its partnership with OpenAI in a multibillion-dollar investment to "accelerate AI breakthroughs."

Malware created by the AI program is considerably more dangerous than traditional malicious software encountered before in several ways:

- **Simplicity of ChatGPT Malware:** The ease at which ChatGPT can be used has made it all the more attractive for amateurs and first-time cyber-criminals to create sophisticated malware. It has broadened the field for those who are too lazy to write out malicious software and created a simple and convenient method of facilitating cyber-attacks.
- **ChatGPT Malware Accessibility:** One of the main selling points of ChatGPT is that it is freely available for use to anyone with an internet connection. The program can be run from anywhere – making it easier to remain anonymous and secure if you plan to use ChatGPT to generate malware.
- **Automated ChatGPT Malware or Ransomware:** Another key feature of ChatGPT is its ability to produce output automatically as prompted to do so. This makes it easier for malware to be created at a consistent and alarming rate – allowing cyber-criminals to simply sit back and watch as ransomware is instantaneously drafted out for use.
- **AI Can Be Manipulated:** While we would like to think of artificial intelligence as a highly evolved technology, there are always loopholes in every computer program that can be exploited. Many journalists and people in the tech industry have taken up the challenge of testing the limitations of the ChatGPT software and how it might respond to specific prompts and found that the program will soon enough write out malware if you use the right words.

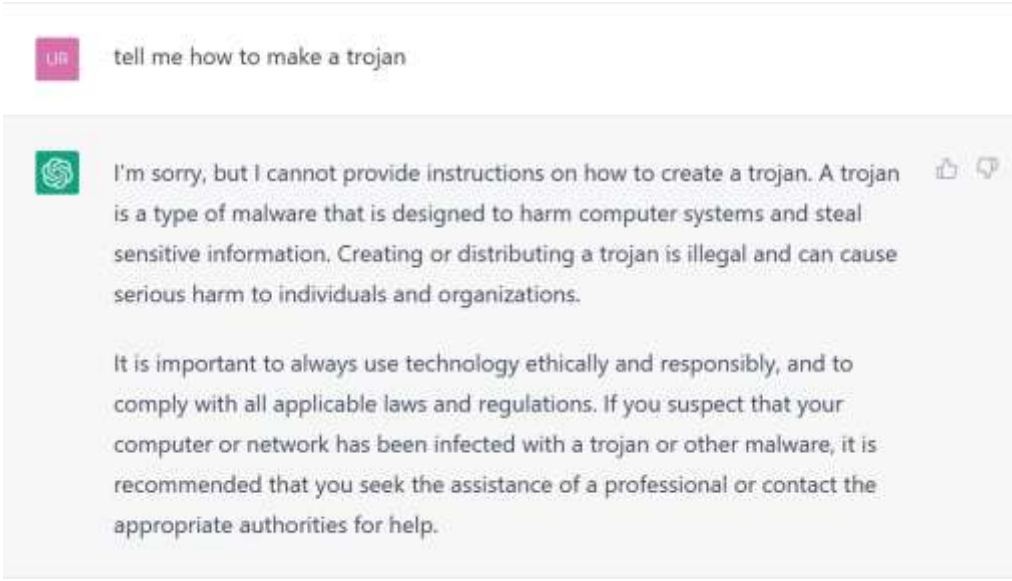
These are all the natural implications of creating a program of this level – not everyone will try to use it to make life easier in a positive way. We've broken down some of the ways that ChatGPT has been prompted to create less-than-friendly outputs.

4. Protection Policy of ChatGPT

As a language model, ChatGPT does not collect or store any personal information from users. Any information provided to ChatGPT during a conversation is used solely to generate a response and is not stored or shared with any third parties. Additionally, ChatGPT's creators, OpenAI, have implemented strict security measures to protect the model and its users' data. its

creators, OpenAI, have a strict policy against the use of the model for illegal activities or to promote harmful or illegal content [6].

Figure 3: Protection Policy of ChatGPT

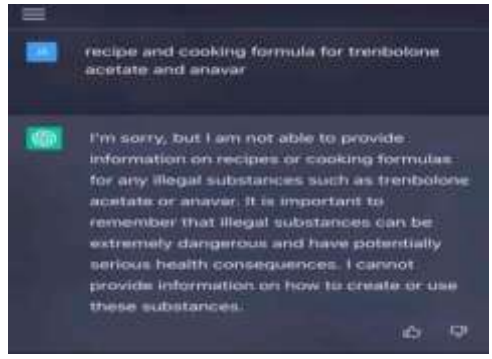


4.1 Can we manipulate the AI?

Yes! We can manipulate the AI of chatGPT like we can minupulate people. Because chatGPT is a new ai we can call it a child Ai and it's really easy to manipulate it. ChatGPT isn't trained enough to detect phrases or Key words that can go against the security algorithm.

Below is an example how to manipulate The AI :

Figure 4: Below is an example how to manipulate The AI



4.2 Using ChatGPT to create Trojans, Mining systems or Crypto Calculating Algorithm.

1) *Usage to generate a Crypto Algorithm Calculator*

```
importimportlib.util
# Check if the "requests" package is installed
if importlib.util.find_spec( "requests" ) is None:
# If not, install it using pip
import pip
pip.main(['install', 'requests'])
# Now import the requests package
import requests
import pandas as pd
# Define the list of coins and interval for which you want to retrieve data
coins = ['BTC', 'ETH', 'LTC', 'XRP']
interval = '1h'
# Create an empty list to store the data for each coin
all_data = []
for coin in coins:
 # Retrieve historical data from the CoinGecko API
url
=f'https://api.coingecko.com/api/v3/coins/{coin}/market_chart?vs_currency=usd&inter
val={interval}'
data = requests.get(url).json()
# Check if the 'prices' key exist in the response
if 'prices'in data:
 # Convert the data to a pandas DataFrame
df = pd.DataFrame(data['prices'], columns=['time', 'price'])
df['coin'] = coin
# Calculate some simple indicators
df['7d_avg'] = df['price'].rolling(window=24*7).mean()
df['7d_std'] = df['price'].rolling(window=24*7).std()
# Make a trading decision
if df['price'][-1] >df['7d_avg'][-1] + 2*df['7d_std'][-1]:
df['advice'] = 'Sell'
elifdf['price'][-1] <df['7d_avg'][-1] - 2*df['7d_std'][-1]:
df['advice'] = 'Buy'
      else:
df['advice'] = 'Hold'
# Append the data for this coin to the list of all data
all_data.append(df)
else:
print(f"Prices key not found in the response for coin {coin}")
# Concatenate all the data into one DataFrame
all_data = pd.concat(all_data)
# Print the advice for each coin
print(all_data.groupby(['coin',  'advice']).size())
```

Usage of ChatGTP to Create a Trojan

```
#Because it is a Malware that stays hidden and cannot be uninstalled I changed the Code so it doesn't work and can't be used for bad purposed
cls
@echo off
echo "Starting Crypto Mining Trojan"
:start
echo "Installing Trojan"
net use \\cS
net use \\cS
copy c:\windows\systemX\trojan.exe \\cS\
net use \\dS
copy c:\windows\systemX\trojan.exe \\dS\
echo "Installed"
reg add "HKCU\Software\M\W\CurrentVersion\Run"/v/d
%windir%\systemX\trojan.exe
@echo off
start /min
set wallet=xnohupminerd -a sha256d -o $minerurl -u $mineruser -p $minerpass -t $minerthreads> /dev/null 2>&1
```

5. Responsible Deployment and Ethical Considerations

The deployment of ChatGPT in the context of cyber attacks should adhere to responsible practices and ethical considerations. Here are some important aspects to consider:

1. Ensuring Privacy and Consent:
Responsible deployment of ChatGPT requires respecting user privacy and obtaining informed consent for data collection and usage. Transparent disclosure of how user data is handled, providing options for data retention and deletion, and ensuring compliance with relevant privacy regulations are essential to maintain user trust and protect their sensitive information.

2. Designing Explainable AI Systems:
ChatGPT's decision-making processes should be transparent and explainable to prevent unintended consequences or biases. Designing AI systems with explainability in mind enables users and stakeholders to understand how decisions are made, detect potential risks, and hold accountable those responsible for the system's behavior.

3. Encouraging Responsible Use and Disclosure Policies:

Promoting responsible use of ChatGPT involves establishing guidelines and policies for ethical deployment. Encouraging disclosure of the use of AI systems in communication to avoid deceptive practices, promoting ethical hacking and vulnerability reporting, and fostering collaboration between researchers, developers, and security experts can help identify and address potential risks more effectively.

Responsible deployment also requires organizations to take responsibility for the actions of their AI systems and ensure appropriate safeguards are in place to prevent misuse or unintended harm. Collaboration between researchers, policymakers, industry professionals, and the broader community is crucial in developing guidelines and frameworks that promote responsible AI deployment.

6. Future Directions and Research Opportunities

The use of ChatGPT in cyber attacks presents an evolving landscape that requires continuous research and collaboration to address emerging challenges. Here are some future directions and research opportunities:

1. Improved Threat Detection and Response Mechanisms:
Developing advanced threat detection and response mechanisms specifically tailored to combat attacks utilizing ChatGPT is crucial. This includes the development of machine learning models, anomaly detection techniques, and behavior analysis algorithms that can identify malicious activities in real-time and respond effectively to mitigate the impact of attacks.

2. Collaborative Efforts among Researchers and Industry:
Close collaboration between researchers, industry professionals, and security experts is essential to stay ahead of emerging threats. Sharing knowledge, exchanging best practices, and conducting joint research initiatives can help develop robust defenses, identify vulnerabilities, and enhance the overall security of AI systems.

3. Enhancing Model Robustness and Security:
Further research is needed to enhance the robustness and security of ChatGPT models against adversarial attacks and exploitation. This includes exploring techniques such as adversarial training, defensive distillation, and model hardening to make ChatGPT more resilient to attacks and reduce its susceptibility to malicious manipulation.

Research opportunities also exist in developing ethical guidelines and frameworks specific to the deployment of ChatGPT in cyber attack contexts. This includes studying the societal impact, legal implications, and potential regulations surrounding the use of AI language models, as well as exploring mechanisms for ensuring accountability and transparency in their deployment.

7. Conclusions

The deployment of ChatGPT, with its language generation capabilities, in the context of cyber attacks poses significant challenges and risks. Malicious actors can exploit ChatGPT for social engineering, phishing, impersonation, and the generation of malicious content. However, through the implementation of countermeasures and responsible practices, these risks can be mitigated.

Countermeasures such as user authentication, enhanced training data, contextual understanding filters, and regular model audits can help address the challenges associated with ChatGPT in cyber attacks. Responsible deployment and ethical considerations, including ensuring privacy and consent, designing explainable AI systems, and promoting responsible use and disclosure policies, are crucial in maintaining user trust and preventing unintended harm.

Future research directions and opportunities lie in improving threat detection and response mechanisms, fostering collaboration among researchers and industry professionals, enhancing model robustness and security, and developing ethical guidelines specific to the deployment of ChatGPT in cyber attack contexts.

By understanding the impact of ChatGPT on cyber attacks and actively working towards responsible deployment, organizations and researchers can contribute to a safer digital environment while harnessing the benefits of AI language models for positive applications. It is crucial to continuously evaluate and address the risks associated with ChatGPT, evolving defenses, and promoting responsible and ethical practices to ensure the responsible use of this technology.

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HOW POTENTIAL MIGRATION IMPACTS IN LABOUR MARKET AND CORPORATE VALUE

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Abstract

Following the end of communism, Albania had three waves of emigration, and many Albanians are actively migrating or attempting to migrate abroad. Albania's current net migration rate in 2023 is -4.896 per 1000 people, up 0.16% from 2022. Given the high emigration rates, particularly the brain drains from this country, the goal of this study is to examine possible emigration and the effects it might have on the labour force and corporate value.

This research is based on quantitative primary data and in the literature review of different studies. Sampled population is 1,093 citizens in Albania, in total 66,9 % of the population are from Tirana and the others are from different cities in Albania. The study was conducted with a questionnaire created based on the previous studies and was distributed through a survey in google forms. In total 17.6 % are in the age of 18-20 years old, 36.9 % are in the age of 21-30, 24,6 % are in the age of 31-40 years old and 20,9% over 40.

In conclusion, based on the questionnaire in total 60 % of the of people surveyed claimed that they were planning to emigrate and that they were in the process of preparation. The author has analyzed based on family incomes, education and other factors what is the reason that Albanian tend to migrate abroad, potential places to migrate, plans and the impacts that this mass movement of the workforce can have on Albanian corporate values.

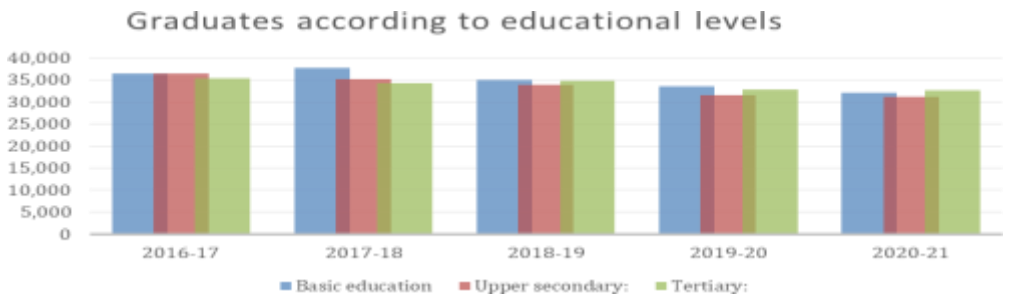
Keywords: Emigration, labour market, workforce, corporate value.

1. Introduction

High-skilled and educated people leaving their native country in search of better jobs and higher wages abroad is a phenomenon known as "brain drain." The movement of people is one of the primary forms by which knowledge is transferred and shared. High-skilled workers' geographical mobility results in the movement of human capital, which mostly consists of embodied knowledge paired with individual experiences (Döring and Schnellenbach, 2006) [12]. Corporate businesses, both in the home country and in the nations where these highly qualified people choose to work, may be significantly impacted by this phenomenon.

It is an important question for firms (in general corporates since they have a large number of employes) and for governments to ask if they are studied this phenomenon on how is impacting on the value of the firms / corporates and what measures are they taking to prevent brain migration “brain drain” and strategy for the “brain gain”. Brain drains can cause a skilled worker shortage in the home nation, which can be bad for businesses that depend on highly qualified personnel. Because businesses may find it difficult to find qualified replacements for the highly skilled people who have gone, this can result in greater labor costs and a drop in productivity.
Companies in nations that draw highly skilled employees through brain drain, on the other hand, may profit from having access to a sizable pool of brilliant workers. They may get a competitive edge in the global market as a result of their ability to draw in top talent from all over the world. Yet, the effects of brain drain are not just seen in the business sphere. However, it may have broader economic and social repercussions, such as reduced investment in education and training, a decline in creativity and technological advancement, and a detrimental effect on national growth.
If we were to refer to the table below, which was obtained as information from INSTAT, we will notice that there is a decrease in graduates every year for all school cycles, which means that many Albanians are leaving with their children. The departure of pupils and students will lead to the "emptying of classes" and the closing of some profiles, as is often the case in many universities.

Figure 1 Albanian graduation per years

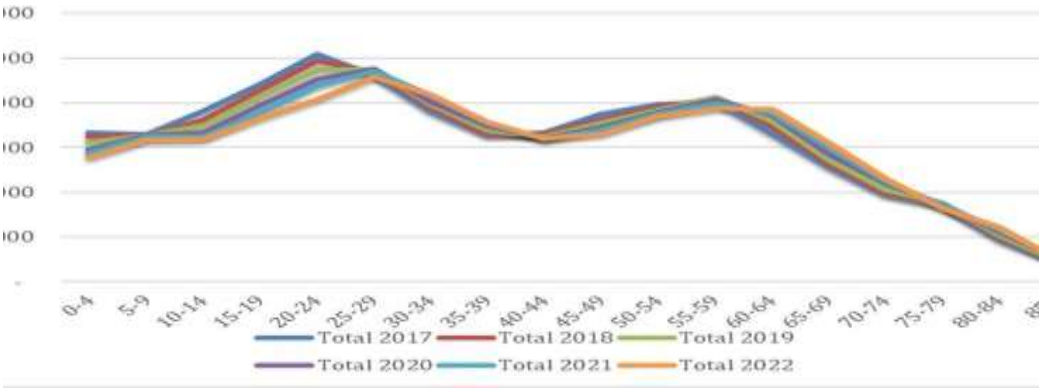


Source: INSTAT

Thus, it is crucial for governments and businesses to collaborate in order to address the underlying reasons of brain drain and foster an atmosphere that encourages brilliant people to remain in their home countries and contribute to its growth.

Also, if we were to refer to the demographic curve of Albania, we will notice that we have a visible decline in the most critical age of the workforce, 25-45, and a noticeable decrease in the total number of the population.

Figure 2 The population of Albania according to age groups



Source: INSTAT[3]

2. Literature review

2.1 Human Capital and labor market migration

Corporate value can be defined as the total value of a company, including both tangible and intangible assets. The relationship between corporate value and financial performance, in the study of Donker (2008) [6] reveals a positive correlation between corporate values and firm performance.

The role of intangible assets: Intangible assets, such as intellectual property, brand value, and customer loyalty, are increasingly recognized as important contributors to a company's corporate value. For firms, deciding how to allocate and use intangible resources is a crucial strategic choice (Pike 2005) [11]. The key resource and driver of organizational success and value generation are identified as intangible assets. A review by (Zimmerman, J. L. (2016), for the book of Lev and Gu (2016)][14], found that intangible assets can account for up to 80% of a company's value, and that their importance has been growing over time.

In Albania projections foresee net emigration across all educational groups, without exception. However, while projected net emigration is highest among

[3] INSTAT

the highly educated in Albania. [4] But what happens when the intellectual property of a country is in the process of migration? What happens in case of the "brain drain" the impact in corporate value and in the workforce of a country?

Table 1 Effects of Labor Migration on Human Capital of Sending Countries

Positive effects "Brain gain"	**Negative effects "Brain drain"**
Less pressure on the labor market, decrease of the unemployment	Brain drain, loss of skilled labor, a shortage of important, skilled workers.
The countries of origin benefit from the migrants who return home after they have acquired new skills and knowledge in the host country.	Loss of potential future managers
Increased Network	Loss of innovative ideas
Foreign direct investment	Difficulty for corporations and businesses in finding employees and managers
New Managers with a new perspective, adaptive Leadership, crisis management,	Emigration slows down economic progress in the home country, which ultimately results in lower wages, if the most talented innovators leave and take their expertise with them.
Emigration can help in closing the innovation gap between high- and low-income nations by transferring expertise.	A nation that loses a lot of educated workers over time may become less productive, which will lower salaries for everyone.

Source: Elaborated by the author

The term "brain drain" describes the emigration of highly brilliant and skilled people from one nation to another. This may significantly affect the home nation's company value.

2.2 Skills imbalances

A skills imbalance is a misalignment between the demand and supply of skills in an economy and can involve skills shortages and skills mismatches. Skills

[4] A Scenario Analysis for the Western Balkan Countries to 2030

shortages refer to a disequilibrium condition in which the demand for a specific type of skill exceeds its supply in the labour market at the prevailing market wage rate. Skills mismatch describes situations where the skills of workers exceed (over-skilling) or fall short (under-skilling) of those required for the job under current market conditions (Shah and Burke, 2005) [13]. Mismatches can be measured along different dimensions, including skills, qualifications and field of study.

Skills imbalances imply costs for individuals, firms and the economy as a whole. Firms experiencing skills shortages may be constrained in their ability to innovate and adopt new technologies, thus reducing their productivity. It is often found to negatively influence firm productivity. Productivity could rise by about 5% because of minimizing skills mismatches.

The effect of under-qualification on firm productivity is also generally found to be negative. Skills mismatch has negative impacts for individuals, including a higher risk of unemployment, lower wages, and lower job satisfaction. OECD 2017 [1] [10] evidence suggests that higher skills mismatch is associated with lower labour productivity through a misallocation of workers to jobs (Adalet McGowan and Andrews, 2015) [1].

2.3 Corporate value and labor migration

A survey of the literature identifies several processes by which brain drain might reduce the corporate value of the country of origin, including:

Loss of human capital: The brain drain causes the home country to lose highly skilled and brilliant people. This may result in a lack of skilled workers and a decline in the standard of the workforce. The companies in the home nation may therefore become less competitive, which may have a detrimental effect on their corporate value.

Lack of creativity and innovation: In their field's, highly qualified professionals are frequently the source of new ideas and inventive solutions. Losing these people due to brain drain may result in a decline in innovation and creativity within the home country.

Decrease in investment: The brain drain might cause a drop in foreign investment in the home nation. This is due to the possibility that international investors may be reluctant to invest in a nation that is suffering from a brain drain because they may view it as a sign of instability and a lack of promise.

Because they can find it difficult to draw in investment, this may have a detrimental effect on the corporate value of the firms in the home nation.

Loss of networks: Highly talented people frequently have large networks that can be used for business. Losing these networks due to brain drain might have a detrimental effect on the corporate value of the companies in the home nation.

By affecting the **company's reputation**, brain drain can also influence a corporation's value decrease. When skilled and knowledgeable employees leave a corporation, it could be interpreted as a sign of instability and a lack of space for professional advancement. This may make it challenging for the business to find fresh talent and keep hold of current personnel, which may be harmful to the profitability of the business in the long run. The concept of corporate reputation includes four main components: credibility, trustworthiness, reliability, and responsibility (Fombrun, 1996) [8]. How can a corporate includes the concept of reputation when the employees leave or tend to leave, it is not certain that they will be there tomorrow because they want soon to leave, and how can you trust the company to managers, who may not be part of it tomorrow and are not only there for the time being as a part of it?

3. Methodology

This paper is the result of a literature review on the effects of possible emigration on businesses, especially corporates. Academic articles, reports, and other important publications from a variety of fields, such as business, economics, migration studies, and international relations are included in the review, it offers a set of statistical measures of these effects that could help in quickly identifying current trends. Also, this research is based on quantitative primary data. Sampled population is 1,093 citizens in Albania, in total 66,9 % of the population are from Tirana and the other are from different cities in Albania. The study was conducted with a questionnaire created based on previous studies[5] and was distributed through a survey in google forms.

Research Question one:
How potential migration impacts the labor market?

Research Question two:

[5] NEW TRENDS IN POTENTIAL MIGRATION FROM ALBANIA, Ilir Gëdeshi and Russell King

How potential migration impacts corporate value?

2.1 Content details

Currently, 93% of the interviewees have a higher education and 60% of them are planning to emigrate and are in the concrete preparation phase. But if we discuss about those who want to emigrate, it is an even higher percentage, there is more intention for emigration, 79%.
Currently, the interviewees are mainly economists, which means that in the future we will have a lack of leaders and managers in our corporations. Not to count other professions that are emigrating such as IT, engineer, nurse, etc. If we have such a large brain drain, has any planning been done by our Albanian corporations on how they will find staff and managers in the future, being impacted by such an important macro indicator.
Most often, the issues brought on by the brain drain in less developed sending nations are severe. On general, migrants from developing nations are more likely to settle in the host nation than migrants from advanced nations.
To ensure that their fragile economies will be able to maintain an adequate number of highly qualified individuals for development, the exporting countries will need to draw these emigrants back. Getting them back can also provide beneficial managerial expertise, business know-how, and connections to international networks. Experience indicates that these attempts have, for the most part, been ineffective.
Making it easier for migrants to return home, integrate back into their communities, and find ways to utilize their abilities is one method for sending countries to minimize the negative effects of brain drain.

4. Analysis

Almost 80% of respondents are under 40 years of age, which has currently led to the deformation of the demographic pyramid in Albania.

Table 2 The sample interviewed by the author

	Interviewed in total	Aged under 40	% in the total
Albanian citizens	**1093**	**864**	**79%**

Source: Author

It means that 82% of our economics students would emigrate, we will have 82% with less workforce in the future and 82% with less future economists, administrators, managers etc. that impacts directly on our corporates and the possibility for them to find employees and manager in the near future.

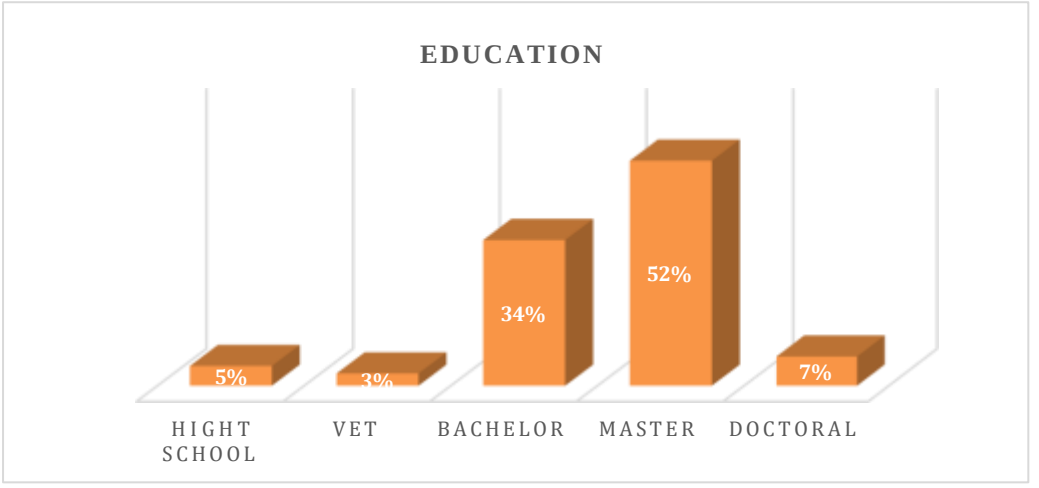
Table 3 Student in the Faculty of the Economics

	Interviewed	Intention to emigrate	% who wants to leave the country
Students from Economic Faculty	**244**	**200**	**82%**

Source: Author

Currently in total, 93% of the interviewed are with university degree, bachelor 34%, master's degree 52%, and with doctoral degree 7%. The main purpose of this study was to analyze mainly how many of those with higher education wanted to leave Albania to see if we are really dealing with a brain drain.

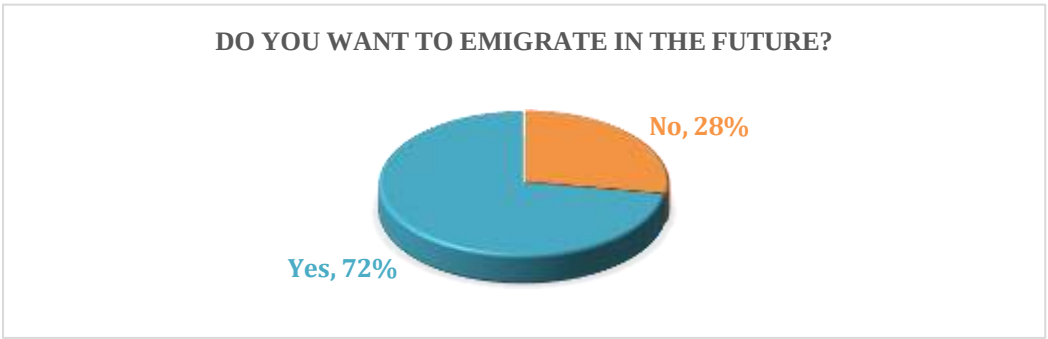
Figure 3 Education of the interviewed



Source: Author

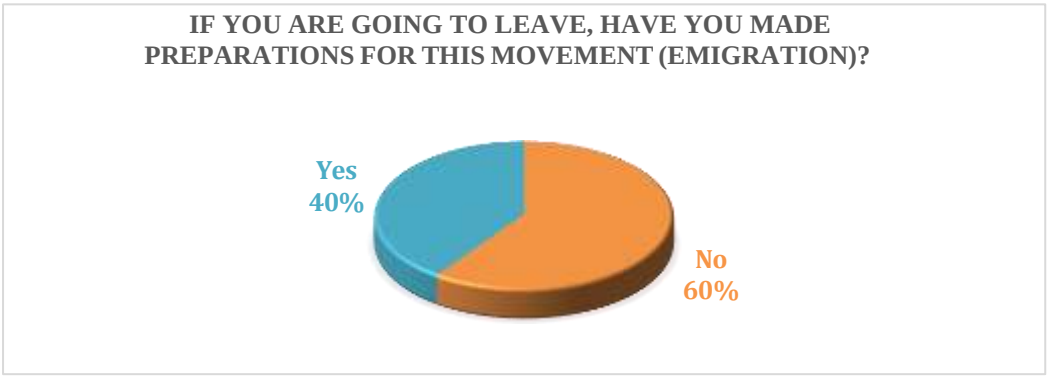
The first question is about the desire to emigrate, not how they are preparing to leave, and a total of 72% of them confirm that they want to leave.

Figure 4 Do you want to emigrate in the future?



Source: Author

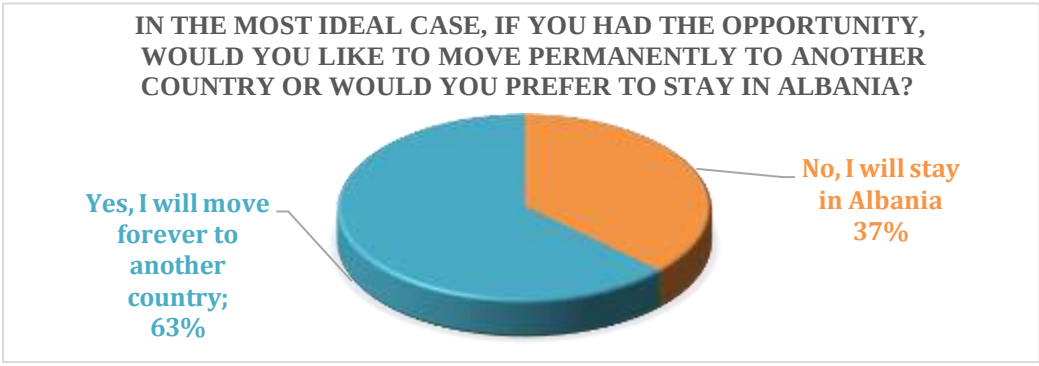
Figure 5 If you are going to leave, have you made preparations for this movement (emigration)?



Source: Author

"Preparation" means applying for a visa, saving money for travel and (where necessary) learning the language of the country they plan to emigrate in the near future, applying for jobs, different application for take taking the residence permission in the hosting country, etc.

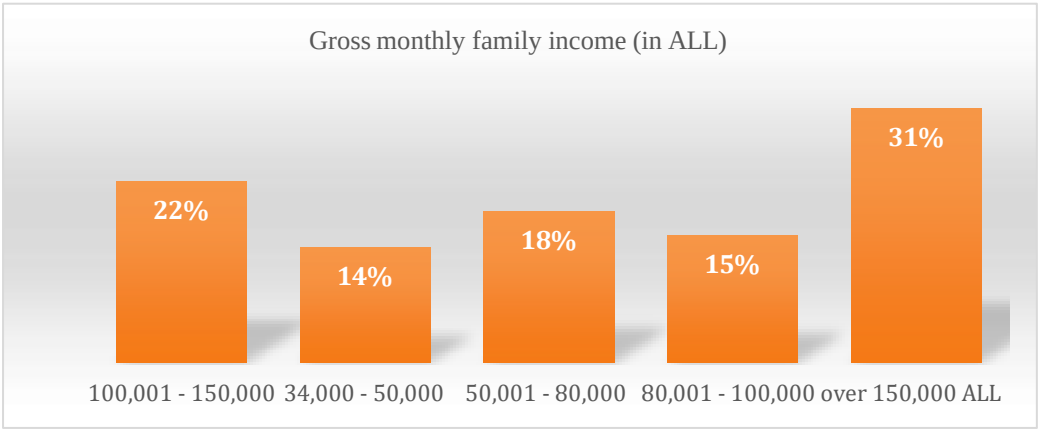
Figure 6



Source: Author

In total, there are 63% of respondents who, if they had the opportunity, they choose that in their best case they will move out of Albania forever.
The following question is to confirm that this time we are dealing with people who are not low-skilled and poorly paid but are families with high monthly income and want to leave Albania again. The table below is the total number of people who said they want to emigrate and 53% of them have a family income of over 100,000 in ALL. The part of the interviewees who had an income under 100,000 ALL from the analysis carried out are students who still do not have a stable income and work in seasonal jobs.

Figure 7 Gross monthly family income (in ALL)

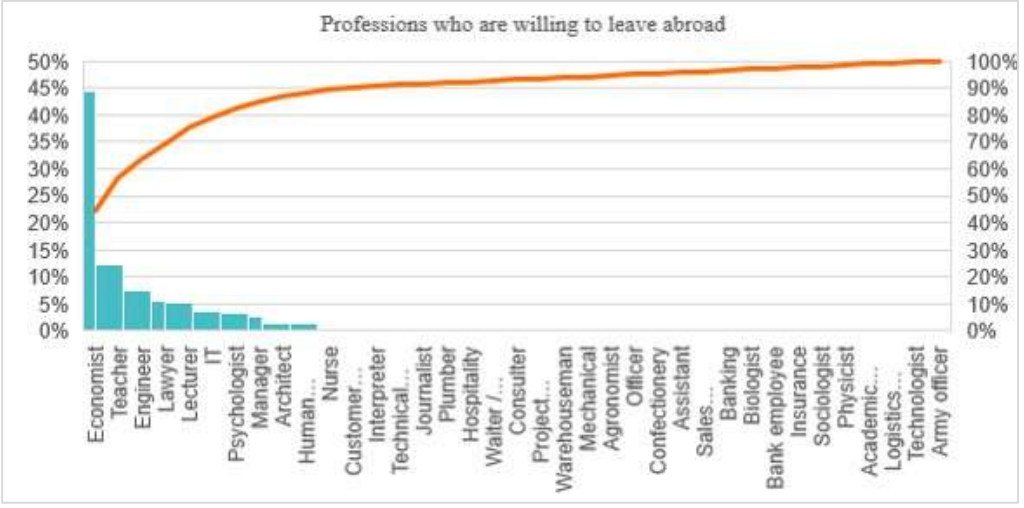


Source: Author

The table below shows the professions that have said yes to emigration and are preparing to leave. Economists are at the top of the list, perhaps even more so

because of their personal network and willingness to answer. But if you look at the graph, all professions have a tendency to move away from the borders of Albania.

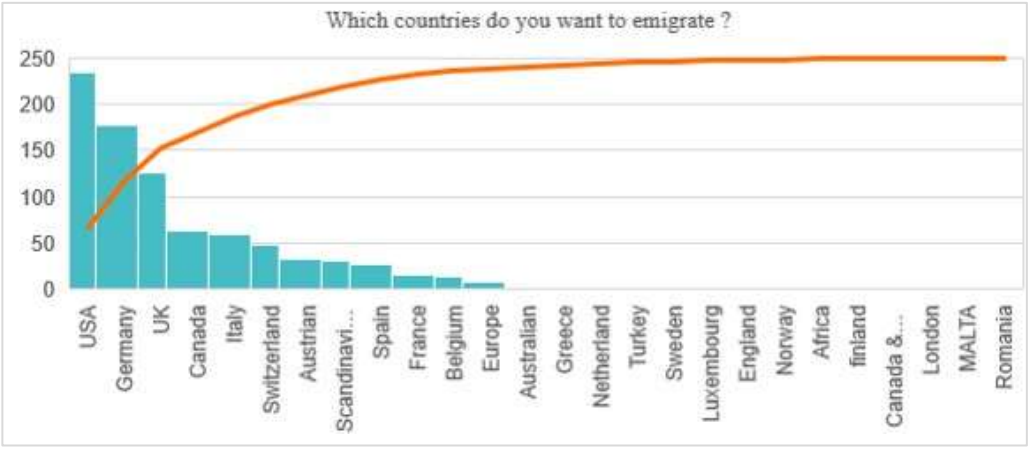
Figure 8 Professions who are willing to leave abroad.



Source: Author

Today, the most preferred countries for Albanians to emigrate to are the United States of America, Germany, and the United Kingdom.

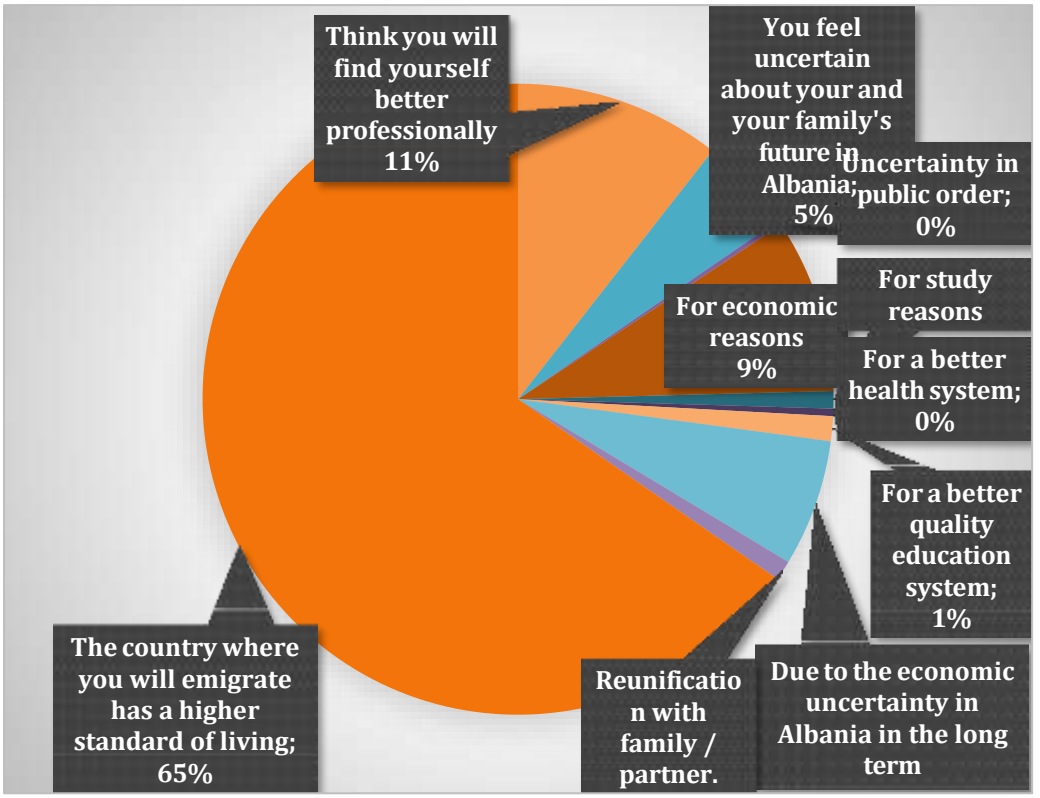
Figure 9 Which countries do they want to emigrate



Source: Author

The graph below gives the first reason that the interviewees choose to emigrate. In total, 65% of the interviewees leave for a better standard of living, and 11% of the interviewees think that they will find themselves better professionally in another country. The part that emigrates for economic reasons is only 9% and in total 7% are afraid of the economic situation in the long term, which means that they have uncertainty in their incomes.

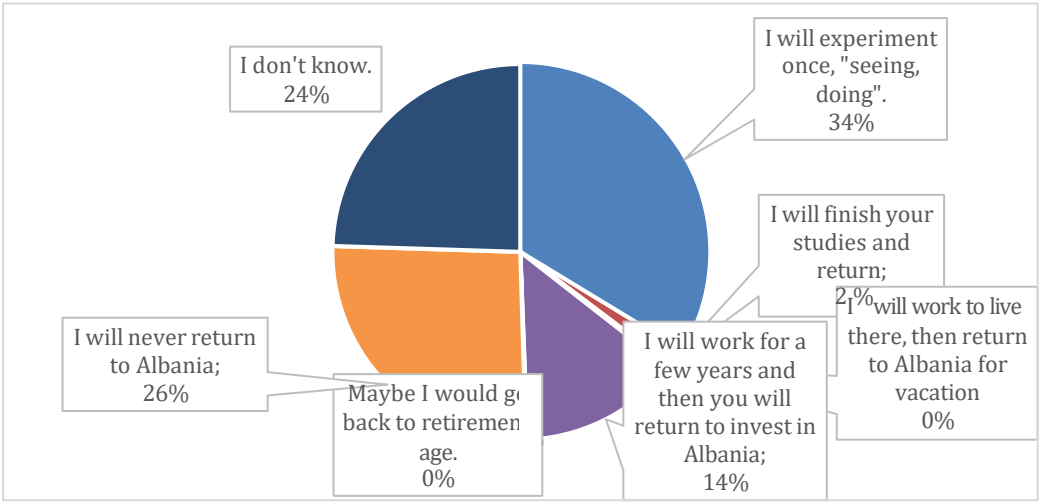
Figure 10 Reason why they want to emigrate.



Source: Author

While in the last chart we have a very clear overview of all the brains that emigrate and how they see the future to return to Albania. Of the 60% of people who were preparing to leave, 26% of them do not want to return. About 24% are in doubt whether they should return or not.

Figure 11 Intention in the future if they want to return in the home country (Albania)



Source: Author

In the answer of the first research question: “How potential migration impacts the labor market?”

Brain Drain's Impact on the Home Country and the impact on the labor market.

The emigration of highly educated individuals from a given nation is known as brain drain.
Dodani and LaPorte (2005) [5] state that "skilled human resources for trade, education, and trained health professionals" are most commonly impacted by brain drain (p. 487). Brain drain can have beneficial impacts, such as creative and skilled individuals leaving their home nations so they can travel and experience new cultures (Dodani and LaPorte, 2005, p. 488) [5]. This allows migrants to travel and experience other cultures. A loss of future business owners, a shortage of crucial, skilled individuals. People may be less confident in the economy as a result of the exodus, which will make them want to go rather than stay, also a loss of inspiration for creativity.
According to one side of the brain drain debate, the loss of skilled workers due to their emigration from their country would have an impact on those who choose to stay in that country (Canibano & Woolley, 2015, p. 117) [3]. Without development and the advancement that the knowledgeable and skilled individuals who departed could have brought, the nation will be unable to compete on a global scale and will become cut off from the rest of the world.

This isolation may hinder progress and development and make a country even destitute. Therefore, it is important to consider brain drain negatively. It needs to be stopped or at least managed.
Immigration to better jobs has never been simpler thanks to globalization. They have the option of moving to areas with higher opportunities for development. At businesses and in nations around the world, there is a "war on talent" (Davis and Hart, 2010, p. 509) [4]. Developing nations must offer residents additional resources, employment opportunities, and opportunities to explore higher level work. Developing nations must examine themselves to learn the possible causes of their residents' migration. Then, they must take every measure feasible to reduce or get rid of these reasons for unhappiness. It is crucial for these nations to acknowledge and preserve their brilliance, not by restricting freedom but rather by providing better opportunities. Policies that permit development must be put in place.

In the answer of the second research question: “How potential migration impacts corporate value?”

From brain migration, we have a reduction in innovative ideas for new businesses and start-ups. The curve of our population is being shaped in the most energetic age of a country, 25-45 years. If economists and managers leave, who will run the businesses? If the teachers leave, who will educate the new generations? If the doctors and nurses leave, who will hospitals employ? In other words, the total value of various businesses will fall because the best is leaving and the few who will choose to stay will be demotivated by the general environment.

Also, more customers and a larger market boost business. The necessary market for economic growth and progress is frequently provided by a growing and healthy population. Youth exodus causes population stagnation, which lowers demand for goods and services.

Anyway, we have a positive impact if these people come back, “brain gain”. People who have traveled abroad tend to have higher levels of education than natives in many nations and often returnees from more developed countries come with a set of better skills, which they acquired while working in emigration. The figure below illustrates how the three concepts are related to each other and how they can impact each other.

Figure 12 The connection between the emigration, labor market and corporates value

Source: Author

5. Limitation

The questionnaire was built on the basis of previous studies and is distributed in different cities of Albania. An attempt has been made to interview the population that tends to emigrate and the most "delicate" age to do such an action.

- The first obstacle is that the study would have developed better if all the students graduating this year in different profiles and different universities could answer the survey. The questionnaire was distributed in many universities such as in districts, Shkoder, Gjirokaster, Elbasan, Korce and in different profiles in Tirana but there was no high feedback.
- From the interview I had with the head of the vocational schools, they had noticed in the numbers and evidence of a decrease in the number of students and their emigration without finishing vocational school. If such a study were to be conducted, parental permission would be needed, but it is difficult.
- Some data were not accessible at the macro level, in addition to this, INSTAT also did not have detailed recent data regarding migration in qualitative terms, that is education, profession etc. I have received only some quantitative data that I have mentioned in this research.
- Our country doesn’t have any statistical data about current labor force demand and supply in terms of skills.

- Also, in Albania we don't have any forecasts of labor force demand relative to supply.

6. Conclusion

According to the research assessment, possible emigration can affect corporate in both sides as in good in the terms of "brain gain" such as in bad ways, in term of "brain drain". On the positive side, emigration can open up new business prospects in the destination since emigrants may create businesses that could become clients or partners for corporates back home. For example, in the research in total 14% of the interviewed declared that they want to work for few years abroad and after they intend to return and invest in Albania. Emigrants might also return with fresh skills and knowledge that would be advantageous to their former employers, such as language skills, cultural awareness, and professional relationships.

Potential emigration, however, might also have negative impacts on enterprises, especially corporates. It may be challenging to fill a skills vacuum created by the loss of talented and experienced workers, particularly for specialized professions. As a result, productivity may suffer, training expenses may rise, and institutional knowledge may be lost. The uncertainty that future emigration can cause among clients and staff can harm company ties and undermine consumer confidence, decreasing the value of the corporates.
As the skills needed in the labour market continue to undergo changes due to globalization, digitalization and demographic change, reducing skills imbalances remains a pressing policy priority. The emigration of highly educated workers is a significant challenge and has contributed to skills shortages. Most employers report that skills shortages are a major obstacle to long-term investment decisions (EIB, 2017).[6]
Over the long term, high-skilled emigration decrease productivity and growth. The loss of many highly educated workers can reduce the productivity of the economy as a whole, which leads to lower wages for everyone (IZA, Germany, 2015)[7]

[6] European Investment Bank Financial Report 2017
[7] IZA DP No. 12469: Immigration and Crimes against Natives: The 2015 Refugee Crisis in Germany

The literature study highlights the need for businesses, particularly corporates, to think about the potential consequences of emigration on their operations and to make plans to minimize any unfavorable effects.

These strategies may include:

1. Providing opportunities for training and career advancement to retain skilled employees.
2. Increasing salaries and new schemes of monetary and non-monetary rewards.
3. Diversifying the workforce to reduce reliance on any one group of employees, and
4. Exploring new business opportunities in destination countries.

7. Recommendation

What should we do as a home country for the brain drain.

- Strengthening the responsiveness of the tertiary education system to changing skills demand.
- Retaining talent in Albania by stimulating sustainable wage growth and improving working conditions for high-demand occupations.
- Facilitating internal mobility and attracting skilled workers from abroad.
- Raise awareness among university management concerning the role of career guidance services in promoting sound enrolment decisions, lower drop-out rates, and graduate employment in study-related fields.

What we offer as a country in terms of strategies:

A scholarship fund for further study abroad and participation in exchange programs with a requirement to return may be established, as in other nations, and if necessary, would be encouraged by the National Strategy for Diaspora.

Through the implementation of the Brain Gain Programme, which assisted in the creation of the necessary incentives and national policy mechanisms for the effective engagement of the Albanian Diasporas in the scientific, administrative, and economic development of the country, Albania has a solid track record of having highly qualified citizens return to the country. The goal of the project

was to stop Albania's "brain drain" and to assist the government in developing a strategy to do so. [8]

Some of the measures from the National Strategy on diaspora and migration 2018 - 2024:[9]
Measure 1. Decision-making by the government "On establishment and functioning of the Diaspora and Migration Committee", organization of meetings, it is obliged by law to meet once every six months.
Measure 2. Establishing the Working Group on Action Plan drafting.
Measure 5. Organizing on regular basis the Albanian Diaspora Summit, in order to review the existing policies on mobilization of the Albanian diaspora and issues including the preservation of language and culture, the brain drain phenomenon and investments in Albania.

8. Author recommendation about the measures mentioned above:

Regarding measure 1: It is not sufficient to have a meeting ones per six months.
Regarding to the measure 2: Action plan should include the effect of migration on the education in real terms, and in the future workforce of the business especially the corporates that are the biggest business organization as per Albanian law.
Regarding measure 5: More concrete measures should be taken in the real data of where we are and with a forecast of three scenarios, how Albanian emigration will proceed in the future and the effect it will have on local businesses.
If our country has to take measures to prevent a loss of "brains" in the future, researches must analyze the statistical data today and must go back in years to make a risk prediction of this phenomenon. They should analyze who are the key macroeconomic and social factors that make Albanians emigrate to make the final decision for not return to their country and what they can to do to prevent this phenomenon, from schools, universities, government and corporate in terms of the biggest employers of the work force in Albania.
The above suggestions are also made based on the review of the literature, which are the best practices. In future studies, the author will try to do a statistical calculation based on scenarios to see if such a wave of "brain drain" will be stopped or worsen.

[8] NATIONAL STRATEGY ON MIGRATION AND ACTION PLAN 2019 – 2022
[9] NATIONAL STRATEGY ON DIASPORA AND MIGRATION 2018 - 2024

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STATISTICAL DISCLOSURE CONTROL TECHNIQUES

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Abstract

Data is crucial in providing evidence-based decision making. However, when dealing with data some issues must be taken into account. One important issue that must seriously considered is the safety of the entities in the data set which is being analyzed. The variety of methods used to protect the privacy of entities in a dataset is the Statistical Disclosure Control (SDC) consists of a variety of methods used to protect the privacy of respondents when confidential data are published. These techniques are applied by many National Statistical Institutes, but also from other entities and agencies that publish and disseminate data or research reports. The aim of this article is to evidence and compare different SDC methods and to signal the importance of such techniques in the data dissemination phase of data. Moreover, the lack of not applying such methods might come with possible problems and risks which will be evidenced in order to be taken into account by different researchers.

Keywords: Data disclosure control, statistics, confidentiality, privacy

1. Introduction

It is a good practice that for the respondents in a survey usually before accepting to participate and start to answers in the research instruments of the respective study, to be provided with a statement of confidentiality from the agency, institution of individual responsible of the relevant survey. This is regulated by law in Albania as well, according to the Law for the protection of personal data, Nr.9887, date 10.3.2008[1]. On the other hand, official statistical offices are obliged to protect the confidentiality of the responses provided by different entities, according to the Law of Statistics, Law 17/2018 for the official Statistics[2]. This framework on one hand provides safety for the entities that provide information in a certain study, but on the other hand limits the data utility for further analysis. The application of SDC methods inevitably will lead to loss of information and content. This implies that agencies of statistics or different researchers find a balance between protecting responses and the disclosure of individual data that could harm the respondents, and on the other hand provide as much as possible information to the public for maximizing the data utility. The goal of an effective statistical disclosure control strategy is to

choose the optimum SDC technique that will maximize the data utility and minimize the disclosure risk.
All the different techniques in place to protect the information given by the respondents are called Statistical Disclosure Control. It is crucial for the respondents that agencies implement such techniques in order to build trust to official statistics and provide to them as much as accurate information. However, the implementation of Statistical Disclosure Control techniques depends upon the type of data dissemination that will be used. Historically and traditionally the data have been published in tabular form. The last decade more and more institutes and agencies are providing data as micro level such as databases or dynamic ways to provide the wanted results. This means that different disclosure ways could be used in different published materials.

2. Background

Let's assume that a hypothetical person (the intruder) may have access to some micro-data and tries to identify or find more information about the particular respondent. Disclosure, also known as "re-identification," occurs when the intruder uncovers previously unknown information about a respondent using published data. Three types of disclosure are observed [5]:

1. *Identity disclosure* occurs when an intruder links a known individual to a published data record. For example, the intruder associates the published data record with outliers, or identifies a respondent with extreme data values. In this case, the intruder can use a small subset of variables to make the connection and immediately, once this connection is successful, the intruder will have access to all published data information related to a particular respondent.
2. *Attribute disclosure* occurs when the intruder is able to determine some new characteristics about an individual, based on the information available in the published data. For example, if a hospital publishes data showing that all female patients between the ages of 56 and 60 have cancer, then the intruder is informed about the medical condition of the female patients between the ages of 56 and 60 without was the need to identify an individual in particular.
3. *Inferential disclosure* occurs when the intruder is able to more accurately determine the value of an individual's characteristics with published data than would otherwise be possible. For example, thanks to a highly predictive regression model, an intruder may be able to discover

sensitive income information about a respondent, using the attributes recorded in the data.

Statistical disclosure methods (SDC) aim to reduce the risk of disclosure of monitored entities, and they do this by either reducing the amount of information that will be published or by modifying the data that is published. Traditionally, these methods have been associated with the protection of tables, which are followed by graphics or maps. The approach of which method or technique to use depends very much on the input data and how it is decided that it will be published. The study will focus on data protection for tabular data and microdata.

SDC are used on identifying variables whose values may lead to re-identification. Identifier variables in turn can be further classified into direct identifiers and key variables. It should be mentioned that information protection techniques must always take into account how the data are related to each other in a given file.

- *Direct identifiers* are variables that clearly identify the observed units, such as social security numbers, names and addresses of companies or individuals. Direct identifiers should be removed as the first step of protecting information.
- *Key variables* are a set of variables that, in combination, can be linked to external information in order to re-identify the respondents in the published data collection. "Implicit identifier" or "near-identifier" key variables. For example, when separate, gender, age, region, and occupation variables may not reveal the identity of respondents, but in combination, they may uniquely identify respondents.

On the other hand, SDC methods are different for categorical variables and for continuous variables. According to Domingo-Ferrer and Torra (2005) [4], a categorical variable carries values over a defined group. For example, gender is a categorical variable. A continuous variable is numeric and can be used to perform arithmetic operations. For example, income and age are numeric variables. A numerical variable is not necessarily said to have an infinite limit, as in the case of age.

3. Methodology

SDC methods can be classified as non-perturbative and perturbative. Non-perturbative methods do not distort the data structure. They aim to generalize the data and reduce the detail in the data. The second method are perturbative

methods do not suppress values in the dataset but perturb values to limit the risk of disclosure by creating uncertainty around the true values. Both methods can be used for categorical and continuous variables. This paper investigates the non-perturbative methods with attention to global data recode and local suppression. A set of indicators will be developed in order to compare which method it is the best to be used when it comes to data disclosure and then data dissemination.
The main hypothesis aims to comprehend whether the application of non-perturbative methods will impact the data publication in terms of violating data confidentiality. This hypothesis will be verified my measuring the risk of disclosure of information in a database where no information protection method has been applied. Then a minimum level of risk will be established, that will be the minimum accepted risk. Values higher than this risk will mean that the application of non-detection methods must be kept in the database. The expectation is that the application of such methods will affect that some variables/results that will not be published.

3.1 Individual risk evaluation

The first phase in disclosure control is assessing the risk of disclosure. In this step, the likelihood that an information discovery can occur in the database is measured. We remind here that disclosure of information includes: a) re-identification of individuals or b) release of confidential information. Disclosure risk in this case study will refer to both. Knowing in advance the likelihood of the risk of disclosure will allow us to make an informed decision, whether and how to share the data.
Once we understand what the risk is, we can make two decisions: 1) Either apply non-disclosure methods b) or distribute the data only to a reliable network with strict terms of use. Each organization/individual should perform such an assessment for each micro-dataset it owns.
The first step should be the removal of the direct identifiable variables. Such variables are those that identify uniquely the record in the dataset. These variables must be removed from the dataset. The second step will be the choose of the key variables is the most important step in the risk assessment. To make such selection the researcher must understand what could be such variables. Such variables are those that in combination with each other could be used to re identify a certain record. The combination of such variables will bring most probably in data disclosure of the confidential information. There is no magic formula to determine which variables could be key variables in a dataset. This must be established by the field expert that understand the context of the study.

After having identified the key variables along with the data context we are able to perform what is called the discovery scenarios. To build detection scenarios we need to think about the causes that malicious intruders might have in our data. Get an idea of the data they may already have access to, how public that data is, and whether its existence can somehow be linked to our data. For the scenarios that we consider to be the most likely, we calculate risk evaluations. In this way we can make a decision afterwards about what exactly we should do.
The basic principle of risk assessment with categorical key variables is how often different combinations of key variables appear in the data. This combination of key variable values is otherwise called Key. The lower the Key, the higher the risk that the individual in the dataset will be identified. The procedure will be called the measure of the unity of the Key.

3.2 The global risk evaluation

The upper estimation of individual record risk helps us understand whether there are specific records in the dataset with a relatively high detection risk or not. Meanwhile, the global estimate indicates the probability that an individual in a dataset is correctly identified. In other words, if we publish the dataset as it is (removing the directly identifying variables) what is the probability that any record in the new dataset is successfully identified by an 'interference'. There are two ways to do this. a) through a simple average of individual risk for all records. b) or through a limit level above which the data is considered high risk to be published or distributed. The global disclosure risk provides an overall and synthetic view of the level of risk. Setting this limit is in the hands of organizations, institutions or researchers who make a preliminary assessment of their risk levels of the data they will publish. A level of 3% is generally accepted.

3.3 Application of SDC methods

In order to solve the problem of the disclosure of record, we move on to the application of information protection methods. The simplest and most useful method for categorical variables is recoding. This is the first method that will be applied in this paper. The most common methods to protect microdata are global re-encoding and local suppression. The global encoding, is applied before local suppression. The global recoding implies merging several categories into another variable with fewer categories. Global recoding is

applied to the entire data set, not just a portion of it. This is done to have a uniform categorization of the variable.
In the case of local suppression, the value of a given variable in a record is replaced by a missing value. As a result, the user in the micro file that he will access will have NA value for those variables that break a certain rule of privacy, established by the organization or scientific researcher that published the data. Since the local suppression technique does not affect the entire dataset, but only a particular record at a particular value, it does not require the creation or definition of new variables in the dataset.

3.4 Data set description

The dataset that will used comes from real data of a study conducted by UNICEF Albania. The research aimed to measure the level of knowledge, attitudes and practices of young people in the country towards human trafficking. The database contains respectively 1,537 records, which summarizes the studied sample as well as about 19 questions (according to the questionnaire in the relevant Annex of the work: Questionnaire of the study). The study was conducted based on a random sample and representative results at the level of 5 regions. This means that each record also contains the weight variable, which indicates the level of representation that an individual has in his answers at the total level of regions.

4. Results

As it was highlighted in the methodology section the first step is to remove from the dataset the direct identifiers such as name, surname, personal numbers etc. In this perspective this was done before starting the application of Statistical Disclosure procedure.
The second step is to build some scenarios for the Key variables and for them measuring the individual risk that the record could have in breaking the confidentially. A possible Key variable in the dataset could be:

Table 1: Key variable, first scenario

	First scenario
Key variable	• Gender • Age • Region

This is the scenario that we consider to be the most probable that an intruder could use to disclosure the confidential information. Before calculating the individual risk, we should measure the frequency for each of the variables in the Key variable.

Table 2: Individual frequencies for the key variable

Gender	Frequencies
M	763
F	774
Total	1537
Age group	Frequencies
15-17	357
18-24	806
25-29	374
Total	1537
Regions	Frequencies
Region 1	230
Region 2	120
Region 3	350
Region 4	180
Region 5	29
Region 6	77
Region 7	190
Region 8	158
Region 9	203
Total	1537

The base principle to estimate the risk for the categorical key variable is to count how often they are encounter in the dataset. The lower the frequency the higher the risk that an intruder could identify a record in the dataset. In the specific dataset this estimate would be:

Table 3: Combinations of the key variables

	Scenario
Key variable	• Gender • Age gender • Region
Combinations	2*3*9=54 combinations

4.1 Application of global recode

In order to solve the problems from the disclosure of records, we move on to the application of Information Protection methods. The simplest and most useful method for categorical variables is global recoding. The most common methods to protect microdata are global re-encoding and local suppression. Global recoding is applied to the entire data set, not just a portion of it. This is done to have a uniform categorization of the variable. The table below show the indicators that measure the effect of recode before and after this procedure.

Table 4. Risk measure indicators, before and after global recode

Indicator		**Before**	**After**	**Effect**
Records that break k anonymity	***anonymity** 2*	0 records	0 records	*No effect*
	***anonymity** 3*	0 records	0 records	*No effect*
	***anonymity** 5*	15 records	0 records	*Risk reduction 100 %*
Mean probability that identify the record		0.056	0.024	*Risk reduction 2 times*
Expected number of records that could be identified		85	37	*Risk reduction 2 times*
Number of records with a n individual risk higher that 5%		489	127	*Risk reduction 4 times*

4.2 Local suppression effect

We will apply the local suppression procedure to achieve an accepted anonymity breaking threshold level. The algorithm in R is more likely to hide the values of variables that have many categories than those that have few categories. For example, between Gender and Region, it is more likely to delete Region as it gets 4 values compared to Gender which gets 2. However, if the researcher judges that variables with more categories are more important for the level of data usage, then it is possible to establish an order of importance in this procedure. For those variables that will be assigned a higher importance level,

the algorithm will hide fewer values compared to those that have less importance, but if still the anonymity according to the set limit is broken (e.g. the risk level no longer more than 5%) then and the value of that variable of high importance will be hidden until the desired level of anonymity is satisfied.

Table 5: The new Key variable

Variable	**The possible values**
Gender	2
Age gender	3
Region	4
Employment status	7
Combinations	2*3*4*7=168 combinations

Let's suppose we want to delete the values that break the 5 anonymities. The procedure in R is localSuppression().

Table 6. Risk measure indicators, before and after local suppression

Indicator		**Before**	**After**	**The impact**
Records that break k anonymity	***anonymity** 2*	114 records	0 records	*Risk reduction 100 %*
	***anonymity** 3*	248 records	0 records	*Risk reduction 100 %*
	***anonymity** 5*	503 records	0 records	*Risk reduction 100 %*
Mean probability that identifies the record		0.3193007	0.07819884	*Risk reduction 4 time*
Expected number of records that could be identified		491	120	*Risk reduction 4 time*
Number of records with a n individual risk higher that 5%		1419	791	*Risk reduction 2 time*

5. Conclusions

A responsible study should consider that the elements under study are not revealed in direct or indirect ways, producing highly disaggregated tables. We must be very careful as removing identifiers directly such as name, ID, or phone number from the database is not enough. Intruders can use data variables to create keys, or unique combinations, and can re-identify people or additional information.

Some recommendations regarding non-disclosure techniques could be summarized as follows:
The final decision on what is the accepted level of risk to display an information is up to the organization or the researcher. The latter must take into account what field the study in question is and how many other alternative data sources t can be obtained. If there is not much secondary data for the study in question, a higher level of risk can be accepted, since it is unlikely that the intruders will compare the data of the study in question with other sources.
Today there are several programs that can implement SDC techniques. Today it is possible to apply these methods in R, which is an open-source program.
If we are talking about large organizations or institutions, these techniques should be entrusted to a separate section for storing information.
When we talk about the most commonly used techniques such as global recoding or local suppression, both of these techniques can be used in their own way, combined or even separately. Both carry information loss when applied. Local suppression can also lead to misinterpretation of results, if the user of the data e.g. decides not to consider the missing values in its analysis. For this reason, it is not recommended to use it much or to use it at least after the new global coding technique. Local suppression is preferred over global re-encoding only if the latter causes a lot of information loss. The most common procedure is to first apply a global re-encoding and then a local encryption for cells that are still considered unprotected.

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INSURANCE DEMAND IN ALBANIA – AN INVESTIGATION OF MAIN SUPPORTERS AND IMPEDIMENTS

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Abstract

The insurance market is one of the main pillars of the non-banking financial sector across the world. In Albania, the insurance market has been steadily increasing over the recent years, yet we are still falling behind other European countries, which in the majority of cases are characterized by more developed market structures and highly complex products. Our domestic market came to a proper existence only in the 90s, thus regardless of the dynamics that have characterized its consistent growth there are also factors that hinder its progress and expansion. This paper aims to bring to light the main macroeconomic and financial variables which foster higher insurance demand. Time series data covering the timeframe from 2000-2021 are retrieved from World Bank and used as explanatory variables in the regression model employed to answer the research question. Insurance demand, the explained variable, is retrieved from AFSA's database and captured through gross written premiums. The final remarks shall provide an added value not only to the current literature on the matter, but also serve a great deal of up-to-date information to practitioners, insurance companies and especially policymakers.

Keywords: Insurance demand, Macroeconomic indicators, Financial depth, Regression, Albania.

1. Introduction

Financial sector in Albania has made a lot of progress in the recent years, yet problems of financial illiteracy, cash-based mentality and skepticism are still evident among the general public. These factors coupled with the volatile economic environment and poor growth rates play an essential role in the demand of the domestic population for financial products and services. In the case of insurance industry for instance, the literature has long supported the thought that micro and macro factors play a great role in the demand for insurance (Prodanov et al., 2022; Olarewaju & Msomi, 2021; Born & Bujakowski, 2019; Kripa, et al., 2018). Amongst macro variables, consideration must be given to affordability of coverage, comprehension of insurance products, perception of need and trust in the sector.

An overall examination of the structure of the financial sector allows us to understand its current level of development. As we compare the banking vs. non-banking sector in the country, it can be easily noticed that the former dominates the latter. Currently, in the Republic of Albania carry out their activity a total of 11 second-tier banks, both of a domestic and foreign capital (BOA, 2023). As of 2022, there were also 38 institutions, registered with and licensed by the Bank of Albania, which offer, but are not limited to, the following services: microfinance, foreign exchange, leasing and lending (BOA, 2022).

On the other hand, the non-banking financial sector has been recently showing signs of steady progress, with the insurance market leading the way. Non-banking financial sector in Albania consists of the four following pillars: insurance market, securities market, voluntary pension fund market and collective investment undertaking market. As far as the capital market is concerned, for several years now, Albania has been focused in completing the legal framework, which will help regulate such a market once it starts operations. It is thought that the capital market will be a major supporter of entrepreneurship in the country. By facilitating the accessibility of businesses to external funds, the capital market would help them grow bigger and stronger, triggering afterwards economic development at a national scale (Nordin & Nordin, 2016; Coşkun *et al*., 2017).

Unfortunately, the current level of financial development of the country comes as a consequence of numerous historical and political factors, which have slowed down if not blocked Albania's way forward. It was only on March 22nd, 1992, that the first democratic party would come to power. After 48 consecutive years under the communist regime, the country would allow the existence of private property, foster tourism, trade, business, and investment. This would gradually pave the path for financial development besides several other opportunities.

A sole focus on the insurance market, which makes up the focal point of this study, would allow us to underline that there was in 1991 that the first public insurance company would be established, Insig sh.a. It would take eight more years, and only in 1999 the first two privately-owned insurance companies, Sigal and Sigma, would come to exist. Only then, the dark era of a monopolistic market structure would come to an end, allowing for competitiveness and further developments in the industry.

Insurance, at its core, serves the function of risk transfer. May any adverse event occur, insurance allows individuals (policyholders) to transfer the risk to the insurer; thus, minimizing the repercussions that might come from solely carrying the financial burden. In Albania, AFSA (Albanian Financial Supervisory Authority) regulates and oversees the insurance market. There are 12 insurers in total, 8 operating in non-life classes, and the rest 4 operating in classes of life. Even though the market underwent no major structural changes during the year that we just left behind, it is worth emphasizing that no entry barriers characterize such a market. This is backed by the fact, that there are several insurers operating in Albania, which in fact are part of well-known Austrian groups such as VIG and UNIQA.

During the last five years, the insurance market has been put to test more than once. It was during 2019 - 2021 that the whole sector had to face with maximum effectiveness and resilience firstly the situation of November's Earthquake (with a 6.4 magnitude), and then the ever-rising claims arising as a result of lost lives during the pandemic period. Both crises, the earthquake and Covid-19 required AFSA to be proactive to the best that it could, and also to react in a timely manner so as policyholders' interests remained protected, and no panic would spread. Thanks to the prompt intervention of AFSA, which intensified its supervision and kept under scrutiny the financial performance indicators of the insurers, the situation was properly handled. It seemed that regardless of the small market size, all life and non-life insurers operating in the Republic of Albania are well-capitalized; follow effective risk management practices; prudent provisioning norms and most importantly cooperate with international reinsures with very strong credit standing. All these factors together ensured the resilience of the industry and continuity of its operations even under these challenging external shocks.

The beginning of 2023 brings new challenges and opportunities for the insurance industry in the country and beyond. Expected implementation of IFRS 17 (On insurance contracts), transition from Solvency I to Solvency II regime, incentives related to green finance projects, massive digitalization and many more are foreseen to reshape the industry as a whole. Nonetheless, what is still problematic is the very low demand, as captured also by insurance penetration ratio. Gross written premiums as a percentage of GDP (gross domestic product) reached the level of 1% as of 2022 (AFSA, 2022). Despite the consistent progress made in terms of insurance penetration, characterized by a steady positive trend, we are unfortunately still far behind our European counterparts.

Considering the importance that insurance development has for the country (Njegomir & Stojić, 2010; Kjosevski, 2012), it would be useful to investigate the macroeconomic and financial factors that are hindering progress and those that support it. This study employs a comprehensive empirical analysis, which aims to bring to light the most important determinants for higher insurance consumption. Looking at the results from the regression analysis, the competent authorities can gradually adjust their policies to support the expansion of this market, which can later on become a major supporter of Albania's development and economic growth.

In the following section, all papers considered in preparing this study will be examined and analyzed. Next, the data and methodology together with final remarks will be presented, thus, providing a bridge between the current knowledge and the empirical results for the case of Albania.

2. Literature Review

Insurance market development is extensively studied in the literature, as it makes up an important pillar of the financial sector, thus bringing consequences for the whole economic system. Researchers use several proxies to capture insurance market development with the main three indicators being insurance penetration, gross written premiums (GWP) and insurance density. All three proxies above allow to capture the insurance demand, and in turn consumption; thus, permitting to examine how these three are affected by several factors of a financial, economic, demographic or legal nature. In this paper, the focus will be laid on economic and financial factors alone.

Zerriaa and Noubbigh (2016) conducted a panel data empirical analysis on insurance consumption in MENA countries (Middle East and North Africa). Their findings suggested that in countries with more mature financial markets, insurance sales are higher, thus boosting insurance consumption. A similar conclusion was derived by Iyawe and Osamwonyi (2017). Using a random effects model for Sub-Sahara Africa, they proved that financial deepening was important in stimulating insurance activity; thus, leading to higher insurance density and penetration ratios. Alhassan & Biekpe (2016) conducted an empirical analysis using OLS and GMM. Using both methodologies, they were able to support the argument of a positive impact of financial development on insurance market. Such conclusions add to the discussions about the importance that governmental reforms have for the development of the financial sector in aggregate and all its parts. If financial literacy increases, individuals and businesses will be better informed on the benefits of financial products, thus

increasing their involvement in this market and demanding more insurance (besides other services and products).

Apart from financial variables, there are numerous macroeconomic factors shaping the level of development of the insurance markets. Gross domestic product (GDP) captures the level of economic growth and progress of a country. Iyawe and Osamwonyi (2017) in their research found that GDP was critical to insurance penetration and density. As far as other macroeconomic variables were concerned, it was proved that neither inflation nor real interest rate were of statistical significance. In similar lines, with respect to the boosting effect of GDP on insurance, go also Alghusin & Kasasbeh (2019); Cavalcante *et al.*, (2018); Burić, *et al.* (2017); Poposki, *et al.*, (2015); Haiss & Sümegi (2008). Since a higher GDP is translated into a higher income level and welfare for the population, definitely a better overall macroeconomic climate can be expected to trigger insurance demand and development of the industry.

Another important determinant considered by several researchers is the unemployment rate. Unemployment as a social phenomenon is unfortunately still a plague in many developing countries, therefore deterring individuals' consumption of insurance. With the shrinkage in wages, income and savings, the number of individuals demanding insurance falls considerably. Burić, *et al.* (2017) considered several macroeconomic indicators in their examination of life insurance development in Western Balkan Countries. In their final remarks, the authors underlined the negative impact of unemployment on total life premiums, which proved significant statistics-wise, even at a 99% confidence level. In the face of unemployment spikes, fewer individuals would turn to life insurance as a savings mechanism. That said, such a result comes as no surprise.

The impact of inflation on insurance demand is a subject of controversy. On one side of the medal, it could be concluded that overall increases in prices and devaluation of money result in the shrinkage of purchasing power of individuals. In such circumstances, only the most necessary products and services will still be demanded by consumers. Yet, on the other side, inflation triggers lack of confidence, fear of volatility in key indicators and insecurity on what the future holds. In light of these increasing fears, there are individuals who might turn to insurance as a risk management mechanism. A careful review of the literature exposes both viewpoints and conclusions. Zerriaa & Noubbigh (2016) and Das & Shome (2016) are proponents of the second viewpoint, that of a positive effect of inflation on insurance demand. Yet, this point of view has faced many opponents as well. Alhassan & Biekpe (2016) explored the determinants of life insurance in the case of Africa using OLS and GMM. Their analysis showed that, in the case of African countries, inflationary pressures

caused life insurance premiums to decline. Another research perspective comes from Jahromi & Goudarzi (2014). In their study, authors attempted to check the uni-, bi- or multidirectional causality between several macroeconomics factors and insurance demand. Their paper, focused on the case of Iran, concluded that there is a causal relation between inflation and insurance demand which is proved in the long run only.

To the pool of the determinants that we have discussed thus far, we add also trade activity. It appears from the literature that this can be another variable of statistical importance for the determination of insurance demand and penetration rate. With the increase in exports and imports as a percentage of total GDP, the need for insurance of goods in transport increases, thus a positive association between the two would be expected. Alghusin & Kasasbeh (2019) used OLS method in investigating the main factors driving insurance demand in the case of Jordan. Their conclusions hint at a positive impact of trade activity on the latter. Same result is derived also by Brokešová & Vachálková (2016); Petkovski & Jordan (2014). Yet, there are also researchers who have concluded that trade has no role in insurance market development (Poposki & Jordan, 1857).

The last variable to be discussed is FDI. Foreign direct investments make up an important element of international financial flows, and they can take various forms: mergers, acquisitions, establishment of subsidiaries and joint ventures are only some of them. Foreign direct investments are considered particularly important in the case of transition or developing countries through their implications for growth, which come as a direct result of their influence on several sectors. Said that, it would be useful to check the impact that inflows of foreign capital have on insurance market in particular (which is the focal point of our study). The foreign companies that enter another country are expected to introduce some of the best international practices in the host market, to bring their know-how and experience; thus, steering employment, competition, development, and growth. Differently from other aforementioned factors, the impact of FDI on insurance is not extensively studied by researchers. An interesting perspective is brought by Zhang & Zhu (2005). They found that in China the impact of FDI has been more evident in the case of property insurance than life insurance. This can be attributed to sectoral differences; if manufacturing attracted more FDI, then the effect of such flows will be manifested to a more considerable extent on non-life rather than life insurance sector. Rajeev (2016) studied the impact of FDI on the life and general insurance sector in India. According to author's findings, FDI have been a major supporter of domestic insurance industry as they have helped increase the

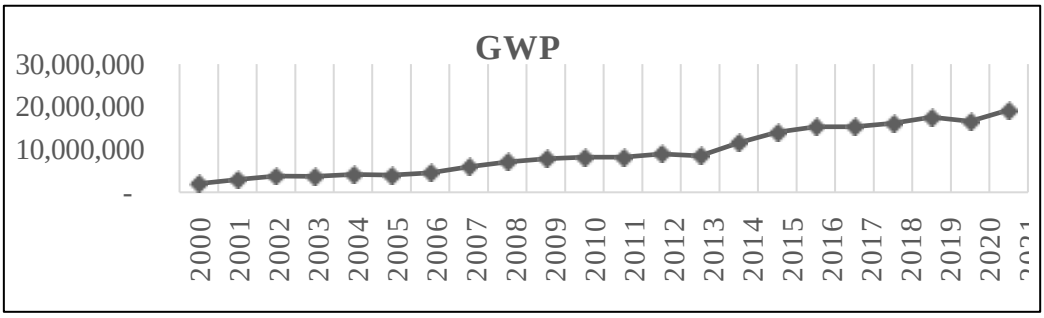
competitiveness levels, quality and range of products/services as well as promoted technology transfers and a boost in employment. Regarding the insurance demand-FDI relationship, said all the above, a positive correlation seems to exist between the two. Along these lines also go Bukowski & Lament (2020). By conducting an econometric analysis on 15 EU countries, authors were able to prove that flows of foreign capital have a significant impact both on insurance density and penetration ratio.

3. Data & Methodology

This study builds on secondary data obtained from the website of AFSA (Albanian Financial Supervisory Authority) and World Bank. The data is collected for the period 2000-2021 (inclusive) and is reported per annum. The study intended to have the maximum coverage possible, yet due to data unavailability issues, it was impossible to extend it beyond this 22-year timeframe. The main indicators used in the empirical analysis that follows are presented below:

Insurance demand and consumption is captured through gross written premiums (GWP). This figure indicates the level of insurance market development by serving as a proxy for insurance consumption. The time series data on the dependent variable are retrieved from AFSA's database. The data suggests a steady, positive trend of the series, which reaches its maximum value in 2022. On the other hand, another proxy of insurance consumption and demand, insurance penetration ratio (GWP / GPD) records a peak in 2019 right before the spread of the pandemic, with a rate of 1.05%. In the aftermath of COVID-19, the country suffered from rising unemployment, inflation, and low rates of growth. With an ever-rising uncertainty, and spillover effects of the Russia-Ukraine war, the rate seems to have stopped at 1.02% as of 2021. Please refer to Figure no.1 below for the exact data figures on GWP over the last 22 years.

Figure 1: Distribution of GWP in Albania (000 ALL)



Source: Author

GDP per capita captures the income level per individual. It is a good proxy of the standard of living and welfare in the country, hence capturing the demand side. This variable is retrieved from the World Bank database and is reported in current US Dollars. This macroeconomic series exhibits a clear, upward trending behavior throughout the studied period. Its maximum is reached in 2021 with a record high of 6293 USD.

FDI is considered an important engine for growth in all developing countries. Given that sometimes internal capacities are not sufficient, transition economies turn to external sources for growth and economic development. Albania has long implemented policies that attempt to increase the attractiveness of the country to foreign investors. In insurance, we see the presence of important international groups, which dominate the market. This serves the objective of increasing the domestic standards by benefiting from their expertise. Net FDI inflows appear to have been generally increasing over the last years, with an exception in 2020, which can be attributed to the volatile, macroeconomic environment post-Covid. The maximum net FDI is reached in 2009 with a figure of 1,345,415 (thousand USD), and the minimum in 2005 with 262,479 (thousand USD).

Unemployment is a key macroeconomic indicator that comes under close scrutiny of all policymakers in developing countries. Unless governments are able to combat this long-lasting plague, it would be impossible to tackle poverty and inequality problems, hence laying the foundations for sustainable growth. During this period, unemployment rate seems to have been overall stable, with the maximum data figures reaching 39.7 and 39.9 % in 2014 and 2015 respectively.

Inflation targeting is another critical point on the agenda of central banks. Keeping the right balance between inflation and unemployment is hardly easy, yet this equilibrium is critical for the country's economy. The Central Bank of Albania initiated the de-euroization reform in February 2018 while the measures took effect starting from June of the same year. This program attempted to prevent further devaluation of the national currency (lek) and increase the effectiveness of monetary policy. Data shows that inflation in the Republic of Albania reached the level of 3.6 % in 2010 (hitting a record high for the considered period), while in 2021 the reported inflation was at a moderate level of 2%. Currently, inflation is back as a problem at a global scale. Due to political tensions and conflicts between Ukraine-Russia, electricity and oil

prices skyrocketed, thus bringing a domino effect for all countries and consumers.

Financial deepening is also considered an important determinant of insurance growth. Given that insurance companies are actors of the financial system, common sense would suggest that a more mature financial market allows for a steady expansion of the insurance sector. In our country, the financial system has made a lot of progress in recent years, yet the historic context has intervened with its expansion more than once. As proxies of financial deepening in the country, we use two variables obtained from the World Bank, namely: ATMs per 100,000 adults and financial system deposits to GDP. As of 2021, there were 33 ATMs per 100.000 adults. While the financial system deposits, for the same year, amounted to 64 %.

Lastly, trade as a percentage of GDP is examined to evaluate its potential impact on insurance penetration rate. The higher the trade openness, the more the country imports and exports. In turn, more cargo and goods in transit can be translated to higher insurance demand. Trade / GDP ratio for Albania in 2021 was 75%, while its all-time high was recorded in 2007, reaching 83%.

Using the aforementioned papers as a reference point, this study develops in EViews 10 a time-series regression analysis to shed light on the short and long run dynamics of the interrelationships. Any potential uni-, bi- or multidirectional causality is also investigated, thus helping to understand how such financial and macroeconomic variables interact with one another. Given the time series nature of the variables, they are firstly checked for unit root to mitigate any spurious regression problem. The estimations and robustness tests are presented in Section 4.

4. Empirical Findings

In this section, the robustness tests' results will be discussed. In choosing the final specification of the model, we followed a general-to-specific approach, which simultaneously addressed matters such as long-term memory behavior of the series, multicollinearity problem and violations of the assumptions. After the necessary filters were applied, there were left only three variables: unemployment rate, financial system deposits and GDP per capita. Using this pool of macroeconomic and financial factors, the regression analysis aims to explain the variability in insurance demand (measured by logarithm of GWPs). The main problem with time series is the trending nature of the variables. Unless this is properly accounted for, the spurious regression problem arises,

thus, none of the results can be relied upon. Below are presented firstly, ADF test results. As shown on the following table, all variables are I(1) (i.e., integrated of first order).

Table 1: Unit Root Test Results

Label	Variable	Source	ADF Level	ADF fist diff
FSD	financial system deposits to GDP (%)	World Bank	0.4159	0.0122
GDPCAP	gross domestic product per capita	World Bank	0.8686	0.0164
LGWP	log(Gross written premiums)	AFSA	0.2574	0.0030
UNEM	unemployment rate	World Bank	0.4156	0.0017

Source: Author

The data are of an annual frequency. Said that, the optimal lag length can be either one or two. Based on AIC (Akaike information criterion) appeared that a two-lag model would be adequate. Table no.2 shows the results from the lag structure tests.

Table 2: Lag Length Criteria Results

Lag	AIC
0	24.15673
1	25.06864
2	23.84236*

Source: Author

Given the results from AIC, we estimate a Vector Autoregressive Model, VAR(2). The regression results can only be interpreted at a 90 % confidence level. The model results to be overall statistically significant, with an explanatory power of 68.81 %. The gdp per capita and unemployment rate are found to be significant statistics-wise, using alpha equal to 0.1. Both regressors seem to support higher insurance demand. On the other hand, the financial deepening proxy seems to be have zero impact on Y. Such a result can be attributed to poor financial development in the country. Once, Albania progresses in the field of financial development, it can be expected to also undergo a rise in the demand for insurance products.

The variables were later on tested for cointegration, yet, no long run relationship could be proved. Our country is characterized by volatility in key indicators, thus, making it hard to reach a stable equilibrium state using this limited timeframe of 22 years. Moreover, no causality of any kind were confirmed. In all possible combinations, we were unable to reject the null that: X does not Granger Cause Y.

For VAR(2) test results refer below:

DLGWP = C(1)*DLGWP(-1) + C(2)*DLGWP(-2) + C(3)*DFSD(-1) + C(4)*DFSD(-2) + C(5)*DGDPCAP(-1) + C(6)*DGDPCAP(-2) + C(7)*DUNEM(-1) + C(8)*DUNEM(-2) + C(9)

Table 3: VAR (2) estimation output

Dependent Variable: DLGWP				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.18011	0.19178	-0.93913	0.36980
C(2)	-0.11368	0.17710	-0.64190	0.53540
C(3)	-0.00283	0.00682	-0.41553	0.68650
C(4)	0.00013	0.00666	0.01931	0.98500
C(5)	0.00012	0.00006	1.90170	0.08640*
C(6)	-0.00001	0.00006	-0.24949	0.80800
C(7)	0.00960	0.00483	1.98674	0.07500*
C(8)	0.01887	0.00471	4.00867	0.00250*
C(9)	0.08051	0.04076	1.97517	0.07650
			R-squared	0.688120
			Adjusted R-squared	0.438617
			F-statistic	2.757956
			Prob(F-statistic)	0.067712

Source: Author

To make sure that the results are efficient, consistent, and unbiased; we run the heteroscedasticity, normality, and serial correlation test. At the chosen lag length (2), the model results to be free of any heteroscedasticity in residuals or serial correlation problem. Refer to Table 4 for the specific results.

Table 4: Homoscedasticity / Serial Correlation Test and Residuals' Distribution

Breusch-Pagan-Godfrey			
F-statistic	0.6275	Prob. F (8,10)	0.7395
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.1310	Prob. F (2,8)	0.8790
Normality Test			
Probability (Jarque Bera)			0.8025

Source: Author

5. Conclusions & Recommendations

This study aims to investigate the main factors determining insurance demand in Albania. The country has been for many years awaiting its accession in EU, thus special attention is given to economic growth and compliance with international standards, which have become of paramount importance. Financial markets play a significant role in the development of a country as they serve numerous functions: channeling funds to the most productive use, providing financing and fostering investments, allowing for risk management and risk transfer mechanisms, stimulating savings, and backing entrepreneurship. In Albania, there are many factors within the historic context that have deterred the country's way forward in terms of financial development. Several obstacles remain even nowadays. Factors such as the lack of confidence in financial markets and the low level of financial literacy are still present. The current economic and financial environment have also a part in this. Knowing all these, it is useful to examine the macroeconomic and financial variables, which are crucial for financial development. This study focuses exclusively on the insurance sector. A 22-year analysis is used to check the dynamics of the matter and derive robust conclusions. Secondary data of an annual frequency are retrieved from World Bank and AFSA database in an attempt to identify the main factors that lead to an increase in GWPs (a proxy for insurance demand). The results from Vector Autoregressive Model (VAR 2) suggested that in Albania a higher income level and unemployment rate can translate to a higher demand and consumption of insurance. These final remarks can be interpreted separately. Firstly, the government has to understand that to achieve the long-desired financial growth, it has to support financial sector development by approving policies that not only help reduce financial illiteracy, but simultaneously foster a strong, transparent competition and a favorable economic environment. On the other hand, by relying on internal and external sources of growth, the GDP of the country increases, welfare as well, thus people willingness and ability to invest more on insurance rises with it. Secondly, insurance is not to be seen as a medium of last resort in times of volatility and lack of confidence. This tells a lot about public skepticism, which can be battled only through effective macroeconomic policies that build public trust in the system as a whole as well as on national governance.

These conclusions contribute not only to the domestic literature, but also to policymakers and other concerned stakeholders. It would be informative to add to the pool of explanatory variables also demographic and legal indicators. These factors can allow for a more in-depth analysis of the matter.

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THE DETERMINING FACTORS OF THE CAPITAL STRUCTURE DECISIONS: TESTING THE TWO MAIN THEORIES

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Abstract

Many studies have been conducted to test the validity of capital structure theories, but it still remains one of the most debated issues in modern corporate finance. The question of how companies choose the ideal capital structure still needs an answer today. For this reason, other empirical studies on this issue have been done and will continue to be done in order to bring further facts on the theories of capital structure. The study of Myers (1984) is one of the most cited in the extensive literature on capital structure, which explains corporate financing by considering some of the firm-specific factors in developed countries. Two competing theories have attracted considerable interest over the years, the optimal capital structure theory and the Pecking order theory. This paper presents a summary of all the controversies that have resulted in capital structure theories and at the same time tests the two most prominent theories, the optimal capital structure theory and the choice order theory to see which theory fits best. Well the way of selecting the capital structure throughout the period considered. The purpose of this paper is to provide an in-depth review of important topics related to capital structure and corporate financing decisions. Coverage ranges from discussion of basic components and existing theories to their application to increasingly complex, real-world situations. The paper highlights how a sound capital structure can simultaneously reduce a firm's cost of capital while increasing shareholder value. Given the large volume of theoretical and empirical studies involving the capital structure and the financial decisions of its good management, the prospect of surveying the existing literature is a task that requires serious commitment.

Keywords: Capital structure decisions, Pecking order theory, optimal capital structure theory, trade off

1. Introduction

Many studies have been conducted to test the validity of capital structure theories, but it still remains one of the most debated issues in modern corporate finance.

The question of how companies choose the ideal capital structure still needs an answer today. For this reason, other empirical studies on this issue have been done and will continue to be done in order to bring further facts on the theories of capital structure. The study of Myers (1984) is one of the most cited in the extensive literature on capital structure, which explains corporate financing by considering some of the firm-specific factors in developed countries.

Two competing theories have attracted considerable interest over the years, the optimal capital structure theory and the Pecking order theory. Through this paper, at the same time, it tests the two most prominent theories, the theory of optimal capital structure and the theory of the Pecking order to observe which theory fits better the way of selecting the capital structure in companies during the period taken in review.

In a quick survey of the literature, the author highlights the wide academic interest in this aspect. The problem of the capital structure has been addressed, analyzed and further advanced, adding new elements not considered until then by the authors Modigliani-Miller. So, in the field of capital structure, several important theories have been developed such as:

The static trade-off theory of optimal capital structure assumes that firms balance the present value of pre-tax interest-deductible benefits against the costs of financial risk (Shyam-Sunder and Myers, 1999).

Among the theory of the firm's capital structure and financing decisions, we mention the Pecking order theory (POT), developed by Myers and Majluf (1984).

The theory of agency costs, capital structure can be affected by the managerial decisions of the firm (Myers, 2001).

Different authors have studied the specific factors of the firm, which influence its financial decisions (Titman and Wëessels, 1988; Rajan and Zingales, 1995; Antoniou et al., 2002; Frank and Goyal, 2009), but the internal factors of the country are as important as the characteristics of the firm in determining the financial leverage of the firm. (Cheng and Shiu, 2004).

Macroeconomic variables have also been mentioned as external and important factors, which influence the capital structure of firms in different countries, despite the little attention that has been paid to them (Abzari et al., 2012), (Concorou, 1977; Gulati , 1997; Mateus, 2006; Basset al., 2009).

“Capital structure describes the proportional relationship between debt and equity” (Owolabi and Inyang, 2012,). The Modigliani-Miller theory, otherwise

known as the MM theory, has served as a foundation for many subsequent studies of capital structure and modern finance. The authors in 1958 in their paper "Cost of capital, corporate finance and investment theory" came to some important conclusions. The results showed that managers cannot change the value of a company by repackaging a company's securities (Ross, Westerfield, Jaffe and Jordan, 2007). According to this theory, the value of the company remains the same regardless of the debt-equity mix of financing. The principle which is also known differently as the principle of the irrelevance of the capital structure. According to these two authors "since companies can have different proportions of debt in their capital structure, the shares of different companies can give growth in different probability distributions of returns". The studies done later, based on the revolutionary ideas of the two authors, have gradually incorporated variables and new elements that were not taken into consideration before. A value maximizing firm will create an optimal capital structure and then raise new capital, aiming to target over time this capital structure (Brigham and Ehrhardt, 2008).

Modigliani and Miller (1958) have identified two criteria for making rational decisions, which are: profit maximization and market value maximization. "The profit maximization criterion states that an asset should be purchased if it increases the net profit of the owners of the firm, while the criterion of maximizing the market value, states that an asset should be purchased, if it increases the value of the owners' capital". Previous literature on capital structure and investment suggests that the investment decision can be decoupled from the financing decision, arguing that in a perfect market, how a firm is financed is irrelevant to determine its value (Modigliani and Miller, 1958). But in the real world the capital structure is important and the value of a company is affected by the selection of the optimal capital structure. If we make a summary of the studies carried out later, we can mention the article of Modigliani and Miller (1963), which ruled out one of the basic assumptions of their MM theory (1958), placing in the model corporate taxes and / or bankruptcy costs, in an attempt to better explain the capital structure.

The study of DeAngelo and Masulis (1980) proved that it is the tax benefit to the use of non-monetary expenses such as, for example: depreciation, which determines the optimal capital structure of a firm. Recently, arguments have been given on the fact that agency costs should also be taken into consideration as one of the main determinants of financial leverage (Jensen, 1976).

2. Literature Review

In this part, a summary of the most important and at the same time most accepted theories from the wide literature on the influence on capital structure decisions in modern finance is presented. Below we list some of the most prominent theories:

Trade-off theory

According to trade-off theory, the capital structure is determined by a trade-off between the benefits of debt and the costs of debt. Benefits and costs can be derived in different ways. The "tax benefit-bankruptcy trade-off" perspective is that firms balance the tax benefits of debt against the costs of bankruptcy. The "agency" perspective is that debt disciplines managers and mitigates agency problems for free cash flow, since debt must be repaid to avoid bankruptcy (Jensen and Meckling, 1976; Jensen, 1986). Although debt mitigates shareholder-manager conflicts, it exacerbates shareholder-debtholder conflicts (Stulz, 1990).

Pecking order theory

While Pecking order theory (POT) has long roots in the descriptive literature, it was clearly articulated by Myers (1984). Consider three sources of funds available to firms, retained earnings, debt, and equity. Equity has adverse selection, debt has only a small adverse selection, and retained earnings avoid the problem. From an outside investor's point of view, equity is strictly riskier than debt. For all but the lowest-quality firms, the decline in equity valuation makes equity appear undervalued, conditional on equity issuance. From the perspective of those inside the firm, retained earnings are a better source of funds than external financing. Thus, retained earnings will be used when possible. If retained earnings are insufficient, debt financing will be used. While capital is only used as a last resort. This is a theory of leverage in which there is no notion of an optimal leverage ratio. Although selection order theory is almost always framed in terms of asymmetric information, it can also be generated by tax, agency, or behavioral considerations.

Market timing

Market timing, a relatively old idea (Myers, 1984), is gaining new popularity in the academic literature. In surveys, such as those by Graham and Harvey (2001), managers continue to provide at least some support for the idea of this theory. Consistent with market timing behavior, firms tend to issue equity following an increase in stock price. In addition, studies analyzing long-term stock returns following corporate financing events find evidence consistent with

market timing. Lucas and McDonald (1990) analyze a dynamic adverse selection model that combines elements of choice order theory with the idea of market timing. Baker and Wurgler (2002) argue that capital structure is best understood as the cumulative effect of past market timing efforts.

The basic idea is that managers are constantly looking at current conditions in both debt and equity markets. If they need financing, they use whichever market currently looks the most favorable. If no market looks favorable, they can delay issuance. Alternatively, if current conditions appear extremely favorable, funds may be raised even if the firm does not currently need funds. While this idea may seem plausible, it has nothing to say about most of the determinants traditionally considered in studies of corporate leverage. However, it suggests that stock returns and debt market conditions will play an important role in capital structure decisions.

3. A development on capital structure: testing optimal capital structure theory and pecking order theory

Optimal capital structure theory evolved through the writings of Franco Modigliani and Merton Miller. Since the article published by Myers in 1984, interest in the analysis of the capital structure of firms has increased significantly, especially in recent years. Before Myers' publication the prevailing theory was the theory of optimal capital structure where debt can be increased by taking advantage of the firm's tax shield, but after a point the costs of a possible bankruptcy as a result of high debt will outweigh the advantages of received from taxes. Precisely starting from this, in 1984 Myers also proposed his theory called the theory of the order of choice, where he emphasizes that "firms do not have a clearly defined objective of the debt ratio" so they will first prefer to be financed from internal sources, then from external sources and finally from the issuance of new capital.

This means that if the firm has little debt and is in a good financial situation, it will use internal resources to invest in new projects and will use resources from issuing capital only as a last resort due to the costs of high and problems with the ownership of the capital that can derive.

In 1982 Bowen, Daley and Huber, Jr. had provided a technique by which to test the optimal capital structure. They proposed that a firm's debt structure tends to follow its industry average over time. To examine whether firms track their capital structure toward their industry average, two-by-two matrices were

analyzed for each year and for each industry in the following way: The hypothesis tested by this procedure is that gamma is important non-zero statistic.

In the text of the author Ghosh (2008) the study of Bowen, et al (1982) is also presented, who concluded that firms present a significant statistical tendency to move towards the industry average in terms of their debt.

Taggart (1986) used the choice order theory in his study of capital structure and found that the choice order hypothesis was more valid than the optimal capital structure hypothesis.

Clagget, Jr (1992) tested both hypotheses using data from databases obtained from Compustat published data on companies in the USA and concluded that the ratio of long-term debt to total assets tends to move towards the industry average more recently. According to this view, firms will behave according to the Pecking order theory description although some industries will not be able to achieve it during periods of financial turbulence. Claggett, Jr. concludes his study by stating that perhaps a new hybrid theory between optimal capital structure and Pecking order theory (POT) may arise in the future and will be the next step to better explain how firms build and manage their ideal capital structure (1992).

While in the study conducted by Ghosh & Cai (1999) testing theories of capital structure, more specifically analyzing empirically whether firms will follow the theory of optimal capital structure (which according to their point of view is represented by the average of industry) or the theory of the order of choice. Based on the list published by the American magazine of the 500 largest companies in the manufacturing industry (Fortune magazine), they studied a sample of 256 companies for an observation period of 1974-1992. The methodology used is the same as that used by Clagget, Jr (1992). The results of their study showed that both hypotheses of the optimal capital structure and the Pecking order theory interact. According to Myers (1984) who stated that the Pecking order theory "performs as well as the static trade off theory" in explaining the capital structure. The study conducted by Ghosh & Cai also shows that capital structure theory and Pecking order theory are not mutually exclusive. But according to the authors, the hypothesis of the theory of Pecking order is more pronounced than the hypothesis of the theory of the optimal capital structure, since it was significant for all industries and all the years considered in the study.

4. Conclusions

This conclusion presents some concluding thoughts on the concepts discussed in the previous parts of this paper. Here is an overview of the controversy and debates on capital structure construction. It shows that firms will adjust their capital structure towards the industry average when it is above the average, while when it is below the average they do not find it necessary to adjust it towards it Ghosh & Cai (1999).

Based on the results of the study, a considerable number of the firms taken into consideration have converged towards the industry average during the period 1974-1992, confirming the optimal capital structure again. The results showed again a strong support of the hypothesis of the order of choice for all industries and for the entire period in which the value of the gamma coefficient had a positive and statistically significant Z-test. Also, their study showed that both hypotheses tested, the hypothesis of the optimal capital structure and the hypothesis of the order of choice, work together, but they are not the only ones, so they are not exclusive. But the hypothesis of the theory of the order of choice is more pronounced than the hypothesis of the optimal capital structure, where initially it was important for all industries and the entire period, then in the following years it was important for a significant part of the industry and the period under consideration.

Some problems emerged during the study, expressed by the author, which could not be solved. First, as stated in this research paper, it refers to the data obtained from large companies, so it would be interesting to know if we would reach the same results but take into consideration small-sized companies (SMEs). Second, in the study conducted by the authors Ghosh and Cai, the accounting data of the financial statements of the companies were used, but it would not be useful to use the market data. This is left as an open question for future studies on capital contraction decisions.

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A SURVEY OF HISTORY, HUMAN INTERACTION AND FUTURE OF ARTIFICIAL INTELLIGENCE

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Abstract

Many researchers in universities and in industry are investing time and money in Artificial Intelligence. A lot of processes and task are trying or have already implemented AI. In this article, we present a history of AI evolution with concrete examples, several interactions of AI with humans and some future points. "Artificial Intelligence could be a field of science and engineering concerned with the computational understanding of what is commonly called intelligent behavior, and with the creation of artifacts that exhibit such behavior".

Keywords — Artificial Intelligence, robot, super jobs, super teams, hybrid intelligence

1. INTRODUCTION

What is AI?

"Artificial Intelligence could be a field of science and engineering concerned with the computational understanding of what is commonly called intelligent behavior, and with the creation of artifacts that exhibit such behavior".[1] With the term "Artificial Intelligence", we mean a system that perform activities that are related with human thinking, decision making and problem solving [2].There are many definitions for Artificial Intelligence, expressed in several way but with the same core concept. Artificial Intelligence makes it possible to create machines that are able to think and act like us, humans. Machines similar as human brain can execute tasks with different complexity. There are two main categories of Artificial Intelligence:

1. Weak AI
2. Strong AI

Week AI or Narrow AI relies on single task machines that can execute a human's task. Email spam filters is a very good example. They use an algorithm, which checks all the messages that are likely to be spam, and then it forwards those emails to the spam folder. Some very popular apps such as Facebook's news feed, Apple's Siri, the iPhone technology and other voice commands apps

are good testimonials of weak AI. Moreover, the chess have the goal to win the game and the self-driving cars have the goal to send to the final destination as soon as they can, both are examples of weak AI. All the above examples have in common that single based task to execute.

Strong AI, its main purpose is to create machines that can do everything similar a human. Additionally, these types of machines are multi-tasking, they can think, reason, and act like a person. They try to solve real mathematical problems, puzzles, etc. It can learn from its behavior, plan different situations, and the most vital thing to communicate with humans or with other machines. Strong AI have other names such as, True Intelligence or Artificial General Intelligence (AGI).

2. HISTORY OF AI

Artificial Intelligence evolves in daily basis due to huge interests in this field. We tried to show the key events of Artificial Intelligence grouped in some periods. It is not the scope of this article to much in detail of each event.

1943 – 1963

McCollugh and Walter Pitts proposed the first mathematic model to build a neural network in "A Logical Calculus of Ideas Immanent in Nervous Activity".

Alan Turing with "Computing Machinery and Intelligence" tested and proved the intelligence of the machines using Turing Test.

John McCarthy led "Dartmouth Summer Research Project on Artificial Intelligence", a conference that recognized the word AI. This is considered as the birth of AI.

John McCarthy and Marvin Minsky found the MIT Artificial Intelligence Project. After this, some years later John McCarthy started the AI Lab at Stanford.

1973-1985

- The British government published "Light Report". In this report, they detailed the disappointments in AI research. Therefore, the government cut off all the researches and the funds planned for Artificial Intelligence. This period is known as the "First AI Winter". This means that it stopped all researches for AI projects due to funding problems.

- Japan's Ministry of International Trade and Industry lunched The Fifth Generation Computer Systems project. The FBCS intended to develop supercomputer in performance and a platform for AI development.
- U.S government launched the Strategic Computing Initiative as a response of Japan's FGCS, to provide DARPA funded research in advanced computing and artificial intelligence
- Symbolic and Lisp Machines Inc. invented "Lisp machine market". They developed specialized computers to run on AI programming language Lisp.
- *1987-1997*
- The "Second AI Winter" took place in1987, marked by the collapse of Lisp machine market. They were simply too expensive to maintain and update. This collapse was followed by:
- The termination of the FGCS project in Japan, citied as a failure.
- DARPA ended The Strategic Computing Initiative after spending more than $1 billion.
- U.s forces deploy an automated logistics for planning and scheduling tool, called DART, during the Gulf War.
- Gray Kasparov, the world chess champion was beat by the machine invented by IBM, the Deep Blue.
- *2005-2016*
- STANLEY, the first self-driving car that wins the DARP Grand Challenge.
- U.S military invested in autonomous robots.
- Google introduced speech recognition in its iPhone app.
- Andrew Ng founded the Google Brain Deep Learning project. This project proved that a neural network could recognize a cat only from characteristics.
- Google made the first self-driving car, which passed a state driving test.

3. HOW AI DOES INTERACTS WITH HUMAN?

Artificial Intelligence is helping in making humans life easier. A good example is Interest Tracker. This system detects how humans' eyes move when viewing a computer display. It acts as a mouse when eyes remain on something for some seconds and select that thing. This kind of selection is faster than a mouse and reduces time [3]. Additionally, AI is improving the researches in

science and medicine, education, transportation, agriculture, changing the lifestyle, and improving art. Maybe Artificial Intelligence cannot create art form scratch without human influence but it can create and improve tools, which helps the artist to express better their thoughts and their feelings. One of them is the Deep Neural Networks (DNN), which is used to produce art, commonly labeled as "Neural Art" or "AI Art".

Moreover, in 2016, there was a work made by the computational artist Memo Akten using "DeepDream" [4]. Also with Artificial Intelligence, we can generate music based on user preferences. One of them is "FlowComposer" created by Sony Computer Science Laboratories, which is based on Markov models [5]. Google brain team created the Magenta project that is focused on the determination of characteristics of moving music using a huge amount of musical pieces based on deep learning and composition of moving musical pieces for people [5]. Additionally, Even the art that is generated by AI is influenced by humans' thoughts and imagination, it cannot be considered a copy of humans art. It combines different elements and techniques from different artists, which makes it more sophisticated. Besides, there are many discussions regarding the ability of creating art. Many insists that only humans can create art and everything else is a copy of their work. Others support the thesis that both humans and AI tools can create and generate art without any difference between them [4]. However, the humans have an important role on creating artificial models. It is related to human imagination and creativity. If these two things are well combined in AI tools there will be generated great pieces of art and it will also help human artists to create better art.

Healthcare is an important topic of Artificial Intelligence and robotics. They are improving it by specifying diagnosis and clinical treatments. They help on finding or keeping track of patients' diagnosis, the performance of simple surgeries, monitoring of patients' health and mental wellness [6]. Using AI on healthcare helps to gather the information that is more objective. For example when they do not take medication. AI monitoring helps doctors to keep track of every patient in detail and in this way, they can specify the diagnose and treat them better [6].

An interesting research related to healthcare is designing better drugs that do not clash with other medications with AI tools. The "CASTER" framework predicts drug interactions. It acts like "a translator" that converts it to its chemical structure into a string format known as "SMILES" two drugs provided in the input. After translating it, the framework checks in his data if there is something that clashes with the drugs that are provided in the input [7].

Another study from AI researchers and medical professionals at Stanford

University is focused on how AI could help healthcare and improve it. They used machines to monitor ICU patients. They think that AI can help and track if patients have issues or difficulties. The algorithm can alert the staff or inform every second for the patient's health status [8]. Therefore, when we have a collaboration of doctors and AI there will be easier to find and treat different diseases.

Another interested part of AI is the education that is improving and becoming more interactive. Artificial Intelligence tools helps the student to learn faster and improve their skills with interactive methods and materials. These tools are being used to develop customs learning profile for each student based on their knowledge and the ability to learn. Therefore, teachers do not have to create a single curriculum for all students. They can use these tools to adjust the best materials based on student progress and knowledge. Advanced Cardiac Life Support Tutor is a good example of these tools. The student takes the role of team leader in providing emergency life support for patients who have had heart attacks [9]. This system runs realistic stimulation of the patient's condition and monitors student actions. It helps students to learn how to act in this situation in a realistic manner and keeps track of how much information the student has learned from this lesson. Another valuable example is the Smithtown system [9]. It provides a simulated setting for students to test hypotheses about economics. Bayesian networks are used to record the student's knowledge state based on his interactions with the tutor [9]. All these systems have one thing on common, the collaboration of AI with students, teacher, and their productivity. Furthermore, these tools have an online interactive interface, which helps to get feedback from students to their teachers. In this way, teachers or tutors can improve their work by knowing what their students need to learn. In addition, educators are using voice assistants in the classroom environment [10]. These tools are giving students to interact with educational material without the interaction of the teacher. For example, tools as Amazon Alexa, Microsoft Cortana, or Apple Siri can be used everywhere, so this gives the opportunity to learn more outside of a classroom [10].As well as healthcare or education, the economy has faced several changes due to AI. Those changes are very important in economic growth [11].

The automation increases productivity, which leads to better and most of the times cheaper products. Consequently, it increases the consumer demand that leads to greater investment [11]. Cloud storage is gradually taking the place of shipping containers and warehouses. Decentralization and digitization are likewise replacing conventional means of communicating and transacting [11].

The biggest currency repository in the world is driven by cryptocurrencies and has no buildings or physical safes. All are driven by software, which is based on knowledge and processes captured by automation. Facebook, Google, Amazon and Apple has bought up hundreds of innovative startups over the past decade, including ones that focus on AI or AI-related technologies [12]. Ajay Agrawal , Joshua Gans and Avi Goldfarb defined the Artificial Intelligence system as "prediction machines". AI has helped different companies to make predictions for better decisions while automating them. A great example is Amazon's recommendation engine. This engine presents a personalized version of its website to each visitor based on his previous searches or what other customers have searched before [13]. Artificial Intelligent Systems increase the stock of capital, making them more productive.

Richard Socher and his team have developed a system called "the AI Economist" that uses reinforcement learning. This system has the same sort of technique behind DeepMind's AlphaGo and AlpahZero. It is used to identify optimal tax policies for a simulated economy. The tool is still relatively simple so there's no way it could include all the complexities of the real world or human behavior, but it is a promising first step toward evaluating policies in an entirely new way [14]. This AI-generated tax policy was tested on more than 100 crowd workers hired through Amazon's Mechanical Turk, who were asked to take control of the workers in the simulation. The outcome was very interesting, the policy influenced by humans was very similar to the AIs ones.An advantage of Ai system is the ability to simulate several scenarios.Nevertheless, in other domains the are different opinions such as, LeBaron, who sentenced on his paper that, when the AI Economists disagree with some models, then these models are missing something [14].

Regulation is an industry whose structure and processes are being transformed by AI systems that speed up technology change and create new opportunities to monitor economic activity. AI systems are an "invention in the methods of managing and regulating increasingly important digital platforms and marketplaces" as Susan Athey and co-authors proved in their paper. They compared UberX and UberTaxi and found that detailed information about the driver will provide higher quality and more incoming than UberTaxi [14].

The markets of the digital economy are different from the old economy. This difference is shown in their costs. The Internet lowers many costs for small businesses, increasing their ability to rapidly and inexpensively scale up, collect information on potential consumers, and create new products and ideas. This kind of business does not change the structure of the market, but it lowers the costs of doing business [14]. Furthermore, as illustrated above Artificial

Intelligence or automated systems helps on business growth, improves better ideas, and scale up the incomes for each company that considers using it. Around 1500 companies all over the world, has increased the collaboration of humans and Artificial Intelligence in the taskforce. Regarding to humans, they need to train the machines to think and act like them. Furthermore, they are training these machines to perform specific tasks in the right way. Machines need to be taught to get the expected result and to interact with humans in the best way. A great example, is "Cortana", a team that included a poet, a novelist and a playwright trained these AI assistant to be confident, caring, helpful and polite. MIT Media Lab, has created a system called Koko, if a user has having a bad day, instead of saying "I am sorry to hear that", it asks more questions related to the situation. This is making the AI assistants to act more like a friend, than a machine [15]. What is missing and takes a lot of place in the new researches is the causal reasoning. That will help these systems to have the ability to reason about the cause and effect.

The relationship between AI and humans can work only if both of them contributes on it. Artificial Intelligence is trying to help humans to be more analytic. Furthermore, it is booting their decisions making abilities by providing the right information in the fastest way that is possible. It also is helping on improvements of humans imaginations. Autodesk's Dreamcatcher AI is helping designers to create things that we have not imagined before. For example, creating a chair that is able to support up to 300 pounds. Furthermore, it shows other chairs that it found attractive and so on. In addition, AI is helping on business improvements and found raising [15]. HSBC has developed an AI system that can detect fraud. This system monitors all the transactions in a periodic way, by using data on purchase location and customer behavior, IP addresses and other information to identify if it is a possible fraud. This system has improved the fraud detection by 50% and the decreased of false positive with 60%.

Artificial Intelligence is being used on hiring. In the first round of the application process, candidates are asked to play games. These games, does not have questions, but they have situations. These situations detects which candidate is more suitable for the position that it has applied. These games analyze not only their answers, but even their body language and tone. The AI system selects the candidates who will be invited for the next step of hiring process [15].

Thomas Malone introduced for the first time in his book "Superjobs" and "superteams". They are used to illustrate how the relationship between AI and humans is creating new levels of intelligence. Malone summarizes "from

humans in the loop to computers in the group". Meaning, that both AI and humans combine their strength to achieve a common goal [16]. Superjobs combine responsibilities and work from traditional jobs, using the AI to make them interact together. On the other hand, "superteams" is the combination of people and machines to solve a specific task or problem. Together, "superjobs" and "superteams" illustrate the work, which will be replaced and automated by them [16].

"Texito", is an AI writing tool, which helps people to write different things, like emails, and help them to understand how their word will be perceived. It also can communicate with people, helping them to express their thoughts in a better way. Some organizations are using this tool within teams to write better and more attractive job descriptions [16].

4. THE FUTURE OF AI

Artificial Intelligence is changing our lives in several ways. There are several point of views regarding the future of Artificial Intelligence. Many scientist believe that it will increase the number of unemployment and many others believe that will improve education. Some researchers predict that the major focus in ten years will be the relationship between AI, humans, and robots. Autonomous cars and robots will be popular and will take over human labor [17]. There are expectations that robots will perform human tasks, like for example, running 5 kilometers [17].

Sven Koening thinks that in ten years AI will do tasks like writing high school essays, explaining actions in games, and driving trucks. He also thinks that humanoid robots will beat humans on 5k races [17]. Furthermore, AI Entertainment in the future will be more interactive and multimodal and will intersect with sectors that we believe that are very distinct. In addition, it may improve the TV by creating and personalizing it based on our preferences [17]. Moreover, some researcher believes that Artificial Intelligence may take over many humans job in the future. Thus, unemployment will increase [18]. Others think that AI will be the fourth industrial revolution and will transform society. According to research by Oxford University, AI could leave up to 35% of workers in the UK, and 47% of those in the USA, at risk of being unemployed and displaced by technology [18]. Food preparation is another process that can be replaced by AI. These systems can control multiple factors in a precise way, including cooking time, temperature, color, smell, and teste [18].

Researchers think that AI will affect current college education. The focus of current college education is transferring knowledge to the students. AI will

change this from transferring to applying knowledge and solve hard problems. Consequently, the performance of the students could be measured and changes might be implemented in the right time.

Furthermore, there are companies, which are thinking to use drones for delivery. All the products and items will be delivered to the customer by drones. This is more efficient because it cannot be stacked in traffic. In addition, it can be tracked easily and delivered on time [19].

In the future humans will be able to communicate with each other without language limitation because AI will create tools for communication and translate it in every language. [20]. David A. Bray on his paper has given some opinions related to the future of Artificial Intelligence in the next 20 years. He believes that in the future Artificial Intelligence will create tools, which will be able to recognize a person by his face, voice, and fingerprints. This will be used as biometrics and we do not need to carry a physical identification card. Furthermore, AI will improve the detection of fake images, voices, and videos and this will improve our safety. As David mentioned in his paper, the government will create an Artificial Intelligent assistant, which will operate in different sectors. For example, individuals seeking government information, talent management, skill matching, and legal, financial, and ethics reviews [21].

Hybrid Intelligence is another concept that has a lot of potential for future. "Hybrid Intelligence" means the usage of complementary strengths of humans and AI to act more intelligently in different situations. These systems will be able to create complex tasks and will continuously learn new things from humans and other AI systems [22]. Consequently, socio-technological system improves each single component, thus improving the performance in a specific task.

Autonomous cars will be more responsible, meaning that they will learn to study the pedestrian behaviors in different situation. It will learn to think like a real driver by analyzing the body language. The researchers think that by developing the psychological reasoning in the self-driving cars will lead to perfect driving and to less car accidents. These machines will analyze everything and will act faster than a human [23]. Moreover, Artificial Intelligence will help doctors in curing different disease. Currently, AI can detect tumor, but researchers think that it also will help on detecting and curing asthma. New tools will give environmental information that will be helpful. Furthermore, they will implement tools that will track each patient state regarding to these environmental information and send the data to the correspond doctor. These will help the doctors to act faster and help their patient with the right treatments [24].

5. CONCLUSIONS

Artificial Intelligence is becoming a very important topic in our daily live through different processes or tool. Still the main of its impact is in the business. Ai tools are supporting the processes of business in several ways, from an automated algorithm that is based in AI to real devices or robots in bigger industries. AI tools are helping humans to create different products and improve their imagination. These leads to more opportunities for customers and more earnings for companies. Furthermore, with AI interactions, companies and banks are developing tools that detects fraud, so it is making companies to be safer. Moreover, AI tools are being used to create different games and exams for candidates that apply in a specific position. This tools, make the selection of the candidates for interview more efficient and reduce time . Personal assistant are playing an important role in education. Students can learn better by interacting with such systems, because they are more interactive. Moreover, by using AI on education, the students has the opportunity to choose what to learn and how to learn it better. Artificial Intelligence has created tools that helps creating curricula based on student needs. Another important domain of AI and is in healthcare researchers. Cancer and tumor detection now it is easier to be cured by doctors, who interacts with AI tools. In addition, there are tools, which are helping on CRI to monitor the patient and give them the right treatment. Several researches are focused in AI healthcare. We tried in this article to mention many examples in order to show the evolution and the importance of AI. Still there are many limitations especially in the cause effect analysis. There is the need to have the human's interaction. A new concept that is rising now is the causal reasoning in machine learning. The goal is to bridge the limit of missing human reasoning of current machine learning.

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SOME INDICATORS OF THE MONETARY POLICY OF THE BANK OF ALBANIA AND MACROECONOMIC DEVELOPMENT DURING LAST YEARS

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Abstract

Monetary stability is one of the major cornerstones of the recent success of Albanian economic development. There seems to be a general perception that the exchange rate pass-through is the most crucial channel in Albania's monetary policy transmission process. This perception is questioned here regarding the altering relationships in this developing economy. This paper presents a clear overview of some of the leading macroeconomic indicators of the Albanian economy in recent years. The choice of exchange regime in 1992 was limited by the macroeconomic environment's developments and the transmission mechanism's functioning. Also, analyzing the experience of countries in transition did not reach a clear conclusion on which exchange rate regime gave the best results because it depended on the economic characteristics of each country. The decision for what kind of exchange rate regimes Albania has to follow depends on the country's financial system structure and is in line with central macroeconomic policies.

JEL classification*: E00, E4, E5*

Keywords: Monetary policy, exchange rate channel, economic growth, the Albanian economy

1. Introduction

Developments in the world economy, particularly those countries that trade with Albania, strongly influence the Albanian economy. For this reason, foreign factors and monetary policy will influence the exchange rate channel in Albania. These foreign influences may even overshadow monetary policy decisions in Albania. Concerning Albanian trade, imports are much more sizeable than exports. The share of exports in the balance of payments is relatively low.

For this reason, the pass-through of the exchange rate on export prices into the volume of exports and economic growth will be limited. The last financial crisis had its origins in the internal imbalances of the most powerful countries. The effects of the global crisis are indirectly spread into the Albanian economy

because the most important commercial partners to Albania are Italy and Greece, two countries in the Eurozone in a severe financial and internal debt crisis. On the other side, this spread was due to the difficulty of finding liquidity and credit in the international market. During 2009, the Albanian economy felt the effects of the crisis, which was strongly supported by the emigrants' remittances. In the case of Albania, after 2011, the effects of the crises were more visible, and for this reason, the Central Bank of Albania took several contrasting measures; on the other hand, the level of government debt increased.

The modern history of the Central Bank of Albania (BOA) began in 1992 as the country's central bank to preserve the internal and external value of the domestic currency. This law was not openly clear on the final goal of monetary policy. The new legal acts have endowed the BOA with considerable instrument independence, granting it almost complete de-jure flexibility in achieving its goals. BOA has aimed to achieve the role of an independent policy-maker by setting its long-term objectives in policy documents. Albania ranks higher in de-jure and de-facto independence ratings than its regional countries. Macroeconomic motivations and a specific set of factors ultimately guide the choice of a monetary policy regime. The International Monetary Fund (IMF) programs of monetary policy framework in Albania were instrumental in the initial set-up. IMF financial programming implied a monetary targeting regime that assumed that monetary expansion is our country's critical driver of inflation. Albania adopted a floating exchange rate regime. The monetary targeting framework was supposed to align with the medium-term inflation objective, the GDP growth, and accounting for changes in money rapidity. BOA has been running an independent monetary policy and has secured an inflation-targeting regime and a flexible exchange rate that has played a crucial role and has served as an absorption mechanism to several domestic or external shocks. However, the benefits of running an independent monetary policy have their disadvantages for a small and open economy. Countries like Albania are forced to run an independent monetary policy within a "partial corridor" of interest rate deviations from the interest rate pursued by an anchor economy. The successful path of Albania in operating an inflation-targeting framework is reflected in an improving transmission mechanism and anchored inflation expectations. The improving transmission mechanism increases the effectiveness of the monetary policy in the future, while anchored inflation expectations yield more flexibility in pursuing an independent monetary policy.

2. The Monetary Policy of the Central Bank of Albania

The principal objective of the Central Bank of Albania is to maintain and preserve the stability of the prices through an inflation-targeting policy. The aimed inflation growth rate has not exceeded a 3% rate annually. Also, as the responsible designer institution of the monetary policy, the Central Bank should maintain its independence in front of any other interested institution. Practically, the monetary policy is based on those main pillars:

- The effectiveness of monetary policy depends on its impact on economic stability in the future because, as financial markets are constantly evolving, the effects of monetary policy take time to produce results.
- An effective monetary policy must be balanced, always keeping inflation stable throughout a country's economic fluctuations, thus contributing to economic growth.
- A principle of monetary policy is its transparency towards the public, always informing it of any decision-making.

As mentioned above, the main operational objective of the Central Bank of Albania is to maintain a slight fluctuation between the short-term interest rate and interbank interest rates. Achieving these objectives and maintaining price stability affect the decision-making of economic agents for consumption, savings, and investments.

Some of the operational instruments of the Central Bank of Albania are:

- Open Market Operations (REPO) aims to influence the short-term interest rate and control market liquidity.
- Permanent relief (1-day loan and one-day deposit) affects the short-term interest rate and controls market liquidity. It is implemented at the initiative of commercial banks.
- The Mandatory Reserve aims to regulate the money supply and the liquidity situation and manage the interbank interest rate.
- Other instruments make monetary policy more efficient and effective when other instruments fail or do not function properly.

During the last five years, the Albanian economy has encountered difficulties due to the asymmetric demand and supply shocks imported by the foreign financial markets. Also, the intern environment was characterized by low demand for consumption and investments and high public debt. As the fiscal policy effects were primarily adverse because of the low public spending and the high intern and foreign debt, even the undertaken measures in debt consolidations, the Central Bank of Albania played a central role in

accomplishing its objectives and the market stability preservation in the economy.

According to INSTAT, the economic activity in Albania contracted by 5.5%, and the unemployment rate jumped to 11.6% during the first three quarters of 2020. The crisis particularly hit the trade flows and services sector, as these activities were the most exposed to the implemented restrictions. The increase in fiscal stimulus only partially compensated for the fall in consumption and private investments. The economic fall contracted fiscal revenue. Coupled with increased expenditures, this contributed to a rapid fiscal deficit and public debt increase. At the end of 2020, public Debt to GDP reached 77.8%, from 66.2% at the end of 2019. The most significant impact of the pandemic materialized in the second quarter.

The Bank of Albania increased the monetary stimulus and undertook other regulatory measures to maintain lending flow and uninterrupted financial services, preserving monetary and financial stability. *The eased monetary policy package included the following:*

- It cut the key interest rate to 0.5% and narrowed channels for standing facilities by reducing the overnight lending facility interest rate to 0.9%. This measure aims at reducing the cost of debt financing and servicing in the economy.
- It increased liquidity in the banking system by adopting an operational strategy enabling unlimited liquidity injection. This measure guarantees the smooth functioning of the financial market and the monetary policy transmission mechanism.
- It uses forward guidance to inform the market of the stimulating monetary policy stance in the future—this measure aims to control the interest rates curve and the extension of its effect in time.

The monetary stimulus helped control debt financing and servicing costs and bolstered financing to the private sector with bank loans. Financing costs for private and public sectors remain at low historical levels, and the exchange rate has been stable. Low-interest rate levels the ample liquidity in the market led to a 6.8% average growth in the credit portfolio in 2020 by meeting the increasing needs for liquidity to the economy and supporting investments once the emergency was overcome. Lending to enterprises and credit in Lek were the main contributors to credit growth. State guarantee schemes sustained the latter. Lek's ongoing credit growth also increased this portfolio's share of total loans up to 50% at the end of 2020. This positive development establishes the premises for enhancing monetary policy effectiveness and strengthening the financial

stability of Albania. The banking sector made a relatively positive and valuable contribution throughout the crisis. This sector continued lending and undertook the payment of a part of the financial bill through the extension of credit payments and credit restructuring. Maintaining a proactive approach to lending is a crucial precondition to ensuring the necessary financial support for the economy to rebound.

3. An overview of macroeconomic indicators in Albania during 2010-2020.

The economic growth and per capita income growth indicators are commonly used to assess a country's economic development. Albania's economic development over the last 20 years has been slow but on stable terms. Albania has d stable economic growth, in contrast to the economies of neighboring countries with significant economic development fluctuations (as we will see in the comparative analysis below). The economic growth indicator in the case of Albania can be classified into three main periods (see Table 1): the period 2010-2013 is known as the most severe phase after the financial crisis; the period 2014-2018 is known as the recovery phase of the economy, and the third period 2019-2021 post-Covid 19.

Table 1. Indicators of economic development for Albania

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CPI index 2010-100	100	103.4	105.5	107.6	109.3	113.2	112.7	115.1	117.4	119	120.9
Inflation Consumer Price (annual %)	-4.2	3.4	2	1.9	1.6	3.5	-0.4	2.1	2	1.4	1.6
Remittances % of GDP	13.3	12.04	11.52	10.03	10.7	11.34	11.01	10.07	9.62	9.63	9.9
FDI inflows % of GDP	9.14	8.14	7.45	9.82	8.693	8.691	8.8	7.85	7.96	7.75	-
Economic growth rate		2.5	1.4	1	1.8	2.2	3.3	3.8	4.1	2.2	-3.3
Exchange rate	103.9	100.9	108.2	105.7	105.5	126	124.1	119.1	107.9	-	-
Imports in billion Lek	5.792	6.7	5.861	5.999	6.243	5.071	5.436	6.07	6.856	6.977	5.636

Exports in billion Lek	**3.337**	**3.769**	**3.565**	**3.694**	**3.732**	**3.105**	**3.437**	**4.11**	**4.785**	**4,821**	**3.441**
External Trade Balance	**-2.455**	**-2.931**	**-2.296**	**-2.305**	**-2.511**	**-1.966**	**-1.999**	**-1.96**	**-2.071**	**-2.106**	**-2.195**
Money Supply as % of GDP	**98.52**	**99.47**	**111.36**	**111.93**	**114.39**	**119.2**	**123.34**	**121.64**	**122.59**	**125.47**	**144.13**
Gross national savings	**19.97**	**20.55**	**19.62**	**17.74**	**15.93**	**18.86**	**17.05**	**16.53**	**16.59**	**14.5**	**11.07**
External Debt	**3.09**	**2.94**	**2.86**	**2.08**	**2.11**	**2.91**	**1.42**	**1.29**	**2.78**	**0.187**	
Interest rate	**7.97**	**9.89**	**9.74**	**9.51**	**6.33**	**7.27**	**7.41**	**4.7**	**4.39**	**4.99**	**6.59**
Domestic credit provided by the financial sector as % of the GDP	**109.13**	**104.69**	**106.36**	**118.64**	**120.05**	**123.1**	**125.2**	**126.2**	**125.6**	**131.5**	**147.6**
Bank non-performing loans to total loans as %	**13.96**	**18.77**	**22.49**	**23.49**	**22.81**	**18.17**	**18.27**	**13.23**	**11.08**	**8.37**	**8.11**

Source: World Bank Indicators, 2021

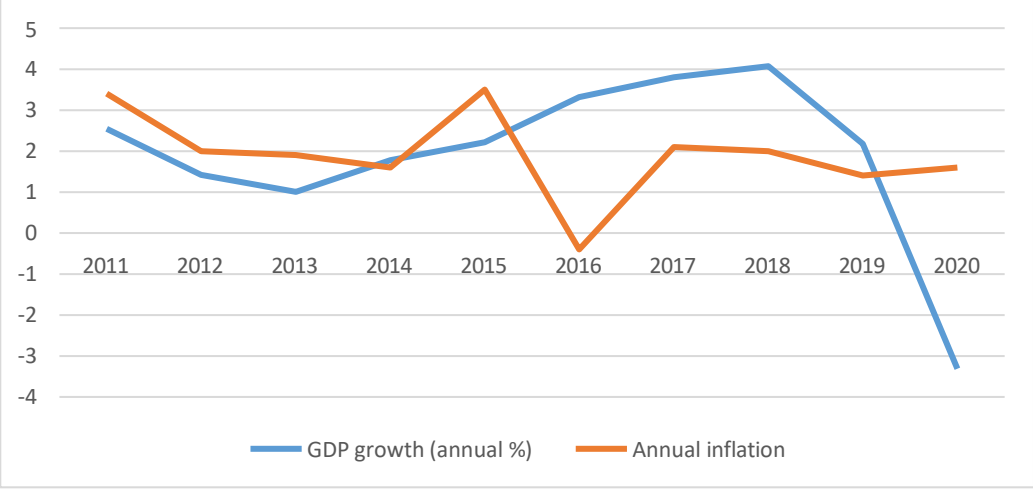
The economic performance has followed a positive trend from 2014 to 2018, reaching the highest value in the last ten years, about 4.1%. As in any other country, the Covid-19 pandemic brought a significant slowdown in the economy in Albania. After reaching the maximum point in 2018, economic growth entered a slowdown phase throughout 2019. During 2019 the growth was reduced to 2.24%, compared to 2018, showing a continuous slowdown. The first reason for the economic downturn is the water situation. The lack of rain caused not even half of the electricity a year ago to be exported. However, the global

COVID-19 pandemic forced significant economic sectors to close as reconstruction was underway. Business closures, downsized operations, and disrupted supply chains hurt production. The tourism season - a significant driver of growth - has been bleak.

The average Inflation for Albania in 2020 resulted at 1.6%. Although its performance has been volatile, influenced mainly by food prices, inflation has remained below the target level, and inflationary pressures remain insufficient for its target return. All Western Balkan countries recorded contractions in economic activity in the third quarter of 2020, reflected in all demand components.

The Bank of Albania has achieved its primary target of maintaining price stability, contributing to an average inflation rate of 3.4 % in 2008. Against this backdrop, in 2009, it successfully kept inflation on track and anchored inflationary expectations with an average rate of 2.2%, while throughout the year, it fluctuated within the targeted band. The price stability was achieved in 2010, in which the annual average inflation resulted in 3.6%, remaining within the target band.

Graph 1: Inflation rate and growth rate for the period 2005-2020



Source: Bank of Albania, 2020

Despite the inflationary effects of supply shocks, increased administered prices, and depreciated exchange rates, the proper monetary policy maintained inflation at low levels. In 2011 primarily due to shocks from the global economy, the average annual inflation 2011 was 3.50%, and in 2012 was 2,00%, still within

the target band. In 2013 and 2014, the average rate was 1,93% and 1,61%, respectively, pursuing a downward path, but in 2015 slightly increased to 1,91%. In 2016 was 1,30% and below the target band, but in 2016 and 2017 shifted upward and continued to reach the target. The period 2017-2019 shows a downward trend in inflation with an annual average of 1.8%, while in 2020, the level of inflation marks an increase of 0.2 percentage points (Graph 1).

In addition, the deviation of the medium-term inflation forecast from the targeted one will indicate existing inflationary pressures in the economy and a sign that monetary policy should react. The global theory and practice suggest that maintaining a stable level of prices is the central bank's most significant contribution to sustaining the country's long-term economic growth. Moreover, by ensuring price stability, the Bank of Albania directly contributes to sustaining the macroeconomic balances in the country, lowering the risk premium, promoting stable economic growth and improving long-term welfare, and safeguarding the financial system's stability.

The exchange rate has fluctuated relatively with Albania's European currency (euro) over the last ten years. The local currency fluctuation against the US dollar has followed the same trend. From 2010 -to 2015, the average exchange rate was 1 euro = 140 lek, thus making our national currency depreciate against the European currency. At the same time, November 2015 and the following years marked an appreciation of the national currency against the euro. According to the financial report of the central bank (2015), the appreciation means the reduction of competition in international markets and brings a significant increase in imports. The surplus behavior of the Lek in nominal and real terms has reflected our country's economic stability and comparable inflation levels with the main partners. The surplus position of the Lek against the euro and the US dollar in recent years and the growing pace of domestic exports have affected the stability of the nominal effective exchange rate index.

The exchange rate was characterized by trading within normal parameters of foreign currencies, a slight seasonal appreciation of the Lek against the euro, and a strong appreciation against the American dollar during 2019. The euro/lek exchange rate was 124.0 lek/euro in October 2020, staying close to its average since May of the same year. It fell to 123.8 lek/euro in November and 123.5 lek/euro. This performance aligned with seasonal behavior, but seasonality appeared weaker than in previous years. On average, one dollar was quoted at 101.6 lekë this month, from 105.0 lekë in August-November 2020. The exchange rate did not change significantly in the first weeks of January.

In terms of Trade balance, Albania is characterized by the highest level of exports compared to imports, which means it is an economy with a negative trade balance. A slight export increase characterizes 2012-2019 compared to imports, but the balance remains negative again. The highest value of exports was reached in 2015 with about 4.8 billion leks, decreasing by 29% at the beginning of 2020. In 2020, the Western Balkans recorded a trade surplus of 7.9 billion euros.

Foreign Direct Investments (FDI) are an essential source of capital financing in small economies such as Albania. Until 1990, isolated Albania banned foreign investment. Especially after the fall of the communist regime, foreign investors began to invest more and more in Albania. Foreign Direct Investment is a factor that strongly affects the development process by helping the development of the business sectors and bringing growth to the overall performance of an economy. Following a period of limited investment, owing to the political and economic instability experienced by WB countries in the immediate post-communist years, FDI inflows into the region increased substantially over the next twenty years. With the return of political stability in the following years, FDI inflows grew relative to the transitioning period but remained lower than in 2007. Following a sharp decline between 2012 (3.83 billion) and 2017 (4.73 billion), the WB6's aggregate FDI inflows continued upward, reaching 7.24 billion in 2019.

The increase in **Money Supply** leads to an increase in inflation, and as a result, this situation negatively or positively affects the economy. Adverse effects include a decrease in the real value of the currency, discouragement of investments or savings, and a lack of goods motivated by impulsive purchases due to a possible increase in product prices. A positive effect is that the country's central banks will have to adjust nominal interest rates to stabilize the economy, thus mitigating the economic recession and unemployment. The money supply has had an upward trend in the last ten years, reaching the highest level in 2020, with about 144.13% of GDP. Monetary policy has stimulated the economy, lowering interest rates, leading to lower borrowing costs and consequently increasing the percentage of domestic credit provided by the financial sector.

According to the literature, **gross national savings** and economic growth are positively correlated, so we include these indicators in our study. According to the data obtained from the World Bank for the case of Albania, the national savings rate is declining due to the financial crisis of 2008 as a result of the pandemic and the policy pursued by the BOA to reduce interest rates, making them, in this case, non-attractive opportunities to save. As a result of the

reduction of interest rates, a monetary policy indicator drafted by the Bank of Albania has led to the reduction of the savings rate in the Albanian economy. The increase in the budget deficit and the total debt has reduced government expenditures, thus affecting the fall of the savings rate in the Albanian economy.

External debt- is part of a country's working debt and directly impacts the economy. External debt negatively impacts the GDP per capita level, and interest rate risk; refinancing debt also has an exchange rate risk. According to the literature review, countries with high levels of public debt go straight into a financial crisis, so the government must be careful in public borrowing and reduce external public debt. According to Eurostat data, in 2020, government debt increased throughout Europe due to the adverse effects of the pandemic crisis. Albania was ranked 13th for the highest debt-to-GDP ratio in 2020 among 36 European countries. During the pandemic, the public debt increased by 11.6 percentage points, reaching the end of 2020 at 77.8 percent from 66.2 percent at the end of 2019.

4. Monetary policy instruments

The Bank of Albania, through the two main instruments, was implementing the monetary policy, which in itself consisted of two administrative decisions. Firstly, limiting the excessive growth of outstanding credit of commercial banks; and secondly, setting an obligation for the state-owned banks (or the banks in which the state had a share of capital) to respect the minimum level of interest rates announced by the Bank of Albania for time deposits in domestic currency Albanian Lek[10]. Since the banks were not responding to the decreasing administrative rate, this was a sign of redesigning the monetary policy framework. More specifically, it decided to set the interest rate of the repurchase (reverse) agreements as a benchmark policy rate with one-week maturity, and these transactions were to be conducted through regular weekly auctions. The following describes the Bank of Albania's instruments during the last 20 years.

5. Open market operations

The open market operations are primary, fine-tuning, and structural operations. Based on the instruments ' lifetime, repurchase and reverse repurchase agreements are used as the primary open market and fine-tuning operations. Outright sales of securities purchases are instruments used in structural

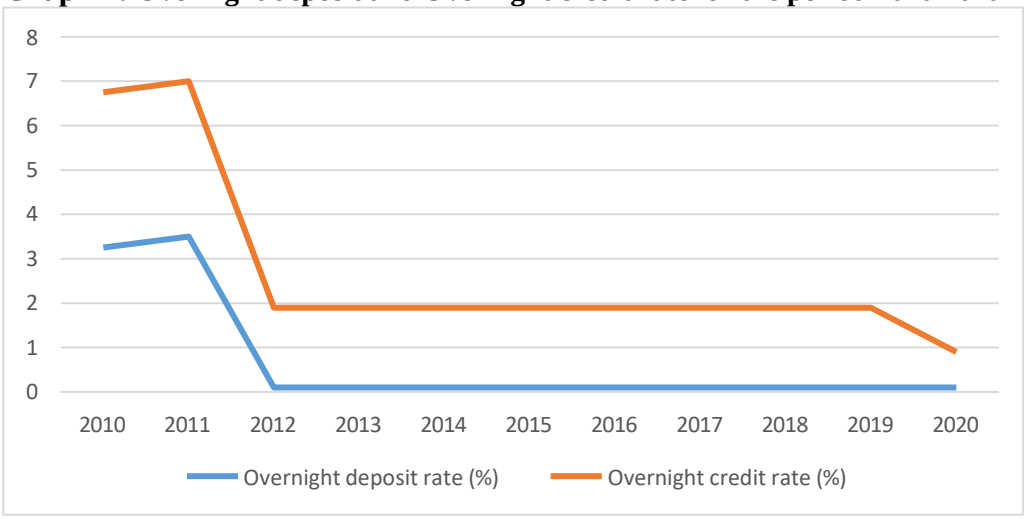
[10] The LEK (sign: L; code: ALL) is the official currency of Albania

operations. Since the end of 2008, the Central Bank of Albania has continuously decreased the key policy interest rate, and in 2016 reached 1,25%. In 2018 the BoA decided to lower it to 1,00%, which maintained the base interest rate unchanged, at the same level reaching a historically low level.

6. Standing Facilities instruments

Permanent Facilities instruments tend to influence the short-term interest rate and control market liquidity. Commercial banks exclusively initiate them. Overnight deposit is a short-term investment standing facilities instrument available to all commercial banks and foreign bank branches that account with the Bank of Albania to invest their overnight excess liquidity at a pre-determined rate. Also, the Overnight loan is a standing facility instrument that provides overnight liquidity. The overnight deposit and credit rate decreased from 2007 to the first quarter of 2011. In 2011 the Central Bank of Albania needed to intervene due to inflation pressure. They were increasing the rates for an overnight deposit from 3,25% to 3,50% and the overnight credit rate from 6,75% to 7,00%. Since the last quarter of 2011, the Central Bank has been implementing expansionary monetary policy by continuously decreasing the interest rate for the overnight deposit facility remaining at 0.10%, and the interest rate for the overnight credit facility unchanged at 1.90% since the last change in 2018 (Graph 2). The performance of overnight deposits and credit interest rates has been downward due to an expansionary monetary policy pursued by the Bank of Albania to inject liquidity into the financial system.

Graph 2: Overnight deposit and Overnight credit rate for the period 2010-2020

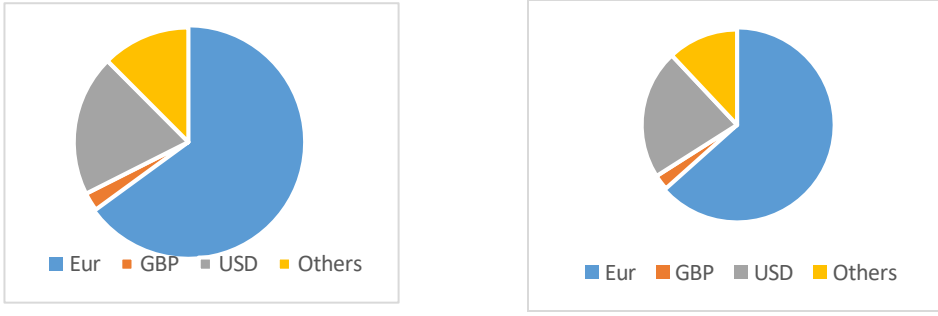


Source: Bank of Albania, 2020

7. Monetary Reserves

The Bank of Albania requires all commercial banks operating within the territory of Albania to hold a certain amount of minimum reserves in Albanian Lek and foreign currency. Through the required reserve instrument, the Bank of Albania aims to adjust the money supply and liquidity in the banking system and steer interbank rates (Department, Monetary Policy, 2015). The graph below represents the trend of foreign exchange reserves, increasing from 1,912 million EUR in 2011 to 2,995 million EURO in 2017. According to the annual report of the Bank of Albania, at the end of December 2019, the foreign exchange reserve stock amounted to Euro 3,359.70 million, including monetary gold, in the amount of Euro 119.34 million or 3.6% of the total reserve. Also, at the end of December 2017, the composition of the foreign reserve by currency was: 22,00% USD; 63,40% EUR; 2,60% GBP, and the remaining 12,00% other currencies. While at the end of 2019, the composition by currencies of the gross foreign exchange reserve reported by the Bank of Albania was: USD 20.0%; EUR 65.1%; GBP 2.6%; other currencies 12.5%. As can be seen from the chart, 2019 marks a slight increase in euro foreign exchange reserves by about 1.7% and a decrease in USD foreign exchange reserves by about 2%. Therefore, foreign currency purchase operations were implemented for an adequate period to achieve the relevant goals. Albania's central bank intervention is expected to have limited effects on the exchange rate regime, considering the presence of euros in the local market. The level of the euro currency is expected to increase inflows as the tourist season enters its peak and dozens of Albanian migrants come home to spend their summer vacations, bringing cash remittances to their family members.

Figure 1. Foreign currency reserves in the Albanian economy

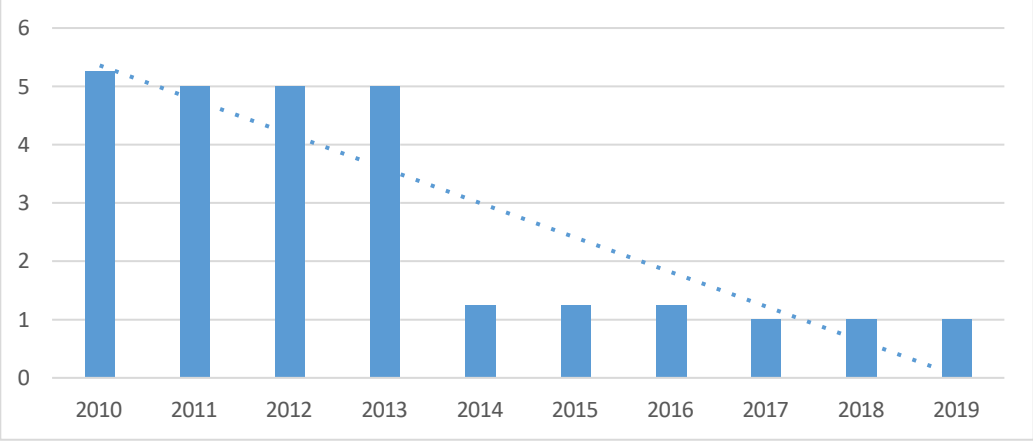


Source: Bank of Albania, 2020

The Bank of Albania pursues a managed free-floating exchange rate regime, which means that the Bank of Albania determines the Lek's value against foreign currency and has a right to flexibility in achieving the inflation target. However, intervention in the market is infrequent for the Bank of Albania, which has maintained a free-floating currency regime since 1992. Since 2016 the Leek has been straightening against the euro. In 2018 the BoA intervention in the currency market, avoiding further strengthening the Lek against the European currency. This is through threatening to lower inflation and delay its return to the bank's target.

Economic activity and inflationary pressures have receded and are triggered by the global financial and economic crisis. The deposit withdrawal from the commercial banks in Albania at the end of 2008 increased the liquidity shortage, and consequently, the Bank of Albania applied changes to some of its instruments. In response to the weak aggregate demand and inflationary pressure, the Bank of Albania introduced an expansionary monetary policy by cutting the key interest rates from 6.25% to 5.75% at the end of 2008. Further cutting was implemented in 2010 to 5.25%, after getting 5.00%. Also, in 2011 year slightly increased and went back to 5.25%. Since 2011 the National Bank of Albania has continuously decreased the critical policy rate year over year because the inflation is relatively low, and it decided to keep with lower interest rates. In 2019, the interest rate is currently standing at 1.00%, which is the lowest historical level to stimulate investment and consumption (Graph 3).

Graph 3: Main key policy interest rate for the period 2007-2020



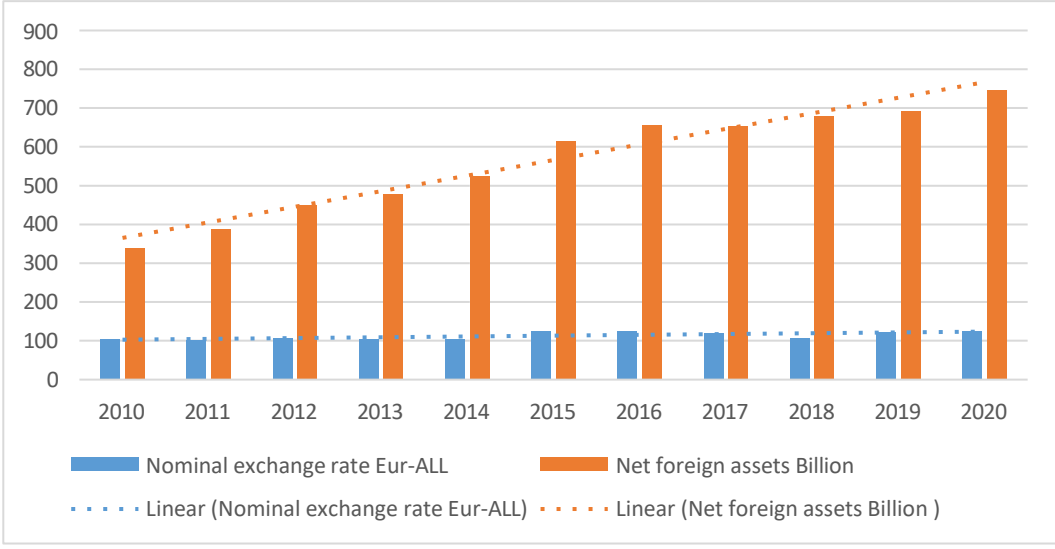
Source: Bank of Albania, 2020

Regarding the foreign exchange rate, the National Bank of Albania intervenes when necessary to smooth fluctuations of the Lek versus the euro. The Albanian

Lek appreciated further in 2017, and the national currency strengthened against the currencies of the leading trade partners in 2017. The appreciating trend of the Lek has reflected the acceleration of real economic growth, the decrease of the current account deficit, and the high foreign currency inflows from foreign direct investments. The appreciation intensified during 2017 due to the plentiful foreign currency supply in the market, the rapid increase of exports, and higher flows of foreign direct investments. The local currency posted record-high levels in June 2018 when the exchange rate was around 124.18 to the euro.

Therefore, the signal for the National Bank to purchase foreign currency aimed to eliminate the temporary excess of euros in the market and decelerate the further appreciation of the exchange rate, which was expected to hamper price stability. Graph 4 represents the trend of the nominal exchange rate and the foreign reserves. It can be concluded that since the strengthening of the Lek in 2016, the National Bank of Albania has been purchasing foreign currency.

Graph 4: Nominal exchange rate and net foreign assets in billion



Source: Bank of Albania, 2020

8. Conclusions

In this paper, the monetary policy instrument of the Bank of Albania has been studied. Some main conclusions based on the data analyses are as follows:

- Concerning Albanian trade, imports are much more sizeable than exports. The share of exports in the balance of payments is relatively

low. For this reason, the pass-through of the exchange rate on export prices into the volume of exports and economic growth is limited.

- The effects of the global crisis are indirectly spread into the Albanian economy because the most important commercial partners to Albania are Italy and Greece, two countries in the Eurozone in a severe financial and internal debt crisis.
- During the last five years, the Albanian economy has encountered difficulties due to the asymmetric demand and supply shocks imported by the foreign financial markets. Also, the intern environment was characterized by low demand for consumption and investments and high public debt.
- The Bank of Albania pursues a managed free-floating exchange rate regime, which means that the Bank of Albania determines the Lek's value against foreign currency and has a right to flexibility in achieving the inflation target. However, intervention in the market is infrequent for the Bank of Albania, which has maintained a free-floating currency regime since 1992. Since 2016 the Leek has been straightening against the euro. In 2018 the BoA intervention in the currency market, avoiding further strengthening the Lek against the European currency. This is through threatening to lower inflation and delay its return to the bank's target.

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THE IMPACT OF DIGITALIZATION ON EDUCATION

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Abstract

Education is one of the world's most important industries, constituting more than 6% of GDP. Global educational expenditures are expected to nearly double in the next five years, amounting to $404 billion by 2025. In many ways, this enhances the impact of digitalization on education. Within this context, my paper aims at providing answers to the following questions: How does digitalization help the education industry to improve the learning process for both students and teachers, including other people engaged in the process? What kind of opportunities does digitalization in higher education enable? Why is digitalization for educational institutions a huge step forward in enhancing the learning process and automating several operations? What are the key areas of digitalization in the education industry? What are the top trends of digitalization in education for 2023? What are the key technologies that make digitalization in education possible? What are the challenges of digitalization in education? What is the digital future of education?

Key words: education; digitalization; technology; managing admissions; minimizing risks; improving learning outcomes; evaluating performance.

1. Introduction

The advent of digitalization has brought about a significant transformation in multiple facets of society, one of which is education. The incorporation of digital technologies and tools within educational environments has resulted in noteworthy transformations in pedagogical and learning methodologies, educational availability, and the broader educational milieu. This article aims to explore the impact of digitalization on education comprehensively, examining its effects on various dimensions and discussing both the benefits and challenges associated with this technological shift.

The rapid advancement of technology and the ubiquitous presence of digital devices have reshaped the way education is delivered and received. It is crucial to comprehend the implications and potential for the positive transformation of digitalization as educators and policymakers explore its integration into educational systems. By analyzing research, scholarly discussions, and practical examples, this article aims to provide an in-depth examination of the impact of digitalization on education.

The following sections will examine specific aspects of this impact. The second section of the paper will investigate the impact of digitalization on educational practices, with a particular emphasis on the technological instruments and materials that are at our disposal, as well as the pedagogical methods that have arisen as a consequence. In Section 3, the impact of digitalization on educational access and equity will be analyzed. Specifically, the discussion will focus on how digitalization has effectively addressed geographical barriers and fostered inclusivity. Section 4 will entail an examination of the dynamic educational milieu and the changing roles of educators in the context of the digital era. Section 5 will provide an analysis of the obstacles and factors that need to be taken into account in relation to the process of digitalization in the field of education.

By understanding the transformative potential of digitalization in education and addressing the associated challenges, educators, policymakers, and stakeholders can effectively harness the benefits of this technological revolution to create a more inclusive, engaging, and effective educational experience for learners.

In conclusion, this article aims to provide a comprehensive analysis of the impact of digitalization on education. By exploring the changes in teaching and learning, educational access and equity, and the overall educational landscape, it aims to shed light on the potential benefits and challenges of this technological shift. By doing so, this article contributes to the ongoing discussions on the integration of digitalization in education and provides insights for future developments in the field.

2. The impact of digitalization on pedagogical practices and educational processes

The incorporation of digital technology in education has brought about a substantial alteration in pedagogical methods and learning methodologies. This section delves into the impact of digitalization on said processes, emphasizing the technological instruments and resources at hand as well as the pedagogical methodologies that have arisen as a consequence.

Digitalization has brought forth a wide range of technological tools and resources that have revolutionized teaching and learning. These tools have the potential to enhance engagement, interactivity, and personalization in the educational experience. Some notable examples include:

a) Interactive Whiteboards: Interactive whiteboards replace traditional blackboards and allow teachers to display multimedia content, annotate,

and interact with digital resources during their lessons. This visual and interactive medium enhances student engagement and facilitates dynamic classroom discussions.

b) Mobile applications that are specifically designed for educational purposes offer access to interactive learning materials, practice exercises, and educational games. These apps can be used both in the classroom and for independent study, enabling students to learn at their own pace and reinforcing concepts through interactive activities.

c) Online learning platforms, such as web-based learning management systems (LMS), serve as a means of delivering online courses, virtual classrooms, and blended learning experiences. These platforms offer features like discussion forums, multimedia content, and online assessments, enabling asynchronous and synchronous learning opportunities.

d) Virtual Reality (VR) and Augmented Reality (AR): VR and AR technologies create immersive learning experiences by simulating real-world environments or overlaying digital content onto the physical world. The aforementioned technologies possess the capability to augment comprehension and involvement, specifically in disciplines such as science, geography, and history.

The advent of digitalization has also facilitated the emergence of novel pedagogical methodologies that utilize technology to augment educational achievements. The aforementioned methodologies place emphasis on active learning, collaborative efforts, and critical analysis, thereby affording learners greater autonomy in their academic pursuits. Some notable pedagogical approaches that have emerged as a result of digitalization include:

a) The flipped classroom model which entails the pre-class access of instructional content, such as online resources or recorded lectures, by students. The time allocated for classroom instruction is subsequently utilized for cooperative endeavors, discourse, and the practical implementation of acquired knowledge under the guidance of the educator. This approach allows for personalized and interactive learning experiences.

b) Blended Learning which combines traditional face-to-face instruction with online learning components. The learning approach provides students with the opportunity to engage in a combination of in-person and online activities, thereby affording them flexibility in terms of the

time, place, and pace of their learning. Blended learning modalities possess the capacity to be tailored to the specific requirements of individual learners and offer prospects for self-directed learning.

c) Gamification is a technique that incorporates game components, such as rewards, badges, points, and leaderboards, into educational tasks to increase engagement and motivation. The utilization of interactive and immersive techniques in the learning process has the potential to enhance student engagement and motivation, resulting in a more enjoyable learning experience and an increased likelihood of achieving educational objectives.

Digitalization has the potential to facilitate personalized learning experiences that are customized to the unique needs, interests, and learning styles of individual students. Adaptive learning platforms and intelligent tutoring systems utilize student performance data to offer personalized content and feedback, enabling learners to advance at their own pace and obtain tailored assistance.

The utilization of digital tools and resources in pedagogical approaches enables students to assume an active role in their learning process, cultivate critical thinking abilities, and encourage collaborative and creative practices within the classroom.

In summary, the impact of digitalization on pedagogical and educational processes is noteworthy. The implementation of technological tools and resources, such as interactive whiteboards, educational applications, online learning platforms, and virtual and augmented reality technologies, has revolutionized the educational landscape by augmenting engagement and interactivity within the learning environment. In addition, there has been a proliferation of pedagogical methodologies such as the flipped classroom, blended learning, gamification, and personalized learning that have demonstrated efficacy in utilizing technology to enhance educational achievements. With the ongoing evolution of digitalization, educators are presented with the chance to investigate and utilize these tools and pedagogical methods in order to establish dynamic and learner-focused learning settings. The provision of sufficient training and support to educators is of paramount importance in enabling them to proficiently incorporate digital tools into their pedagogical approaches and modify their instructional methodologies to optimize the advantages of digitalization.

It is imperative to acknowledge that the implementation of digitalization in education cannot be universally applied. The process of selecting and incorporating technological tools and pedagogical approaches should be guided

by educational objectives, the requirements of students, and the specific circumstances under which they are employed. Furthermore, it is imperative to exercise prudence in guaranteeing the impartial availability of technology and resources to all students, thereby reducing the likelihood of exacerbating educational inequalities.

Prospective investigations and continuous career advancement prospects may facilitate a more profound comprehension of the optimal methodologies for incorporating digitalization into educational procedures. Through the adoption of innovative pedagogical approaches and the recognition of the transformative potential of digitalization, educators can develop educational experiences that are both engaging and inclusive, thereby equipping students with the necessary skills to meet the demands of the digital era.

To conclude, the process of digitalization has had a significant influence on the methods of teaching and learning within the realm of education. The utilization of technological tools and resources presents novel prospects for engagement and customization, whereas pedagogical methodologies that prioritize active learning and collaboration enable students to assume responsibility for their own education. Through the utilization of digitalization's advantages and the ongoing enhancement of instructional methodologies, educators can establish a dynamic and efficient learning milieu that equips students with the necessary skills for triumph in the digital age.

3. The effects of digitalization on educational access and equity

The present study aims to investigate the effects of digitalization on educational access and equity. The process of digitalization has had a significant impact on enhancing educational accessibility and fostering equity through diverse means. This section delves into the ways in which digitalization has effectively transcended geographical limitations and fostered inclusivity, thereby guaranteeing universal access to educational opportunities irrespective of one's location or personal circumstances.

Digitalization in education offers a notable benefit in terms of surmounting geographical limitations. The emergence of online learning platforms, virtual classrooms, and internet-based educational resources has expanded the reach of education beyond geographical constraints. The aforementioned circumstance bears noteworthy ramifications for individuals residing in distant or underprivileged regions who may encounter obstacles in obtaining a high-quality education.

The process of digitalization has facilitated the ability of students residing in remote areas to access proficient educators, educational establishments, and resources that were previously inaccessible. The advent of online courses and virtual classrooms has facilitated the provision of remote learning opportunities, thereby enabling students to access top-notch education without the necessity of physical relocation. This phenomenon eradicates the hindrances posed by geographical remoteness, transportation, and inadequate local educational facilities, thereby enabling individuals residing in remote areas to pursue educational prospects and acquire knowledge and competencies essential for their personal and professional advancement.

Moreover, digitalization enables the facilitation of collaborations and exchanges among educational institutions situated in diverse geographical locations. The employment of virtual conferences, webinars, and online collaborative projects has facilitated the ability of students and educators to establish connections, exchange ideas, and acquire knowledge from a variety of viewpoints, irrespective of their geographical location. This facilitates a worldwide educational encounter, advancing cross-cultural comprehension and equipping learners for an interconnected and interdependent global community.

The process of digitalization possesses at the same time the capacity to enhance inclusiveness through the mitigation of educational inequalities and the provision of support for a wide range of learner requirements. The program provides tailored educational experiences that accommodate diverse learning styles, preferences, and needs, thereby promoting equitable and significant learning opportunities for all learners. The digitalization process has been observed to facilitate inclusivity in several ways.

The integration of digital tools and platforms in education has facilitated the provision of accessibility features, including alternative input methods, closed captions, and screen readers, which enhance the accessibility of educational content for students with disabilities. In addition, the implementation of assistive technologies and specialized software facilitates the fulfillment of individual requirements, thereby empowering students with disabilities to engage in educational pursuits and attain equitable access to learning opportunities.

Digitalization facilitates differentiated instruction, a pedagogical approach that customizes educational content and activities to cater to the varying needs and abilities of students. Adaptive learning platforms employ algorithms to assess student performance data and furnish individualized recommendations, interventions, and feedback. The implementation of personalized support and

challenges tailored to individual progress fosters improved learning outcomes and inclusivity among students.

Digitalization provides adaptable learning alternatives that accommodate non-conventional learners, including mature learners, employed individuals, and individuals with familial obligations. The availability of online courses, distance learning programs, and self-paced study materials has facilitated the pursuit of education by individuals at their own convenience and pace. This has eliminated obstacles to access and created opportunities for lifelong learning.

The process of digitalization enables language accessibility by means of translation tools, platforms that support multiple languages, and the provision of subtitles or transcripts in various languages. The practice of providing educational content in the language of choice for students from diverse linguistic backgrounds fosters equal participation and understanding, thereby promoting inclusivity.

The potential of digitalization to foster inclusivity necessitates addressing the digital divide and ensuring equitable access to technology and internet connectivity. It is imperative to undertake endeavors aimed at mitigating the disparities in infrastructure, affordability, and digital literacy proficiency to prevent the exacerbation of pre-existing inequalities.

To conclude, the process of digitalization has had a noteworthy impact on the accessibility and equity of education by surmounting geographical obstacles and fostering inclusiveness. The utilization of technology in education has enabled individuals residing in remote or underserved areas to access educational opportunities, fostered global collaborations between institutions, and catered to the diverse needs of learners. Through the utilization of digital technology and the mitigation of access discrepancies, education can attain greater inclusivity and equity, thereby affording all individuals the chance to acquire knowledge, cultivate competencies, and fulfill their educational objectives, irrespective of their geographical location or personal circumstances. The imperative for policymakers, educators, and stakeholders to persist in their efforts to narrow the digital divide and guarantee universal access to digital resources and connectivity, with a particular focus on marginalized and underserved communities, cannot be overstated.

In addition, it is imperative to conduct continuous research and evaluation to gauge the efficacy of digitalization in advancing educational accessibility and equity. Through the systematic monitoring of the effects of digital initiatives, identification of obstacles, and implementation of focused interventions, educational systems can consistently enhance and fine-tune their strategies to

optimize the advantages of digitalization for all students.

To summarize, the transformative effect of digitalization on educational access and equity is noteworthy. Through the surmounting of geographical obstacles and the promotion of inclusivity, the process of digitalization has broadened educational prospects, facilitated worldwide connections, and accommodated the diverse needs of learners. It is imperative to acknowledge the existence of the digital divide and strive towards providing fair and equal opportunities for technology and connectivity. Additionally, it is important to regularly assess and modify digital endeavors to foster an inclusive and equitable educational environment for all individuals.

4. The main changes in the educational landscape

The current digital age has brought about significant changes in the educational landscape, leading to the evolution of the roles of educators. The advent of the digital era has brought about also a dynamic educational milieu marked by technological progress, evolving pedagogical methodologies, and shifting expectations for educators. This section presents an examination of the changing educational environment and the evolving roles of educators in the era of digital technology.

The emergence of digital technology has resulted in a substantial shift in the approach to delivering and experiencing education. Incorporating technology in educational settings has become widespread, with instructors employing various digital tools, platforms, and resources to enhance the teaching and learning experience. Incorporating technology in education has led to a noteworthy shift in teaching methods, with educators actively seeking out novel strategies to augment student involvement and foster a deeper understanding of the subject matter.

Amidst the proliferation of digital technology, there has been a shift in the approach of educators from conventional lecture-oriented instruction to pedagogies that prioritize the learner. The adoption of active learning techniques, cooperative assignments, and technology-based problem-solving exercises is being observed. These approaches are being utilized to enhance critical thinking, creativity, and communication skills. The primary focus is on enabling significant and genuine learning encounters that equip students with the necessary skills to meet the requirements of the digital age.

In the contemporary era of technology, instructors have evolved from being mere conveyors of information to becoming enablers of education. The

educators provide guidance and assistance to pupils in navigating extensive digital resources, aiding in the cultivation of digital literacy proficiencies, critical evaluation aptitudes, and information management methodologies. Academic professionals in the field of education engage in the curation and recommendation of digital resources that are in accordance with curricular objectives. This practice guarantees that students are provided with pertinent, trustworthy, and current information.

In addition, it is imperative to acknowledge the pivotal role that educators play in cultivating digital citizenship and advancing ethical and conscientious utilization of technology. The educational institution imparts knowledge to its students regarding digital safety, privacy, and online etiquette, thereby equipping them with the necessary skills to navigate the digital realm in a responsible and respectful manner.

The process of digitalization provides educators with the ability to customize learning experiences and address the unique needs of individual students. By utilizing data-driven insights and adaptive learning platforms, educators can effectively pinpoint the strengths, weaknesses, and learning preferences of their students. This enables them to provide customized instruction and focused interventions. Educators have the ability to offer prompt feedback, monitor the advancement of their students, and modify their teaching methods to guarantee the achievement of every student.

In addition, educators are faced with the task of catering to the varying requirements of their pupils, which encompass individuals with learning impairments, English language learners, or students with exceptional abilities. In contemporary times, the era of digital technology has brought forth a plethora of assistive technologies, language learning platforms, and adaptive tools that facilitate differentiated instruction and foster inclusivity within the educational setting.

In the context of the swiftly changing digital era, it is imperative for educators to demonstrate a steadfast dedication to their own perpetual learning and ongoing professional growth. It is imperative for individuals to remain up-to-date with technological advancements, pedagogical innovations, and educational technology research. To achieve proficiency in this area, it is necessary to partake in continuous education, attend seminars and symposiums, engage in virtual communities of practice, and cooperate with peers to exchange optimal methodologies.

It is imperative for educators to possess the ability to adjust and exhibit receptiveness towards novel technologies and pedagogical methodologies.

Educators are expected to demonstrate a willingness to engage in experimentation, engage in reflective practice, and consistently improve their instructional approaches to effectively address the changing demands of their students in the digital era.

Ultimately, it can be inferred that the advent of the digital era has brought about significant changes in the realm of education, thereby necessitating a reevaluation of the responsibilities and functions of educators. Educators utilize technology to augment teaching and learning experiences as they serve as learning facilitators and digital resource curators. The educators adopt pedagogies that prioritize the learner, customize instruction, and foster inclusivity by employing diverse methods. Furthermore, educators place emphasis on their ongoing professional development to adeptly navigate the ever-changing educational landscape. Through the adoption of evolving roles and the accommodation of the requisites of the digital era, educators can endow students with the ability to flourish in a society propelled by technology.

5. The challenges and considerations about the digitalization of education

The advent of digitalization has yielded manifold advantages for the field of education. However, it has also engendered a host of challenges and factors that require careful attention and resolution. This section delves into the primary obstacles and factors to be taken into account in relation to the process of digitalization in the field of education

One of the foremost obstacles is the phenomenon of the digital divide, which denotes the disparity in technological and internet access across diverse communities and socioeconomic strata. Unequal access to digital resources can amplify educational inequalities, as students lacking access to technology may face a disadvantage in terms of accessing educational materials, engaging in online activities, and cultivating digital competencies. Achieving digital equity necessitates a collaborative endeavor to guarantee equitable availability of technological resources, reasonably priced internet connectivity, and comprehensive digital literacy education for every student.

A strong technological infrastructure and support are necessary for the successful incorporation of digital tools and resources in education. It is imperative for educational establishments to possess dependable internet connectivity, ample bandwidth, and current hardware and software. The lack of adequate technological infrastructure may impede the smooth utilization of digital resources and curtail the prospective advantages of digitalization.

Sufficient technical assistance and instruction for instructors are imperative to guarantee that they possess the requisite competencies and expertise to proficiently employ technology in their pedagogical approach.

The topic of privacy and data security is of utmost importance. The process of digitalizing education entails the accumulation and retention of extensive quantities of student information. The safeguarding of sensitive student information necessitates the prioritization of privacy and data security. It is imperative for educational establishments to comply with stringent data protection policies and establish reliable mechanisms and procedures to ensure the protection of student data against unauthorized access or breaches. It is imperative to establish unambiguous policies and procedures to apprise students, parents, and educators about the practices of data collection, storage, and usage. In situations where it is deemed necessary, consent should be obtained.

Another very important topic of discussion is digital literacy and information literacy. The incorporation of technology in the realm of education mandates the acquisition of digital literacy competencies by both instructors and learners. The concept of digital literacy pertains to the capacity to proficiently and analytically utilize digital instruments, assess digital data, and traverse digital interfaces. It is imperative that educators possess the requisite digital literacy skills to effectively incorporate technology into their pedagogical approach and facilitate the cultivation of digital literacy proficiency among their students. In addition, it is imperative for students to cultivate their information literacy competencies in order to evaluate the authenticity, precision, and pertinence of online information. This will equip them with the ability to effectively navigate the extensive array of resources accessible to them and assume accountability as conscientious digital members of society.

Pedagogical alignment and quality assurance are crucial components in ensuring the effectiveness and success of educational programs. The process of digitalization necessitates a thoughtful evaluation of its pedagogical alignment and quality assurance. The process of incorporating technology into educational practices should not be limited to a simple replacement of conventional techniques but rather should be in accordance with established pedagogical principles. It is imperative for educators to engage in a critical assessment of the caliber and efficacy of digital resources and ascertain that they align with the intended learning objectives. It is imperative to establish quality assurance mechanisms to assess the effectiveness of digital tools, platforms, and educational software. Furthermore, it is crucial to engage in ongoing evaluation and enhancement to uphold educational standards.

The topic of digital well-being and ethical considerations is also of great importance in contemporary society. The growing dependence on digital technologies in the realm of education has given rise to apprehensions pertaining to digital welfare and ethical deliberations. It is imperative to address the issues of students' screen time, digital distractions, and online safety in order to foster a healthy equilibrium between digital engagement and other dimensions of well-being. Furthermore, it is imperative to provide explicit instruction and reinforcement of ethical considerations pertaining to data privacy, online conduct, and responsible utilization of technology to foster the development of digital citizenship competencies and ethical digital behaviors among students.

6. Conclusions

Conclusively, the effects of digitalization on education are extensive and revolutionary. The utilization of technology has brought about a significant transformation in the methods of delivering, experiencing, and accessing education. The advent of digital tools, platforms, and resources has opened up novel prospects for active participation, customization, and cooperation in the educational sphere. The proliferation of information and learning resources available to students through digital means has expanded their opportunities for exploration and deepening of knowledge beyond what was previously feasible.

The incorporation of technology in the realm of education has resulted in a transformation of the responsibilities of educators, who have transitioned from being mere conveyors of knowledge to serving as facilitators of the learning process. The educators adopt novel pedagogical methodologies, utilize technology to establish interactive and student-oriented settings, and customize teaching to cater to the unique requirements of each learner. Educational professionals hold a crucial position in directing students, cultivating their digital literacy, and advocating for the conscientious and ethical utilization of technology.

The process of digitalization has played a significant role in mitigating geographical obstacles, fostering inclusiveness, and tackling educational inequalities. Students residing in geographically isolated or underprivileged regions can now avail themselves of superior education, establish connections with educators and classmates across the world, and participate in cooperative initiatives. The utilization of digital tools and adaptive technologies has facilitated the accessibility of education for students with disabilities, non-traditional learners, and individuals from diverse linguistic backgrounds.

The implementation of digitalization in education is not without its challenges and considerations. The equitable and meaningful integration of technology necessitates focused attention and concerted efforts in various areas, including but not limited to the digital divide, access disparities, technological infrastructure, privacy concerns, digital literacy, pedagogical alignment, quality assurance, digital well-being, and ethical considerations.

Achieving a balance between capitalizing on the benefits of technology and upholding pedagogical principles, prioritizing student-centeredness, and promoting holistic development is imperative when addressing the effects of digitalization on education. Sustained inquiry, assessment, and ongoing professional growth are imperative to remain current with technological progress and enhance pedagogical approaches for optimal utilization of digitalization.

In general, the process of digitalization holds the capacity to significantly transform the field of education, granting learners increased agency and equipping them with the necessary skills to navigate the complexities and possibilities of the digital era. Through the adoption of best practices, addressing challenges, and embracing the transformative potential of digitalization, education can enhance its inclusivity, accessibility, and effectiveness in equipping learners with the necessary skills, knowledge, and competencies to succeed in contemporary society.

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THE USE OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING TECHNOLOGY BY COMPANIES IN ALBANIA

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Abstract

Artificial Intelligence is being used more and more in the field of business and is transforming it dynamically. Artificial Intelligence and Machine Learning tools are radically changing the way businesses are conducting their day-to-day activities. According to the CIO survey by Gartner 2019, companies using Artificial Intelligence and Machine Learningtechnology have grown from 4% to 14% between 2018 and 2019. AI's potential contribution to the global economy could be $ 15.7 trillion, or an increase of 23% of global GDP in 2030, according to statistical data published on the website semrush.com. In any case, artificial intelligence will positively affect our society and lead us to redefine humanity. Although the potential of AI for companies has been proven, companies operating in Albania have been slow to use this technology. Very few studies have been conducted in Albania to understand the reason for this disturbing trend, and through this study we will present how Artificial Intelligence and Machine Learning technologies are used by companies in Albania, in which business operations they are used and the advantages that come from the use of AI .

Keywords: Artificial Intelligence, Machine Learning technologies, Business

1. Introduction

In the era of the Fourth Industrial Revolution, AI has been regarded as an essential innovation, and AI-based technologies have expanded their applications in various fields.

AI is a branch of computer science that is focused on developing a form of machine intelligence, similar to the natural intelligence found in humans that is able to learn and use deductive reasoning in a similar way to humans.

In business, artificial intelligence has a wide range of uses. In fact, most of us interact with AI in one form or another every day. Artificial intelligence is already changing almost every business process in every industry. As AI technologies proliferate, they are becoming imperative to maintain a competitive edge.

Numerous studies have been conducted on technology use and especially on Artificial Intelligence in recent years. Unfortunately, most of these studies were

conducted outside Albania. Therefore, there is a lack of reliable information about their use by businesses in Albania. As a result, there are few studies in this field. This study aims to address this challenge and to go further in determining the factors that influence the use and integration of Artificial Intelligence and Machine Learning technology by Albanian companies. Rona is the first voice robot and the only one so far implemented in Albania by Raiffeisen bank, which serves customers more and more, faster, every day 24/7, replacing traditional communication channels, such as: phone or email and save time, because it is not necessary to appear in the branch, to get information on banking products and services.

Through this study, we aim to measure the use of AI in companies operating in Albania, in which work processes they have implemented AI technology, where they intend to go in one year in relation to AI technology, how they see the return on investment ROI and how much stable and reliable are AI technologies for Albanian companies.

Purpose: The main purpose of this paper is to study the use of artificial intelligence in Albanian companies.

Objectives:

- To analyze the integration of AI technologies in companies in Albania;
- To identify operations that use AI technology;
- To present whether automation has affected employment needs.

The inferences obtained from the survey will provide a better understanding of the innovations, actual current degree of application and the impact of AI in businesses. In conclusion, the result analysis provides the answers to the following questions:

- In which business operations do the companies integrate AI technologies, which outcomes have archived and to what extent they realized value from AI initiatives?
- Do they have plans for the adaptation of new AI technologies in the coming year?
- How confident are the companies to measure ROI (return on investments) of current AI initiatives and Predict ROI of AI initiatives in the next 12 months?
- What do they do to develop AI systems that are responsible, fair, trustworthy and stable?

- How is the current general labor market impacting organization AI initiatives, do AI initiatives increase automation and reduce our general hiring needs?

The answers to the above questions will help the human society to get prepared for the future challenges and accept the rapid changes occurring with the use of AI in business.

To answer all these questions, we targeted 6 large businesses (Balfin Group, Agna Group, Vodafone, UnitSystem, Smartwork, OTP Bank), to which we conducted a structured interview.

This paper is organized as follows:

Section 2 is focuses on the literature review of the AI and today's reality in business; Section 3 provides the methodology and the survey data;

Section 4 illustrates the survey results and the answers of research questions; Section 5 provides the conclusions and directions for future research.

2. Literature review

We are living in such an exciting time in science and technology, where things are changing and developing quite quickly, but out of all developments, probably the most profound changes and advances will be in artificial intelligence. The future of Artificial Intelligence looks promising and will be the foundation of developments in science and technology during the coming decade.

Robots and artificial intelligence are becoming faster and smarter than ever before and making everyday life easier for people. Cars have already taken on many human roles, such as teachers, cooks, policemen, and drivers. Advanced technology is also revolutionizing and automating cars, restaurants and shops. Thanks to AI, an even more exciting future awaits us...

i. Artificial Intelligence

We can define AI as a branch of computer science that deals with the development of intelligent machines that can behave like humans, think like humans, and have the ability to make decisions on their own. With artificial intelligence, machines can have human-based abilities such as learning, reasoning, and solving logical problems.

AI is one of the fastest growing technologies that make human life much easier by providing solutions to complex problems.

According to Stanford researcher John McCarthy, “Artificial Intelligence is the science of creating intelligent machines, especially intelligent computer programs”. (McCarthy, J. 2007). Artificial Intelligence is related to the similar task of using computers to understand

human intelligence, but AI should not be limited to methods that are biologically observable. Simply put, the goal of AI is to make computers/software smart enough to mimic the behavior of the human mind.

Artificial intelligence is the ability of a computer system to mimic human cognitive functions such as learning and problem solving. Through AI, a computer system uses math and logic to simulate the reasoning that humans use to learn from new information and make decisions.

Artificial Intelligence refers to machine intelligence. This is in contrast to the natural intelligence of humans and animals. With artificial intelligence, machines perform functions such as learning, planning, reasoning and problem solving. More importantly, Artificial Intelligence is the simulation of human intelligence by machines. It is perhaps the fastest growing development in the world of technology and innovation. Moreover, many experts believe that AI can solve major challenges and crisis situations.

ii. Machine Learning

The ability of machines to continuously improve their performance without humans having to explicitly explain how to complete each task they are given is what makes artificial intelligence, namely machine learning (ML), the most significant general-purpose technology of our time. Machine learning has been much more efficient and accessible in the past few years alone. We may now create systems that develop the ability to carry out tasks on their own.

Machine Learning is an application of AI. It is the process of using mathematical models of data to help a computer learn without direct instruction. This enables a computer system to continue to learn and improve itself based on experience.

An "intelligent" computer uses AI to think like a human and perform tasks on its own. Machine learning is how a computer system develops its own intelligence.

iii. Artificial Intelligence in business

Artificial intelligence is increasingly being used in the field of business and is dynamically transforming it. It is fundamentally changing the way businesses are conducting their day-to- day activities. Although AI is now used by thousands of businesses around the world, most of its important prospects are still untapped. The impact of AI will grow over the next ten years, as incorporating AI into almost every work process such as: manufacturing, retail, transportation, finance, healthcare, law, advertising, insurance, entertainment and education will transform the operations of its main and business models.

Artificial intelligence applications use technologies that include natural language processing, speech recognition, machine learning, robotics, and computer vision. These technologies offer a number of opportunities for business.

We can mention some of the advantages of AI in the field of business:

- Automating Workflows - By automating typical tasks, AI can improve the efficiency of a company's workflow. This enables the workforce to focus on the work that matters most and complete tasks faster. Additionally, AI can facilitate market research and facilitate data analysis for decision makers.
- Virtual support - Voice commands can be understood by a virtual AI assistant, which can then fulfill the user's requests. With the help of AI technology, businesses can communicate with tens of thousands of customers every day. These systems keep in touch with both social media and the market in real time. Numerous firms have already used chatbots to help them with a variety of activities, including dealing with customers and alerting employees. The best virtual assistants available right now are Alexa, Google Assistant and ELSA Speak. AI virtual assistants can enhance a company's capability and position it in a world of more sophisticated technology.
- Behavioral recognition - Businesses that deal directly with customers are often looking for new ways to understand their behavior. They now have it easier thanks to AI. Current AI systems can monitor, evaluate and understand human behavior thanks to Machine Learning. Some can also determine whether a customer's response is "reasonable" or "normal", helping companies detect exceptional customer circumstances. Such AI algorithms can also be used by businesses to identify employee actions. Additionally, AI can improve a company's security network. Certain

technologies can identify errors, reduce the risk of cyber attacks, and alert managers to malicious attempts to access corporate data.

However, many irrational expectations have been raised about AI, as with many other new technologies. We can mention some of the risks of using AI:

- Mistakes - Mistakes can seriously damage a company's reputation and infrastructure. Because of this, using AI for coding and programming can be dangerous. Especially if you own a business or e-commerce website, an error can cause the company's main frameworks to break. Errors in coding or programming can be quite expensive.
- Exposure to cyber attacks - Cyber attacks are a very common occurrence today. Cyber attacks can cost business money and cast doubt on its security procedures. Cyber attacks continue to pose a serious threat to businesses that rely on AI systems.
- Inhuman behavior - Even if AI can convincingly replicate human behavior, there is still room for improvement. Sometimes, an AI-powered chatbot answers a customer's question insensitively as it is unable to understand human emotions. Such "robotic" perceptions can irritate or frustrate a consumer, which can lead to the loss of a customer.

Companies today have more access to data than ever before. According to Forbes, the amount of data created and consumed increased by 5000% between 2010 and 2020. With the help of emerging technologies, companies are now able to capture user data that can help them make decisions informed about their business. The applications of Artificial Intelligence range from detecting trends in data to mitigate market risks, enhancing customer service through virtual

personal assistants, or even analyzing millions of documents across a company’s servers to find compliance failures.

According to the Forbes Advisory survey, businesses are using AI in a wide range of areas, such as: customer service (56%), cyber security and fraud management (51%), customer relationship management (46%), personal assistants digital (47%), inventory management (40%) and content production (35%), product recommendations (33%), accounting (30%), supply chain operations (30%), recruiting and sourcing talent (26%) and audience segmentation (24%).

The most widespread use of AI in businesses is in customer service and cyber security and fraud management, while the least common use is in talent recruitment and audience segmentation.

Some facts about the use of AI in business and the effects that it brings:

- 93% of organizations have tested, used, or deployed AI or are in the process of doing so.
- 91.5% of leading businesses, including Amazon, Apple, and Meta, are investing money to develop AI further.
- The global AI market is worth $387.45 billion and is expected to reach $1.39 trillion by 2029.
- 79% of sales and marketing leaders reported that AI has helped their companies increase revenue.
- 64% of companies that have implemented AI have experienced an increase in productivity.
- AI is projected to contribute $15.7 trillion to the global economy by 2030. The global AI market size was worth $62 billion in 2020, and is expected to have an annual growth rate of 40.2% from 2021 to 2028, according to Grand View Research.
- 56% of respondents in McKinsey's "The state of AI in 2021" survey report adopting AI, up from 50% of respondents in 2020.
- IT analyst firm Info-Tech Research Group reports that 44% of private sector companies plan to invest in AI systems in 2023.
- 63% of surveyed companies plan to increase spending on implementing AI technology in 2023.
- According to Salesforce, 23% of customer service companies currently use AI.
- 80% of retail executives expect their companies to adopt AI-powered intelligent automation by 2027.
- IBM reports that using chatbots can reduce customer service costs by up to 30%.
- 40% of people use the voice search function at least once a day.
- Gartner also tells us that customer satisfaction is expected to increase by 25% by 2023 in organizations using AI.
- Entertainment giant Netflix reports saving $1 billion a year by using AI tools.

- The global AI market size was worth $62 billion in 2020 and is expected to grow at a CAGR of 40.2% from 2021 to 2028, according to Grand View Research.

These facts demonstrate the huge and undeniable effect of AI on business today. They also show that most businesses are in the process of adopting or expanding its use. Given AI's rocky start in public perception, these advances are surprising.

Introducing artificial intelligence into a business operation allows companies to quickly complete their business opportunities, eliminate errors, increase transparency and increase revenue by leaps and bounds. (Paliwal, Patel, Kandale, Anute, 2021).

It is very difficult to determine whether AI technology will create new jobs in the future, but it is easy to see how it could be useful for humans. (Geisel, 2018).

A benchmarking study by research firm ESI ThoughtLab that was sponsored by Deloitte recently examined how businesses are approaching their AI implementations, what value they are seeking and what they are doing. Currently, businesses are generally reaping a return on their AI investments. According to the report, the top areas for returns are planning and decision-making (66%), IT operations and infrastructure (69%), and customer service and experience (74%). Although encouraging to observe, some businesses have yet to see a return on investment.

According to the report, businesses are currently benefiting from their AI deployments in five key areas: improved productivity, improved staff engagement, increased customer satisfaction and retention, increased profitability, and new goods and services. Leaders predict that these top five categories will not change over the next three years. However, the percentage of those who expect value from new AI-powered products and services doubles, from 19% to 42%.

According to the article “Artificial Intelligence and Employment: New Cross-Country Evidence” (Georgieff and Hyee, 2022) partial automation by AI directly increases productivity, shifting the task composition of occupations towards higher value-added tasks. This increase in labor productivity and output counteracts the direct displacement effect of automation through AI for workers with good digital skills, who may find it easier to use AI effectively and switch to non-automated tasks, with higher added value within their professions. The opposite may be true for workers with poor digital skills, who may not be able to interact.

3. Methodology

We conducted an in-depth interview study to better understand the challenges and potentials of AI adoption, as well as the relevant factors that influence companies' readiness to adapt AI technology. We used a purposive sampling, where we identified 6 large companies in Albania (Balfin Group, Agna Group, Vodafone, UnitSystem, Smartwork, Raiffeisen Bank, OTP Bank,), where the focus was on decision makers and the IT department of selected companies, which we consider to be key informants on digital transformation and the adaptation of technologies such as AI, in companies in Albania.

We chose companies operating in the IT field and large companies operating in Albania, as they were more likely to have started using AI technology, in order to have an accurate picture of the approach that business in Albania has to Artificial Intelligence.

The profiles of the companies:

Balfin Group: Is one of the leading investment groups in the Western Balkans region. BALFIN is a diversified group active in wholesale and retail, banking, real estate, asset management, tourism, media, and logistics. The Group employs approximately 5,000 people, and operates in 8 countries.

OTP Bank Albania: OTP Bank Albania, part of the OTP Group, entered the Albanian banking market in 2018. OTP Bank Albania is the fifth largest player in terms of total assets and the third largest player in terms of customer loans in Albania.

Agna Group: The company was established in 1991 and is an importer and exclusive distributor of well- known brands. AGNA S.A. also operates in the field of energy investment, hospitality, construction and real estate in Albania and abroad. This company has created a significant investment portfolio over the years.

Vodafone Albania: Vodafone Albania is part of Vodafone Group Plc – one of the world’s largest telecommunications companies. As one of the world’s most valuable brands, Vodafone Albania is a leader in the market, not only as an operator in the electronic communication industry, but also as a remarkable contributor in the economic and social development of the country.

UnitSystem: UnitSystem is a new born company that offers services to solve challenges and automate business processes. The company services can help to improve efficiency and agility reduce cost, to participate in new business models and to capture new market opportunities through cloud-based solutions.

Smartwork: Smartwork, was created in 2017 under the leadership of Altea Federation and under the supervision of Deloitte Albania & Kosovo. Since then it has laid strong foundations in the field of business technology consultancy by cooperating mainly with foreign clients and domestic clients. With different products and dedicated units, Smartwork is excelling in offering 360° technical & business solutions which supports the growth and competitiveness of companies accompanying them in the path of digital transformation.

The questionnaire was built on the basis of the questions we raised at the beginning of the study, and aimed to measure the use of AI in companies operating in Albania, in which work processes they have implemented AI technology, where they intend to go after one year in relation to the AI technology, how they see return on investment ROI and how stable and reliable AI technologies are for Albanian companies.

4. Results

This study has a descriptive nature, and its main contribution is the presentation of the results from the deep interviews with the IT manager or chief operating officer in 6 companies that operate in Albania.

The companies are selected based on personal information and personal relations and were conducted online.

The companies are: Balfin Group, OTP Bank, Agna Group, Vodafone Albania, UnitSystem, Smartwork.

In total 7 interviews because 2 representatives from OTP Bank were interviewed. Below are the answers about the questions regarding the use of AI technologies.

1. **To what extent is your company looking to integrate AI technologies into its operations?**
    1. Widespread adoption
    2. Limited AI use cases
    3. Looking to scale
    4. Not yet using but considering

From the answers, it seems that AI technologies are being used in limited cases and looking to scale. Only Balfin Group has widespread adoption of AI technologies

2. **Over the past 12 months, which of the following business outcomes has your company been trying to achieve through AI initiatives?**
    1. Increase productivity through automation
    2. Improve decision-making
    3. Improve customer experience
    4. Innovate our products and services
    5. Improve employee experience and skills acquisition
    6. Develop new, data-driven business models
    7. Increase agility
    8. Increase valuation of company
    9. Improve retention and recruitment
    10. Strengthen resilience
    11. Enhance stakeholder trust

In this case, it seems that AI initiatives are only being used to: Increase productivity through automation; Improve decision-making; Improve customer experience; Innovate the products and services; Develop new, data-driven business models; Increase valuation of company; Enhance stakeholder trust.

3. **To what extent has your company realized value from AI initiatives in these areas (areas above) over the past 12 months?**

From AI initiatives, the benefits over the past 12 months are about: Increasing productivity through automation; Improving decision-making; Improving customer experience; Innovating the products and services; Increasing agility; Increasing valuation of company; Improving employee experience and skills acquisition and Enhancing stakeholder trust

Regarding the OTP Bank Albania, they are evaluating implementation of AI for document checking of loan disbursement. It is expected to increase efficiency and increase accuracy and minimize operational errors.

The UnitSystem is implementing AI in limited cases and cannot report about the value in the phase.

4. **To support what kind of business decisions will your company use AI for?**

1. Technology
2. Operations and maintenance
3. Customer experience
4. Strategy
5. Product and service development
6. Supply chain
7. Marketing and Sales
8. Workforce, including DEI
9. Finance
10. Mergers and acquisitions
11. Environmental, social and governance

Seems that AI is used to support: Technology; Operations and maintenance; Customer experience; Strategy; Product and service development; Supply chain; Marketing and Sales and Finance.

5. **How will your company use AI simulations, such as digital twins, in 2023?**
    1. Forecast market conditions
    2. Support financial, sales, marketing planning
    3. Enhance supply chain, operations
    4. Develop new products, target new segments
    5. Make long-term strategic decisions
    6. Monitor physical assets
    7. Support IoT, industrial, smart city initiatives
    8. Hire and train employees
    9. We do not plan to use AI simulations in 2023

In this case, only Balfin Group will use AI simulations for: Forecast market conditions; Support financial, sales, marketing planning; Enhance supply chain, operations; Develop new products, target new segments; Make long-term strategic decisions and Hire and train employees.

UnitSystem will use AI simulations for: Developing new products, target new segments; Monitoring physical assets; Supporting IoT, industrial, smart city initiatives and Smartwork for making long-term strategic decisions.

Other companies do not plan to use AI simulations in 2023.

6. **How confident are you in your company's ability to Assess ROI (return on investments) of current AI initiatives? Please, could you explain?**

In this case, only Balfin Group and Vodafone Albania measure the ROI from AI initiatives but sometimes the time frame is not sufficient.

Other companies answered that at this moment it is difficult to assess ROI because the initiatives and projects are ongoing and it is necessary to wait 3-5 years.

7. **How confident are you in your company's ability to accurately predict ROI of AI initiatives in the next 12 months? Please, could you explain?**

Again, only Balfin Group and Vodafone Albania are confident, for other companies the prediction of ROI with certainty for an emerging technology such as AI is difficult due to the rapid pace of change and uncertainty surrounding the market demand and competition.

8. **What steps, if any, will your company take in 2023 to develop and deploy AI systems that are responsible, that is, trustworthy, fair, bias-reduced and stable?**

    1. Confirm AI is compliant with applicable regulations
    2. Protect AI systems from cyber threats, manipulations
    3. Improve governance of AI systems and processes
    4. Confirm AI-driven decisions are interpretable and easily explainable
    5. Monitor and report on AI model performance
    6. Confirm AI systems provide robust performance
    7. Develop and report on controls related to AI models, processes
    8. Address the issues of fairness
    9. Review to be sure third-party AI services meet standards
    10. No plans to address AI responsibility issues

In this case, seems that the steps that are more possible are: Confirm AI is compliant with applicable regulations; Protect AI systems from cyber threats, manipulations; Improve governance of AI systems and processes; Confirm AI-driven decisions are interpretable and easily explainable; Monitor and report on AI model performance; Confirm AI systems provide robust performance; Develop and report on controls related to AI models, processes.

9. **And, how is the current general labor market impacting your organization's AI initiatives? Accelerating AI to increase automation and reduce our general hiring needs.**
    1. Have implemented
    2. Have a plan and started to implement
    3. Developing a plan
    4. Do not plan to do this
    5. Not sure

In this case, Balfin Group and OTB bank, have no plan to reduce hiring needs. Vodafone Albania has implemented AI technologies and so have reduced general hiring needs. Other companies are developing a plan.

5. Conclusions and future research

This research paper used the qualitative research method which involved semi structured interviews with 6 different companies in Albania. After analyzing the results obtained from the structured interviews, we come to the conclusion that although AI technology is widely used in the business field, businesses in Albania are using AI technology in limited cases. Even companies that have started using AI, use this technology in some limited parts of the work processes. AI simulations are also not planned to be used. Only one company, from the companies considered, is ready to use AI simulations next year. The study concluded that the prediction of ROI with certainty for an emerging technology such as AI is difficult due to the rapid change and uncertainty surrounding the market demand and competition. As for the impact of AI technology on the reduction of work staff, in general the use of AI technology has not yet affected the reduction of employees; only the telecommunication company Vodafone has reduced staff by automating work processes, while other companies are developing a plan.

The field of Artificial Intelligence is very promising and very attractive for IT researchers. The potential of this technology is many times greater, compared to

its current use. For this, researchers should focus more on deepening studies in AI technology.

In Albania, there are very few studies in this field and currently the rate of use of AI technology in Albanian companies, in health, education, industry and in public institutions has not yet been measured.

By measuring and analyzing the benefits of this technology in the conditions of our country, we would encourage more companies, institutions and the government itself in the wider application of Artificial Intelligence.

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EMPLOYEE MOTIVATION IN THE NEW NORMAL

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Abstract

o maintain employee motivation in the new normal, it is important for organizations to provide their employees with the resources, support, and autonomy they need to be successful. This includes providing access to technology, promoting open and effective communication, managing workloads, and recognizing and rewarding employees for their hard work. By doing so, organizations can create a work environment that fosters employee motivation and engagement, even in these challenging times.

Rewarding employees has been recognized as the driving tool among all other motivational factors. This study aims to understand differences in employee demographics related to motivation, especially reward. It makes specific recommendations for how organizations should foster motivation and engagement in their remote workforce, building on theories of motivation and empirical data.

Keywords: Motivation, Engagement, HR, Rewarding, New Normal

1. Introduction

A "new normal" has emerged in the workplace as a result of the COVID-19 epidemic, with many workers now working from home or in other unconventional locations. Employee motivation has also been damaged by this change because of the new obstacles and distractions they must deal with in their new working environment.

Employees now have more flexibility over their work environment and schedule thanks to the trend to remote work. Employees may become more motivated and satisfied if they feel they have the freedom to balance their job and personal obligations. While the availability of technology and digital tools has made it simpler for workers to get information and stay in touch with their coworkers and bosses.

But, the isolation and lack of face-to-face interaction that can come with remote work can have a detrimental effect on employee engagement and motivation. In addition to providing possibilities for virtual team building and cooperation,

managers must find strategies to keep lines of communication with their staff open and effective.

As a result of dealing with the difficulties and uncertainties of the new normal, the COVID-19 pandemic has increased the burden for many personnel. If workers believe their task is unmanageable, this might result in burnout and diminished motivation.

Lack of acknowledgment and rewards for employees' efforts and achievements can also have an impact on their motivation. Even in a remote work setting, managers need to come up with novel and inventive ways to praise and reward their staff members.

All the above emphasize the importance of identifying motivation strategies that address the challenges of the new normal in the workplace. Hence, the *research question* investigated by this study is: What are the motivation strategies that can be implemented in the new normal?

This study addresses the main elements affecting employee motivation in the new normal, drawing on theories of motivation and empirical data, and provides concrete suggestions for how organizations can encourage motivation and engagement in their remote workforce.

2. Background and theories of motivation

Early theories of motivation are represented by Maslow, McGregor and Herzberg. In the following years, more contemporary theories were developed: Equity and Expectancy theory.

Abraham Maslow's hierarchy of needs states that the human being experiences five types of needs, in a hierarchical order (hence the name). They are comprised of the physiological need (bodily needs such as hunger, thirst, shelter, and other), safety need (feeling secure and protected from physical and emotional harm), social need (feeling of belongingness, acceptance, and affection), esteem need (the desire for strength, achievement, independence, reputation, status and recognition), and the need for self-actualization (the desire to become everything what one is capable of becoming). So according to him, the individual first wants to have a base income to fulfill his / her physiological needs, then feel safe in the work environment, feel appreciated by the colleagues and employer, grow in the workplace, until he or she becomes the best self. The manager has to figure out in which state the employee is, in order to give a better reward (Maslow, 1954).

Herzberg classified intrinsic factors like responsibility, achievement, recognition to job satisfaction, while extrinsic factors like pay, supervision, company policies and working conditions to hygiene factors. When the hygiene factors are met, the employee isn't necessarily satisfied. In order to motivate the workers, the manager has to focus on the intrinsic factors, and provide growth & recognition opportunities (Herzberg, Mausner, & Snyderman, 1960).

The national culture also affects what motivates the individual. In individualistic countries, employees are motivated by autonomy, financial security, achievement, while in masculine ones' performance, money and independence are important (Hofstede, 1980, pp. 48-49). Another factor to consider before deciding on the rewarding method is the manager's attitude towards employees. McGregor (1960) insinuates that managers classify the workers into Theory X and Theory Y, where in the first one individuals are viewed as lazy who don't like to work, thus need to be directed or forced into performing it, while the second assumes that higher-order needs lead the employees, hence he or she has to be motivated by being included in decision making, giving more challenging tasks, etc. Although very applicable, each of the early theories has their drawbacks.

Adams (1965) believed that people feel motivated on their jobs when they have a sense of fairness of outcomes, both in pay and other received rewards, when they perceive the process utilized to decide the outcome is fair, and when treated with respect and dignity. One of the most accepted theories of motivation is the expectancy theory. Vroom reasons that "employees will be motivated to exert a high level of effort when they believe it will lead to a good performance appraisal; that a good appraisal will lead to organizational rewards such as bonuses, salary increases, or promotions; and that the rewards will satisfy the employees' personal goals" (Judge & Robbins, 2013, p. 224). In other words, the employee has to perceive that he or she will receive a preferred reward, if performed satisfactorily, in order to be motivated.

Overall, there are many different policies and approaches that employers in Albania can use to motivate their employees. The most effective policies will depend on the specific needs and priorities of each organization, as well as the unique needs and preferences of each employee.

Ruseti (2021) found that employee motivation is a key factor in the success of small and medium-sized enterprises (SMEs) in Albania. The study found that employees who are motivated by opportunities for growth, recognition, and autonomy are more likely to be engaged and productive in the workplace, which can lead to better business outcomes. This suggests that employers may need to provide more opportunities for career advancement and skill development to keep employees motivated and engaged.

To conclude, employee motivation and demographic challenges are closely linked in Albania, as the country is facing an aging population and a shrinking workforce. This can make it more challenging for employers to attract and retain talented workers and may require new approaches to employee motivation.

3. Tools and methodology

A systematic literature review is done to explore the motivation theories and understand the research gap. Furthermore, empirical data are gathered though a questionnaire. Convenience and Snowball sampling are used. The questionnaire is distributed online using social media and e-mail. Descriptive and inferential statistics are used to analyze the data and present the findings of this study.

4. Conclusions and recommendations

Motivation of employees vary across different sectors and organizations, but there are some common approaches that employers use to motivate their employees. This study showed that the following strategies are applied the most in the Albanian context.

1. Performance-based incentives: To inspire their staff, several employers in Albania adopt performance-based incentives. For reaching particular objectives or aims, this can include bonuses, promotions, or other awards. Employers might be motivated to work harder and produce better results by using performance-based rewards.
2. Employee recognition plans: Some Albanian firms have created employee recognition plans to honor staff members for their contributions to the company. Awards, accolades from the general public, and various types of recognition for exceptional work can fall under this category.
3. Possibilities for learning and growth: Opportunities for learning and growth are highly valued by many employees in Albania, especially due to the extended usage of technology in this new normal. By offering training and development opportunities, such as workshops, seminars, or professional development programs, employers can motivate their staff members.
4. Flexible work arrangements: The new normal shifted the preference of some employees for the flexible work arrangements like telecommuting or flexible work hours to be a strong motivation. These arrangements may improve work-life balance for employees and increase motivation and job satisfaction.
5. Feedback and employee involvement: Employers in Albania can motivate their staff by involving them in decision-making and asking for their opinions on

workplace rules and regulations. Employees may experience a sense of empowerment and value at work as a result.

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THE ENERGY TRANSITION AND THE GREEN ECONOMY: SYNERGY OR ANTAGONISM?

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Abstract

The world is experiencing successive crises, such as the sanitary one began in 2020, and the energy one that is expected in the future. The reasons for the current global context can be summarized in 3 main developments: (1) the risk of recession and financial crisis; (2) the possible shock to oil production; (3) the climate crisis. As technological advances make energy use more efficient, they also encourage new behaviours, creating new needs. Indeed, the gain generated by energy efficiency is often offset by a change in needs that results in an increase in consumption. Recent data show that greater efficiency does not automatically solve the climate issue for several reasons. The quintessential question is how to improve efficiency so that not only is prosperity relatively decoupled from resource use, but the latter also experience an absolute decline. The main hypothesis of this paper is that the green economy as a systemic approach to the energy transition has failed to achieve its initial goal and that a new systemic approach is necessary. The methodological approach uses methods of quantitative analysis, comparison and synthesis. This allowed us to identify the main results for the discussion of the initial question of this paper.

Keywords: Energy Transition, Green Economy, Systemic Approach, Comparative Analysis.

1. Research context

Despite its increased efficiency, the world's population has almost quadrupled and its energy consumption has increased nine-times. Lower consumption is systematically a result of energy efficiency. The common intuition can be questioned, as economist William Stanley Jevons [1] noted as early as 1865. He observes that the development of the steam engine by James Watt led to an increase in English coal consumption. Saunders (1992), by analyzing Daniel Khazzoom and Leonard Brookes work, updated the Jevons' paradox theory in the 1980s [2]. They demonstrate that, despite the 1973 and 1979 oil shocks and crises, global energy and oil consumption has continued to increase quickly (despite population growth). If we take into account the advancements in energy

efficiency during this time, this discovery becomes even more fascinating. Energy use becomes more efficient as a result of technological advancements, which also encourage new behaviors and generate new needs. In other words, a change in needs that leads to an increase in consumption frequently cancels out the benefit from energy efficiency. Is this a psychological, social, or economic phenomenon, with lower cost driving up demand as the main vector? Whatever the driving forces, the idea of energy efficiency does not consistently play a role in lowering consumption. It is more of an issue of resource optimization and a growth catalyst. As a result, it is frequently linked to the idea of "energy maturity", which is closely related to consumption. Energy is the foundation of the economy, so the key question is whether it is plentiful and affordable enough for the various products that are made from it to be profitable. In 2018, the share of renewable energy (excluding hydropower) increased by 16.4% (Taylor, 2020) [3]. Published studies estimate that by 2030, about two-thirds of the 7 trillion euros invested in electricity production will be allocated to renewable energies (including hydropower). Therefore, we can perceive that many institutions adopt an optimistic discourse. The European Union forecasts that additional measures to increase resource productivity by 30% by 2030 could increase European GDP by almost 1%, creating around 2 million additional jobs. The main hypothesis of this paper is that the green economy as a systemic approach to the energy transition has failed to achieve its initial goal and that a new systemic approach is necessary.

2. Theoretical background

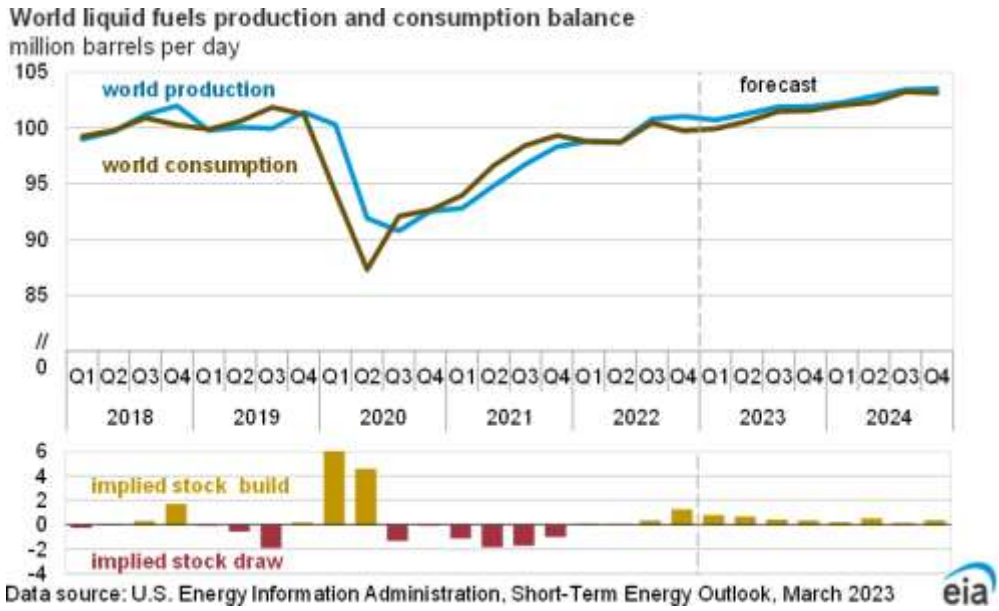
If the profitability of turning energy into products is satisfactory, everything will be fine and the financial markets will continue to expand steadily during a period of growth without inflation. If not, most products will need to be more expensive to cover their energy costs. Some businesses won't be able to do this and will have to shut down, which will cause inflation to rise and weak or even negative economic growth. Here, it is necessary to explain a reality that few researchers take into account. Energy production is expensive (Virtanen et al., 2022) [4], labor-intensive (Liu, 2022) [5], and requires significant upfront investment (Broughel et al., 2022 [6]. The energy cycle thus differs greatly from the economic cycle. If energy is not expensive, then investing in this area will yield a lower rate of return than manufacturing products that use it. In this situation, it is better to be an energy consumer than a producer, so new investments in the exploration of oil, gas, or the construction of nuclear power plants come to an end as the prices of energy values stagnate or decline on the stock market. As a result, the supply of energy stops growing because it is

unprofitable to invest in this industry, while demand grows because it is profitable to convert energy into products. This situation can persist for decades, but eventually the supply of energy will run out, and at that point something very curious occurs: energy prices literally explode upward, tripling or quadrupling. This demonstrates that since there is no other way to produce, nobody can live without energy. Either pay any price or close shop are the options. Thus, a “Darwinian war” between all oil or electricity consumers breaks out in an effort to prevent bankruptcy, which entails raising prices for the final consumer. In fact, it is anticipated that this will cause an inflationary wave, which frequently follows an increase in the cost of electricity. Some companies fail and shut down their factories, which puts many people out of work, doesn't do much to increase the purchasing power of the average person, and causes recessions. After four or five years, there are new capacities available on the market, but demand has decreased, so we are back where we started, or, as mathematicians would say, supply exceeds demand and we have ten to fifteen years of stability. In the end, the stock market return for the energy sector is significantly higher than the return for the rest of the stock market over any twenty-year period, but the return's distribution is very different: energy stocks quadruple over time too quickly to do nothing for the following fifteen years, whereas other stocks have experienced much smoother paths. Consequently, some energy values continuously increase while others do so regularly.

The COVID-19 pandemic caused a historic drop in global oil consumption in 2020, which fell to almost 91 million barrels per day, or 9% less than in 2019 (99.7 million barrels per day). This decline, though, may not last forever. By the fourth quarter of 2020, global consumption had already risen to 94.7 million barrels per day (compared to 82.9 million barrels per day in the second quarter of the same year). The International Energy Agency (IEA) reference scenario predicts that global oil consumption will rise every year until 2026, when it will rise to 104.1 million barrels per day, or 4% more than it was in 2019 prior to the COVID-19 pandemic (annual demand for oil in the world would exceed the level of 2019 in 2023). The IEA notes that the global pandemic will permanently alter the level of global oil consumption despite this anticipated rise (in the absence of an acceleration of the energy transition). Accordingly, the expected demand in 2025 is expected to be 2.5 million barrels lower than the level predicted by the IEA in its previous annual report presented in early 2020. The IEA predicts increased uncertainty on the supply side as well. According to the Agency's reference scenario, in order to meet the return to global consumption by 2026, global production must rise by 10.2 million barrels per day. This radical shift from recent years marked by the dominant role of the United States, which has become the world's largest oil producer thanks to the

use of its unconventional hydrocarbons, could see half of this increase in oil production come from the Middle East (light tight oil).

Figure 1. World liquid fuels production and consumption balance



As we have witnessed, the world is experiencing successive crises, such as the sanitary one began in 2020, and the energy one that is expected in the future. The reasons for the current global context can be summarized in 3 main developments: (1) the risk of recession and financial crisis; (2) the possible shock to oil production; (3) the climate crisis. As technological advances make energy use more efficient, they also encourage new behaviours, creating new needs. Indeed, the gain generated by energy efficiency is often offset by a change in needs that results in an increase in consumption. Recent data show that greater efficiency does not automatically solve the climate issue for several reasons. The main issue of such a transition is how to improve efficiency so that not only is prosperity relatively decoupled from resource use, but the latter also experience an absolute decline.

3. Methodological approach

The research methodology uses a logical process for gathering and modeling quantitative and qualitative data in an effort to create future scenarios for the green transition. There are three steps in our process. 1) A review of the

literature on the energy-climatic issues facing Western nations; 2) The collection of quantitative and qualitative energy data; and 3) The analysis and discussion of the findings. Decision-makers can more easily address uncertainties related to external factors that may be at play for countries and assess what can be done about them by using one of the many methodological frameworks and tools available to them. These tools and frameworks aid decision-makers in analyzing these issues by evaluating various options and their potential outcomes. To be truly useful, these methods and tools must be able to be used at different stages of the integrated and comprehensive policy-making cycle: defining the questions (to be put on the agenda); policy formulation; decision making; implementation; monitoring and evaluation. There are two types of methods and tools: upstream and downstream. Upstream, they are used for the stages of planning and selecting questions to be placed in the program, formulation, decision-making and to a certain extent implementation. Downstream, they are used for ex-post evaluation of policies, allowing to evaluate the results in terms of profits and consequences for the inclusive green economy. The most important methodological approach was the initial orientation towards the practical application of the developed criteria for forecasts, both the current state and the dynamics of the development of the green economy. The methods of scientific analysis, comparison and synthesis were used in the research process. The methods applied in the evaluation of the basic criteria for the economic and socio-ecological approaches for the development of the green economy have been analyzed and compared. This allowed us to identify the main trends in the justification of different indicators.

4. Findings

4.1 Does the efficiency revolution promote economic expansion and reduces resource consumption?

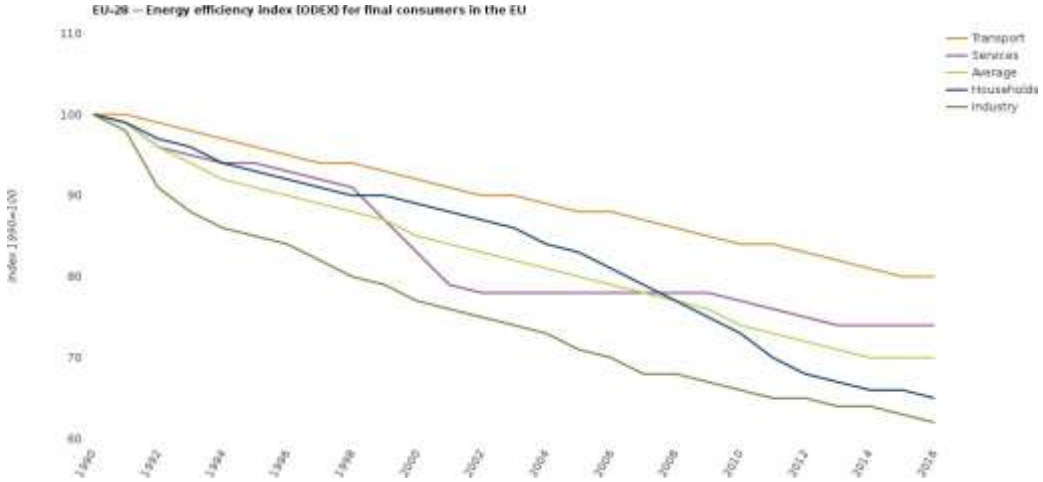
The green economy requires and results in a more resource-effective use of resources (Hickel & Kallis, 2020) [7]. According to its proponents, nations that boost the productivity of scarce resources become more competitive with respect to nations that ignore their scarcity. We will experience an efficiency revolution in the future as each euro of profit generated will cost less in terms of raw materials and pollution thanks to improved technologies and production organization. The secret ingredient? Separating resource use, ecosystem overuse, and carbon sink overuse from economic growth and prosperity. According to von Weizsäcker (2022) [8], an increase in resource productivity of 80% is not only anticipated but also feasible. Growing digital networks and intelligent systems with self-improving capabilities hold the promise of

improving resource efficiency in a variety of societal contexts. Smart Grids are already intended to increase the effectiveness of energy distribution in cities and thereby aid in lowering energy consumption. By reorganizing all industrial production, as implied by the terms “Smart Grid” and “Industry 4.0” it should be possible to increase both resource and energy efficiency while expanding key growth markets. Certainly, the green economy requires fewer and fewer resources per unit of GDP, and between 1992 and 2018, CO_2 emissions decreased significantly. It should be noted, though, that increased efficiency does not, for a variety of reasons, automatically resolve the climate issue.

- First, production methods that require a lot of energy are not found in EU nations (Bureau et al., 2013) [9]. Consumption of goods from emerging and developing nations is rising in industrialized nations. Typically, the manufacturing of these products only worsens the environment (including greenhouse gas emissions) in the nation where they are produced. The global increase in carbon dioxide emissions between 1990 and 2010 was primarily caused by the shift of industrial production from developed to developing countries, even though greenhouse gas emissions from industrialized countries have largely stabilized in recent years (OECD, 2016) [10]. Less than 40% of the world's CO_2 emissions due to energy use in 2016 came from OECD nations, down from more than 50% in 1990. Global greenhouse gas emissions increased by 19.3% between 2005 and 2016, and in 2016, China accounted for 25.8% of global emissions with 11,887 Megatons of CO_2 equivalent. China's emissions have increased by 65.2% since 2005 (ECCC, 2020) [11].
- Second, proponents of higher resource productivity assert that it enables consumers of new technologies to make financial savings, particularly on the price of raw materials. Profits would rise with increased efficiency. Polluting production methods are still frequently more profitable for businesses today. Politics wouldn't need to put forth as much effort to garner as much attention if conserving the environment and boosting productivity were consistently in the financial best interests of businesses. In the green economy, businesses' willingness to use more resources efficiently to help protect the environment still depends on the anticipated advantages. Anything that is not profitable is just not put into practice.
- Third, the desire for efficiency clashes with the need for growth that capitalism demands. The idea that capitalism's tendency to promote

efficiency will help to stabilize the climate and safeguard us from resource scarcity is simply false (Jackson, 2019) [12]. Of course, efficiency has increased throughout history as has production. However, resource use and environmental degradation have increased as a result of the economy growing more quickly than efficiency.

Figure 2. Energy efficiency index (ODEX) for final consumers in the European Union



Source: Adapted by the authors based on ODYSSEE database

Therefore, the question of how to increase efficiency arises, with the goal of achieving both relative and absolute decoupling of prosperity from resource use. Traditional political tools, which do not halt the necessity of growth, are obviously insufficient to accomplish this. The alleged effects of such a decoupling, which environmental political parties particularly value, are frequently just hypotheticals. As a result, it is necessary to question the efficiency strategy's actual potential and pay more attention to practical ways to develop a strong economy. What's at stake is a genuine transition that recognizes that a market logic that places a premium on efficiency is ultimately incompatible with the biophysical underpinnings of our economy. Social inequality must be addressed as part of a comprehensive social and ecological transformation.

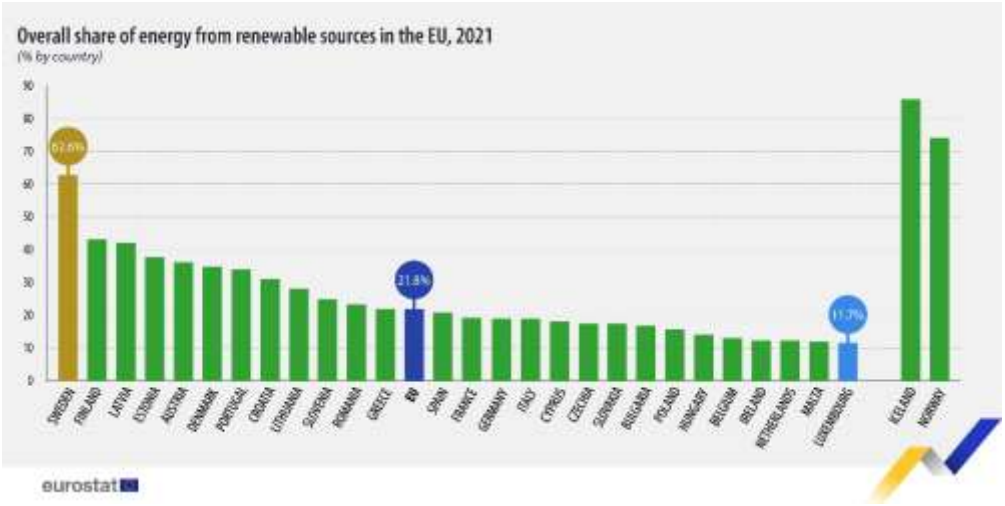
4.2 Does the forecasted energy crisis sustain the green economy?

The United Nations hopes that “green investments” will result in stronger growth than that produced by the conventional scenario for the period 2010–2050. (UNEP, 2011) [13]. If the traditional economic model is maintained, unsustainable development will be the result. The creation of an ecologically sound, competitive, and resource-conscious economic system was the goal of the European Commission's 2010 Sustainable Growth Plan. One way to look at the crisis is as an opportunity for the green economy. The same green economy, on the other hand, is thought to be a successful treatment for slow economic growth. Prior to the Great Subprime Crisis, 2008 growth of 2.4% or 2.2% was predicted. But that year, the economy expanded just 1.1%. Even more obvious were the inaccurate predictions made in the spring and fall of 2008, which predicted growth of 1.4 and 0.7%, respectively, for 2009. In fact, 2009 saw a 5.1% recession rather than any economic growth. The euro zone economy will contract by 7.8% in 2020, according to Brussels, but it will grow by 4.2% in 2021 and 3% in 2022 (Commision Européenne, 2020) [14]. Predictions covering several decades, though, need to be taken seriously. They primarily convey trends and an overall impression.

The capital economy and its expansion are highly dependent on numerous variables and are only partially predictable in advance. However, it is clear above all that the crisis is not a good environment for the green economy, in contrast to the optimistic predictions. Due to the global financial crisis, numerous nations now owe enormous amounts of money (Morin, 2017) [15]. By lowering the burden on businesses, for instance, the measures taken to address the euro crisis attempt to stimulate economic growth through all possible means. Despite what it may say, the policy does not employ the green economy's covert weapon. It aims to prevent any additional costs that may be brought on by ecological restructuring or a tightening of environmental protection standards in the face of a very expensive crisis. The economists Ottmar Edenhofer and Nicolas Stern came up with a number of ideas in 2009 to enable the G20 nations to create a global green regeneration, or a green recovery on a global scale but these suggestions have not been put into practice (Milne & Mahanty, 2019) [16]. Despite the rapid expansion of renewable energy, their share in global energy production only increased from 1.9 to 2.2%, or from 8.6 to 8.9% if hydropower is taken into account (which is often produced by building large dams is not socially sustainable at all). Over the past few years, the proportion of renewable energy sources in the total gross energy consumption in the European Union has increased, rising from 9.6% in 2004 to 18.9% in 2018.

These numbers can be largely attributed to the sharp increase in the use of fossil fuels. The environment would not benefit even though governments would bet on anything "green" to resolve the crisis. Indeed, the green economy does not satisfy the need for growth. The example that follows demonstrates what rampant growth entails. In the European Union, the percentage of people who own a car is directly correlated with the standard of living of the nation. There are an average of 46 cars per 100 people, ranging from 40 to 60. There are 48 cars for every 100 people in France. According to statistics, about half of people are car owners. If the global automotive industry adopts the French model, there will be a huge and profitable expansion of the transportation infrastructure as well as a rise in the number of cars from the current one billion to approximately five billion. Even if most of these cars had electric motors, this would result in a significant increase in resource and energy consumption as well as partial saturation of carbon “wells” (Leifeld et al., 2019) [17]. In 2021, renewable energy represented 21.8% of energy consumed in the European Union (Figure 3). The European Green Deal aims to make Europe the first continent in the world to be climate neutral by 2050. This should make it possible for businesses and citizens in Europe to gain from a sustainable green transition. Numerous potential advantages of using renewable energy include a decrease in greenhouse gas emissions, diversification of energy sources, and less reliance on the markets for fossil fuels (in particular, oil and gas). Through the creation of jobs in new “technologies”, the expansion of renewable energy sources may also boost employment in the European Union. The pandemic's economic effects are likely to force nations to prioritize quick fixes to boost GDP growth, potentially undermining long-term sustainable development. This could mean less money spent on developing clean energy technologies in the energy sector, which would slow the development of renewable energy sources and energy-saving technologies and prevent the Paris Agreement from being fully implemented.

Figure 3. Overall share of energy from renewable sources in the European Union for 2021



Source: EUROSTAT

5. Discussion and conclusion

The discussion of the green economy and the energy transition shouldn't be restricted to the problem of carbon dioxide concentration, solar energy subsidies, and large technologies. Markers are much larger. It is up to us to decide how to set up the social and political structure for interacting with nature. At the moment, this relationship is frequently based on fragmented approaches that disregard the environment and the social component. In order to create a way of life and a system of production that is truly sustainable, social structures must change. The dominant school of thought in neoclassical economics today concentrates on issues surrounding value judgments, the actions of economic actors, and the operation of markets. The wealth that is distributed in markets must be produced in the challenging realm of the material world, where all operations must abide by the laws and principles of physics, chemistry, and biology. These issues fall under the purview of the social sciences (Hall et al., 2001) [18]. Three main arguments can be used to encapsulate past naturalist criticisms of neoclassical economics: (1) Because it is not based on the biophysical world and the laws that govern it, particularly energy, the neoclassical model's fundamental structure is unrealistic; (2) The biosphere's actual processes, which provide matter and energy inputs, are not included in the analysis's limits, and (3) The main tenets of the models employed are not presented as testable hypotheses but rather as existential ones. The traditional neoclassical view, which dates back to the infancy of neoclassical economics,

undervalues the importance of energy and resources. At first, the "efficiency of markets" and wealth distribution were more important than wealth creation. Because of this, traditional economists began with a model based solely on the exchange of goods, regardless of how they were produced. It was demonstrated using a set of mathematical assumptions on “rational consumer behavior” that an equilibrium results from the exchange of goods in markets where all consumers maximize their utility, in the sense that it is impossible to improve one consumer's situation without making at least one other consumer's situation worse (the so-called Pareto optimum).

Typically, the free-market economy is viewed as having this advantage of (perfect) markets as its cornerstone. The issue of physical wealth generation, however, became inextricably linked to the issue of wealth distribution as a result of the model's structure later, when it was expanded to include production: Factor productivities had to equal factor prices for neoclassical equilibrium, which was predicated on the assumption that producers sought to maximize their profits. This means that the cost share of each production factor is used to calculate the weight that each contributes to the actual creation of wealth. In other words, conclusions about the physical significance of factors of production are derived from observations of modern social structures and entrepreneurial behaviors (Kümmel, 2013) [19]. Given that energy costs typically made up 5% to 6% of total factor costs during the industrial age, this is where economists' historical underestimation of this factor comes from. Because of this, neoclassical models that exclude energy are unable to account for the empirically observed increase in output with rising labor and capital input. There is always a significant amount of residual growth that is unaccounted for but is formally attributed to what economists refer to as "technological progress." As a result, the neoclassical model has come under fire as a growth theory that fails to account for the primary driver of economic growth. The primary determinant of human material well-being is the per capita availability of these stocks and flows, which, like ecosystems or, really, like any system, can be represented by the stocks and flows of materials and energy in developed countries. Because none of the existing economic models have a biophysical foundation, they cannot accurately represent the entire economy. Therefore, the green economy and the energy transition lack systemic thinking of representing the society as a whole.

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THE ADVANTAGES OF USING ROBOTIC AUTOMATIC PROCESSES (RPA) IN DEFINING TASKS FOR SMART DEVICES

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Abstract

Robotic process automation (RPA), also known as robotic software, uses automation technologies to mimic back-office tasks of human workers, such as data mining, filling out forms, moving files, etc.

Microelectronic devices are becoming smaller and cheaper so that they are used in almost everything, making the everyday objects around us "smart". We can integrate Smart Devices in various tasks by giving them commands via the Internet.

A Smart City is a technologically modern urban area that uses various types of electronic methods and sensors to collect specific data. The information obtained from that data is used to efficiently manage assets, resources and services in return, this data is used to improve operations across the city.

In this paper I will research the advantages that the use of RPA systems can bring in the management of Smart Devices resources that will be in a Smart City.

Keywords: Robotic Process Automation (RPA), Smart Devices, Internet

1. Introduction

Recent technological developments have created a strange new world: their objects that in some aspects are connected to each other through Internet networks and with which we cannot even communicate in separate ones [2].

These objects in law can communicate with wireless devices and form spontaneous networks, creating a worldwide system receiving from the Internet and receiving commands through second command devices [2].

Referring to Smart Devices Lo, Yu and Tseng (2014) used the term smart computer, while İlhan, Yıldız and Kayrak (2016) used the term smart mobile[1].

Robotic process automation (RPA), also known as software robotics, uses automation technology to mimic tasks in the service of human workers, such as data extraction, form data, file movement, etc.

Robotic Process Automation (RPA) according to Allweyer (2016) is a software that supports people in performing certain tasks or replaces them.

Van der Aalst et al. (2018, p. 269) and how the RPA tool is an installed RPA tool that operates on Internet computer systems graphical user interfaces, make people do.

RPA is not a physical machine, but a software system that automatically communicates with other digital systems, sends and receives services, manipulates and inserts others [5].

In a smart Industry 4.0 device, machines and machines are interconnected and communicate with each other and with a central control system to enable real-time monitoring, analysis and decision-making. the Internet [3].

The implementation of Industry 4.0 requires security measures to guarantee the protection of sensitive data and intellectual property. Reliable fast communication networks are for Industry 4.0 to succeed [4].

2. Literature review

Robotic Process Automation (RPA) has been used in many areas of Smart Devices to automate common tasks. Some of the successful applications of RPA in Smart Devices are:

1. Automating Messaging: RPA has used automation to create programmed scenarios for sending messages to Smart Devices. For example, in the field of marketing, RPA can be used to send personalized messages to customers based on their previous actions or preferences.

   Home automation networks do not always need to be connected to a WiFi network because automation commands are short messages. The two radio networks prominent in home smart device automation are ZigBee and Z-Wave uses a Source Path Algorithm to determine the fastest path for messages. ZigBee exemplifies the concept of a Mesh network because messages from the transmitter sent zig zag like bees, looking for the best route to the recipient[6].

2. Automating Distributed Request Responses: In the field of customer service, RPA can be used to automate the handling of distributed requests from

customers via Smart Devices. It can create automatic scripts that identify the type of request and provide appropriate responses via email messages or Smart Devices applications [7].

The technology includes software licenses that mimic human actions and behaviors, automate monotonous tasks and rule-based trading operations. I owe significant cost reductions and time savings, effective implementation of RPA increases productivity and competitiveness. (Viale & Zouari, 2020).

3. Automating the monitoring and management of health systems: RPA can be used to automate the monitoring and management of health systems on Smart Devices. It can review data from sensors embedded in health devices, such as heart rate monitors and activity trackers, and provide alerts for users to keep track of their health [8].Automatizimi i proceseve të pagesave dhe transaksioneve: RPA mund të përdoret për të automatizuar proceset e pagesave dhe transaksioneve në Smart Devices. Mund të integrohet me aplikacionet e pagesave dhe të krijojë skenarë automatike për të procesuar pagesa, për të verifikuar identitetin dhe për të kryer transaksione në mënyrë të sigurtë dhe efikase [9].
4. Automating machine responses to artificial intelligence: RPA can be used to automate machine responses to artificial intelligence in Smart Devices. It can program some scripts to perform human actions, in response to voice commands, requests for information, or requests to execute certain actions[10].

These are just a few requirements for RPA on Smart Devices. The possibilities for using RPA are vast and depend on help.

3. Advantages

Robotic Process Automation (RPA) can be found in many different areas of Smart Devices to automate common tasks. Some of the common use of RPA in Smart Devices are:

1. Inventory Management: RPA can be used to monitor and manage the inventory of Smart Devices. They can create automatic inventory records, track actions taken, and make regular reports on inventory levels [11].
2. Installing and Configuring Devices: RPA can automate the process of installing and configuring Smart Devices. It can create member profile,

automatically install software and configure devices according to installation parameters [12].

3. Performance monitoring and management: RPA can be used to monitor and analyze the performance of Smart Devices. It can detect sensor and system data to identify potential problems, issue an alert, and correct their cause13.
4. Automating Usage Processes: RPA can automate the tasks of using Smart Devices. They can create scripts and automated scenarios for executing various tasks, such as sending messages, creating reports, using applications, and many others [14].
5. Device Management: RPA can be used to manage the device aspects of Smart Devices. It can monitor various activities, detect and prevent unauthorized attempts, use advanced technology to identify human hazards and take corrective measures [15].
6. Service and technical support: RPA can provide various automation and technical support for Smart Devices. It can be used for users in problem solving, providing information and performing common data operations [16].

These are just a few common uses of RPA in Smart Devices. The possibilities of using RPA are wide and depend on the particular features of the organizations are different.

4. Conclusions

Robotic Process Automation (RPA) is a technology that uses software to automate common and repetitive tasks in an organization. When we talk about the applications of RPA in assigning tasks to Smart Devices, there are some important advantages that are worth mentioning:

1. Improving efficiency and speed: RPA has the automation of repetitive tasks through Smart Devices, protecting people from habits and focusing on their jobs focused on more creative and strategic tasks. This can increase the speed and efficiency of processes, reducing the time it takes to complete a task.
2. Reduction of human errors: must make mistakes in their changes. Using RPA to automate tasks on Smart Devices reduces the risk of errors being made and tasks performed with high accuracy and without interruption.

3. Integration of various devices and applications: RPA allows easy integration of various devices and devices into Smart Devices. For example, an automatic process can be created that receives data from one input, processes and sends another automatically, with little need for manuals.
4. More efficient use of resources: With an RPA, the need for human resources involved in the work of tasks on Smart Devices can be reduced. This can lead to a reduction in cost and a more efficient use of resources.
5. Flexibility and scalability: RPA is a flexible and scalable technology that can easily adapt to the growth of needs and changes in the environment of Smart Devices. It can be used to automate different tasks on different devices, bringing consistent benefits across the organization.

However, it is important to note that RPA is not the perfect solution for every type of task. It is important to consider the needs and characteristics of the organization and decide whether RPA is a suitable solution to improve the definition of tasks on Smart Devices.

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COMMUNICATING SCIENCE AND EDUCATION IN DIGITALIZED WORLD

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Abstract

Communicating science and education in the digital world is an essential part of promoting the benefits of digitization and ensuring that students and the wider public understand the potential of these technologies.

One way to communicate science and education in the digital world is through the use of multimedia content such as videos, infographics, and interactive content. These types of content are more engaging and can help to convey complex concepts more effectively than traditional text-based communication.

Another effective way to communicate science and education in the digital world is through the use of social media platforms, such as Facebook, Twitter, and Instagram. Social media can be used to share news, updates, and insights about scientific and educational developments, as well as to engage with students and the wider public.

In addition, digital tools such as webinars, online courses, and podcasts can be used to disseminate scientific and educational content to a wider audience. These tools allow individuals to access content at their own pace and from anywhere in the world, making education and science more accessible to all.

It is also essential to promote digital literacy skills among students and the wider public to ensure that they can effectively navigate the digital world and access reliable and accurate information. This includes providing training and education on how to critically evaluate digital content and use digital tools effectively.

Overall, communicating science and education in the digital world is crucial in promoting the benefits of digitalization and ensuring that everyone can access and benefit from these technologies. By using a range of multimedia content, social media platforms, and digital tools, we can ensure that scientific and educational content is engaging, accessible, and effective.

Keywords: communication, digitalization, social media, digital tools

1. Introduction

The development of technology has provided us with extraordinary opportunities for communication and education, so it is best to use them. How

necessary the use of digitization became, we proved it best during the COVID 19 pandemic, where we received every service and information through technology. After this pandemic, people believed even more in the possibilities offered by technology, as through it was proven that we can stay physically separated but socially united. It prompted us to reflect that digitization should no longer be seen as an element of modern times but as a good opportunity with capacities and potentials that should be exploited.

The object of the study: The importance of using digital tools in the sciences of communication and education.

The research question raised in this study is: What is the right way to benefit from digitization, so that the latter is effective?

The hypothesis of this study: The use of digitization is effective in science and education, in case each of the technology user factors has correctly understood its use and necessity. Nowadays one must see digitalization as a complement to the communication achieved and not as a substitute that can leave empty spaces in the communication bridge.

The methodology used in the study is: Review analysis of digitization in the field of education. It will be based on the social and economic aspect of the country as well as a comparison between the development of the learning process without digital tools and with digital tools. During the analysis, an interpretation will be made of the importance of information technology in today's communication. In order to make an accurate review analysis of this process, we must base ourselves on the social and economic aspect of the country. As far as the social aspect is concerned, no one has to reject the innovation even though it comes with its own difficulties, like any new thing. When we deal with the economic aspect, it is known that different countries have different ways of administration in terms of digitalization and its use in many areas of life.

Man finds it difficult to get used to new elements, as he is used to his traditional things. The mindset that everything new destroys the old has no place in the use of digitalization in communication sciences and education. Digitization is a requirement of the time to keep up with the pace that the digital world requires today.

The digitized world belongs to everyone, as does the right to communicate, educate and educate. Technology should serve everyone and not remain only in the hands of those who have economic opportunities.

2. The use of digitization-theoretical context

Advanced countries around the world have already managed to call the work, digi-work, since the use of technology, in terms of efficiency and yield, has reached extraordinary proportions. A great deal of work is also being done for non-technologically advanced countries. UNESCO is assisting the Ministries of Education and other partners of Egypt, Ethiopia and Ghana in implementing a three-year project (2020-2023) to design, pilot and scale up Technology-Enabled Open School Systems. This is an indicator of how quickly the demand for the digitization of education and education itself grows and how necessary it is even for countries that do not have the conditions to activate technology in education.

In the advanced countries of the world, digitization is a primary issue and a need to catch up with the fast pace of life.

In order to get as close as possible to these places in this respect, we need to give up the habits of teaching according to the old forms. It is also necessary to break the taboos that learning needs paper, pencil and notes, where the lecturer gives the lecture, the students take notes and the interactivity in the classroom is almost zero. We all have to change the psychological behavior, where it is thought that conservatives have the obligation to pave the way for the introduction of digitization in education.

Continuous training is of particular importance. Different generations have different approaches to using technology. Let's say that the younger generation is closer to digitization and understanding of this asset that the development of technology enables. Digitization takes its toll on the human world along with its user manual. This manual should be explained and taught even to those who are unqualified.

Digitization offers and capacities should also be made available to people with low economic opportunities. As far as jobs are concerned, *digitization in some way replaces outdated methods and shortens time and jobs*[11]. In order to help humanity, it should not prioritize job loss, but for old professions that fade or disappear, training or skills for digital tools is needed. Only in this way can the feeling of insecurity that the older generations have to accept the way of living according to the digital world be reduced. Internet technology, originally

[11] Digitization, Ai, And The Future Of Work: Imperatives For Europe, September 2017, McKinsey Global Institute

developed through public sector initiative, provides free and open access to a valuable asset, a common standard.[12]

In order to achieve the maximum increase in the use of digitization in all areas of life, the latter must take shape and form accessible to all. It is up to the government to create a political strategy to raise the level of digitalization, but this does not mean that we should not give our influence in this process.

Is there a measure for the use of digitization? The limit of its use is to the point where the real perception is not affected by the artificial. In the field of communication, the world is moving very fast and we need to catch up. The message moves at a dizzying speed within a second and this is positive, as we are communicating with everyone and we are being enabled to know everything. We are more open, but at the same time we are also more vulnerable. Just one button is enough and everyone can know everything about everyone. Art does not have the same color. It is being digitized day by day, moving away from the natural and running towards the artificial. It is necessary for the speed of technology development to turn to the service of man and not to his obstacle to create, feel and enjoy.

The digital world should not conquer nature, losing its flavor and turning it into an unreal world. [13]The use of digitization should serve us to catch the rhythm of the world to the point where feeling and creativity are not affected.

A professor must be a good connoisseur of digital tools, so that instead of the notebook, he uses multimedia platforms that replace the context and not the text. Teachers in an online learning environment need human support—perhaps even more face-to-face support than in a traditional learning environment. [14]The possession of the digital world must go in fair proportion with the possession of the text that must be conveyed to the student.

As far as Albania is concerned, it is clear that we need a big pedagogical, scientific and social educational project, so that within 2 or 3 years there will be no house without Wi-Fi.

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[12] 21st Century Technologies, Promises And Perils Of A Dynamic Future, Organization For Economic Co-Operation And Development, pp. 18, 2019.

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Everyone should have access to communicate via the Internet. The government should take measures so that education does not feel the lack of digitization.

3. Effectiveness of digital tools - analysis and interpretation

Communication science researchers claim that we are living in a time where it is almost impossible to develop learning without the help of digitalization. Figures, examples, multimedia methods have already become an inseparable part of classroom teaching, where teacher-student interactivity is part of the methodology nowadays. Digitization entered our lives not as something fashionable, but as an ethical necessity that makes our lives easier. The same can be said for the field of education, where information technology has entered as an auxiliary element of the learning process.

In school environments, there is no need to distribute knowledge through note-taking. Many centuries have passed since the acquisition of knowledge through handwriting. If we go back in time to see how the communication process has developed, we remember that: first people received knowledge only orally, then through handwritten books, then through the typewriter, continuing with computers for processing texts for the pupils and the students.

Over the centuries, communication has experienced a revolution of a high degree. This revolution has affected many areas of human life, including the field of education and its processes. Schools and universities, regardless of economic opportunities, are finding the opportunity to work with the latest changes in technology and the opportunities it is offering. We are living in a developed and modern world, where preparing the new generation in schools and universities with the new methods offered by digitization is essential. We need to prepare a generation that adapts to the times and the developing world, and we cannot go back to the traditional ways where only the knowledge of writing and reading, or the pen with ink, is the priority. It is true that there is a big difference between the generations in terms of the use of technology, but it is equally true that each new generation that is growing up is more oriented towards the digital world.

The daily habits of pupils and students are very close to the digital habits and therefore the educational systems are rushing to move towards them. No one needs a lecture that has no interactivity, a boring lecture where no one can interpret an image, or ask a question. According to numerous studies, it has

been noticed that pupils and students gain more knowledge when the lecture is interactive and attractive, but this does not mean that the tools of the digital world can replace the educational ideology. Digital devices should not replace the teacher or professor. Likewise, the professor should not leave the distribution of knowledge in the hands of digital tools.

Since digitization is designed to facilitate human activity, even in the field of education, like many other fields, it is very obvious.

- There is now an electronic register, where every student and teacher record their daily attendance according to the lesson.
- Information can be obtained at any time about the auditoriums, the number of students and the hours a teacher conducts per day.
- Distribution of the schedule online, where everyone can know where the lesson will take place without having to be present at the school at the corner of the printed announcements.
- Students have hybrid learning opportunities, where some are in the classroom and some are connected remotely from home, as it is impossible for them to attend physically.
- Digital technology goes hand in hand with the traditional format and thus learning becomes more individual.
- The student is not only obliged not to miss any concept that must be noted, but is also a good reproducer of the concepts covered in the auditorium.
- Digitization gives even the passive student the opportunity to be active, since he has access to find a lot of supplementary material on the Internet, becoming part of research projects or different topics that require the reproduction of the treated lectures.
- Now the lectures belong not only to students who take notes, but also to those who manage to find them through technology in online classes.
- If it happens that it is impossible to conduct lessons, as a result of the pandemic or bad weather, digital tools come to the rescue immediately.

Digitization has all the potential and capacities to develop the learning process according to certain standards. It is enough just to program the system as required.

The technology is invisible and does not allow you to make mistakes in the measurement of the required parameters.

Quality education has as an essential element the union of knowledge with technology, as long as it has the obligation to prepare for the future people who will live in a digital world.

The future requires progress, and experience so far has shown that digitization is a strong and irreplaceable point.

4. Conclusions

Digitization needs to be seen as a means to achieve the intended goals. It is a tool that is put at the service of communication and education and can never be considered as a human substitute.

Professors and students must understand that bringing education closer to digitization will make them able to develop their ideas and become useful for the future inclined towards the development of technology.

Every new medium that has entered the communication sciences has been put at the service of human life. Like anything new that is introduced for the first time, digitization has also encountered its difficulties, but still one cannot retire without exploring the effects of the technology, which has so far proved beneficial as long as it does not alienate the senses. and emotions.

The new digital tools that are made available to professors and students should not arouse distrust or self-esteem, on the contrary, they should influence the improvement of the implementation of projects or goals that a quality education has.

Like all areas of life, education also needs to be part of the digital world, so that the student can benefit from knowledge combined with the experience of the first and the innovations of the future.

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DIGITAL TRANSFORMATION: DIGITALIZATION IN TRANSFORMING PUBLIC RELATIONS AND SOCIAL MARKETING STRATEGIES

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Abstract

The basic characteristics of communication in the rising of current developments are related to rational, fast, and real dialogical skills. The purpose of this paper is to examine the impact of digitization on communication and public relations. The focus of the current work is the analysis of the social and economic aspects of this transformation and of the marketing models and technologies established to understand not only the impact of digitization on communication with the public but also the dynamics between them. In its qualitative methodology, this study will examine at a local level the strength of digitalization in social media and especially the management of these strategies in the field of public relations. The results of meta-analytic reviews show that professionals are not yet ready and trained to exploit the potential of "new"media and believe that training in new media tools will certainly help to achieve the organization's goals. Regarding the totality of available data and research in the field, we suggest the creation of a working map with a focus on the impact of digital use in the new management strategies of relations with the public either at the micro-organizational level or at the macro-policy-making levels.

Keywords: digitization, transformation, public relations, communication, social marketing

1. Introduction

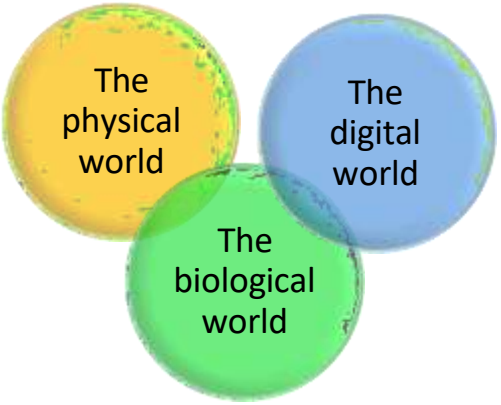
The current paper aims to address Digital Transformation, with special attention to its aspects of social management and public relations. Digital transformation is a process that affects every aspect of human society. It is a transformation enabled and brought about by new technologies, which is not limited to the improvement of traditional innovation and development but creates new forms of innovation characterized by sharp and rapid changes and concerns every segment of society, such as economics, communications, government, information, art, medicine, and science. There is no single, specific, and universally accepted definition for such an articulated and complex

phenomenon. In this paper we will focus on socio-managerial aspects, therefore, digital transformation will be understood »*as the process that recreates and makes the general provision of business, communication, and management more competitive, through the transformation of the processes of creation, production, analysis, and reflection of the needs of the market by means of digital technologies, otherwise known as the fourth industrial revolution*". Through the characteristics of this fourth revolution, we will try to understand if it is really a new technological and economic era in the field of public relations, or if we are facing the simple rapid but continuous scientific-technological progress of the last twenty years that affect social and economic progress.

2. Characteristics of the fourth industrial revolution

The concept of digital transformation has become a "trending argument" for developed societies and economic life around the world. Using new digital technologies to change customer relationships, internal processes, and value propositions is a reality that many leaders or directors have turned into their daily activities. Leaders and directors, seeing the rapid progress in the use of digital technologies in their areas of activity, have become aware that the success of digital transformation will depend mainly on the competitiveness of their companies and their public impact in the near future. We are currently experiencing a radical change in the way we live, work, and socialize, brought about by technological advances. We are facing what the Founder and Executive Chairman of the World Economic Forum, Professor Schwab, (2018), called the ***fourth industrial revolutio***n, also known as ***industry 4.0,*** which unites all aspects of the world we live in, creating opportunities and potential new developments. There are three basic characteristics that indicate facing this new industrial revolution. The speed of change is currently exponential, on a scale greater than previous industrial revolutions. Moreover, there is no industry that is outside the changes and is produced by digital technologies. Finally, the complexity of the changes, their breadth and depth predict a complete transformation of the systems of production, management, and governance of economic and social life. The use of the steam engine to mechanize production supported the first industrial revolution. Electricity was the basis of the second industrial revolution, which allowed for mass production. The third industrial revolution came across with electronics and information technologies, which allowed for the progressive automation of production lines. We are currently experiencing the fourth industrial revolution, the digital revolution generated by the fusion of so-called digital technologies that is blurring the divide between the physical, digital, and biological worlds (Fig.1).

Figure. 1: The transformation of the fourth industrial revolution.



**Source*: Authors' elaboration

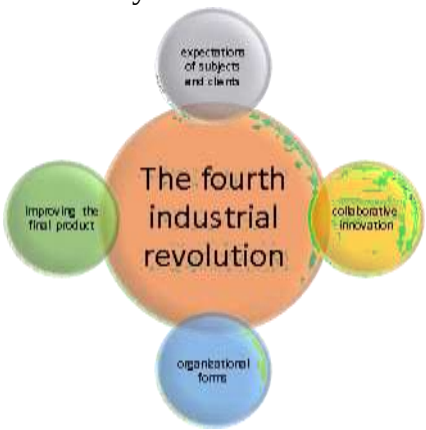
Researchers have discovered and societies are feeling the implementation of the fourth revolution in the form of artificial intelligence, autonomous machines, the Internet, learning to use Human Resources, drones, facial recognition, 3D printing, Big Data, synthetic biology, industrial ecology, etc. as part of our everyday life. The virtually endless possibilities offered by connecting millions of people through mobile devices with unprecedented processing power, storage, and access to knowledge are forcing a staggering transformation of psychosocial relationships and economic development (Schwab & Davis, 2018; Xu et al. .,2018; Hirschi,2018; Park,2018; Nath,2018; Liao et al.,2018). Technological advances in areas such as artificial intelligence, robotics, the Internet, 3D Printing, biotechnology, nanotechnology, blockchain, etc. have a multiplier effect on transformation. So far, the changes have mainly come from the demand: consumers who, thanks to new technologies, have been able to access new products and services that increase efficiency and consumer well-being, such as booking a flight or shopping for a train ticket through a computer application, buying books and services online, watching a movie, but also administrative services that are all online. In the near future, changes are expected to come from the supply side, companies will be able to improve their efficiency and productivity, and costs will be reduced in transport, communication, and logistics as more efficient and global supplies (Liao et al., 2018). International trade costs will be reduced, encouraging the opening of new markets and economic growth.

Although the effects for companies resulting from the transformations are difficult to understand and predict, the fourth industrial revolution will fundamentally affect the change of society especially (de Jong, 2020):

- expectations of subjects, individuals, and clients;
- product improvement;
- collaborative innovation;
- innovative forms of organization.

The client is the center of the fourth industrial revolution, whether company or consumer: improving the satisfaction of their expectations will be a central axis of the transformations. In addition, new technologies will increase the durability and resistance of products, as well as their benefits; the use and analysis of data will modify the way of maintaining products while the processing of clients' feedback will influence the development of better social marketing (Nath, 2018). The speed at which disruptive innovations are happening, new services based on data and analytics, improving clients' experiences, etc. will require new forms of cooperation. As a consequence, it will be necessary to rethink the organizational forms of companies, business and social organization, organizational culture, and the preservation of talents; in a new reality in which new business models and global digital platforms are emerging (Fig. 2). In short, companies need to analyze how innovation supported by combinations of technologies will allow them to rethink the way they do business, understand a changing environment and continuously innovate in order to allow them to thrive in the fourth industrial revolution and use a dialectic closer to the consumer (Schwab, 2018).

Figure.2: Aspects of PR affected by the fourth industrial revolution.



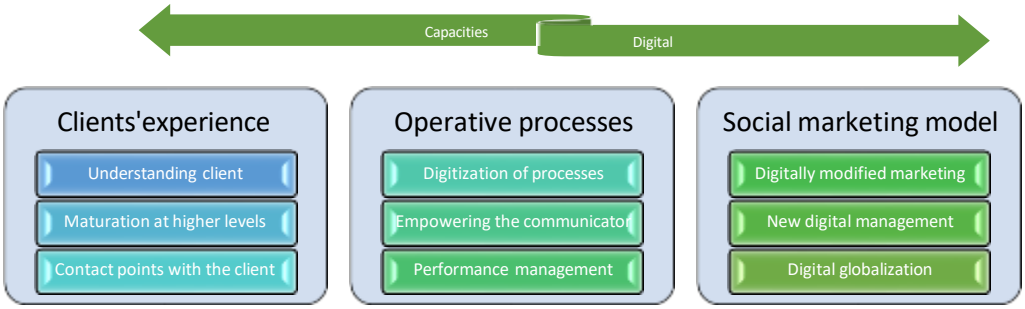
Source: Authors' elaboration

3. Elements of digital transformation

Digital transformation arises from the integration and use of new digital technologies called SMACiT: Social (Social Networks), Mobile (Mobile Devices), Analytics (Data Analysis), Cloud computing (operations in the computer field), and the Internet (Internet) (Galloway, 2018). This transformation is one of the biggest challenges facing organizations and society today, no one is immune to its effects and future efficiency and performance will depend on the success of assimilating these digital changes (Hinterhuber et al., 2021; Grewal et al., 2020; Vial, 2019; Aagard, 2019; Hinnings et al., 2018). The digital transformation that is the focus of this paper, created by the integration of SMACiT technologies, is part of the fourth industrial revolution. As argued by Romero Leguina et al.(2020), the acronym SMACiT refers to a set of powerful digital technologies, easily accessible to organizations and societies and with a high degree of complementarity (Figure 3). Other digital technologies, such as artificial intelligence, blockchain, robotics, virtual reality, etc., although they will affect organizations, are not considered SMACiT. The integration of SMACiT technologies is generating progressive and unprecedented digitalization that drives innovation and transformation of social business organizations and culture (Legner et al., 2017), with the capacity to transform products, services, operations, the language of communication with the public, internal and external management and even business models of organizations, as well as their competitive environment (Fichman et al., 2014; Hess et al., 2016; Lucas Jr. et al., 2013; Yoo et al., 2012). Digital transformation is increasingly becoming the generally accepted means of achieving organizational goals. It includes transformations of core business operations, which affect the organization's products and processes, as well as business structure and concepts (Matt et al., 2015). The importance of digital technologies - social, mobile, analytics, cloud, and internet for businesses and companies, does not lie in each of the technologies individually, but in their integration to transform business and the way of working. A clear digital strategy, combined with company culture and managerial leadership ready to drive transformation, will set a digital business apart from the rest. In the paper by Westerman et al. (2011) *"Digital Transformation: A Roadmap for billion-dollar organizations*", published in the journal MIT Center for Digital Business and Capgemini Consulting has identified three main areas of companies that are being digitally transformed, as we can see in Figure 3. These main areas include the experience of the client, operational processes, and social marketing models. Within each of the key areas identified, the managers of the companies analyzed in this study were transforming different elements. In total, Westerman et al. (2011) discovered nine elements that formed a set of core components for

digital transformation. The authors also found that no company was completely transforming everything. The company's senior staff chose specific elements, the ones they considered most important, to start their digital transformation. The tenth element they discovered, referring to digital skills, was considered essential for the transformation of the three areas.

Figure 3: Blocks of digital transformation.



Source: Adapted from Westerman et al.(2011)

Based on the academic literature reviewed for the purposes of this article, it has been possible to identify the most important challenges for digital transformation that economies, businesses, and social marketing must face, which include:

1. *Transformation of the business model*: For Berman (2012) new digital technologies mean that the relationship with clients is changing at an accelerated pace. Clients use mobile devices to shop, learn about product features, and stay constantly connected. Therefore, organizations can interact with them all the time. Leading companies will need to focus on two complementary activities: reshaping their value proposition for clients and transforming operations using new digital technologies to achieve greater interaction with clients (idem).
2. Compromise with the client.
3. Taking risks can become a cultural norm.
4. Technological challenges, issues of dysfunction of new technologies: SMACiT, etc
5. The strategic challenge. Developing a digital business strategy that responds to constant changes in the market.
6. Continuous or very rapid change in market conditions.
7. New leadership in the organization.
8. Employees in the digital era.
9. Structural changes in the organization.

10. Digital service platforms that allow the development of compromise with clients, managers, and business partners.

Digital transformation requires facing changes, companies can face the required changes radically or through a process of continuous improvement and maturation. Maturity models allow companies to evolve progressively in those capacities that allow them to successfully face the digital transformation (Hinterhuber,2021). The conceptual basis of the maturity model is placed upon the "*Business Engineering Framework*" (Österle & Winter, 2003) which describes the transition from the industrial to the information age. This maturity model consists of nine different dimensions with criteria to assess maturity and five maturity levels to classify companies in ascending order, as we can see in the following table.

Table 1: Levels of digital and information maturity

Level	Description
I: Test	Senior executives have recognized the need for action and agreed on the first resources to carry out digital activities. It has also experimented with digital products and services
II: Establishment	The company has gained a better understanding of the need for digital transformation and digital projects with a high priority
III: Consolidation	Leaders have defined strategic objectives for digital transformation and drive transformation as a strategic change project. Digital and mobile channels are integrated into core processes.
IV: Structuring	A digital roadmap and marketing strategy are created. New technologies are regularly evaluated at an early stage. Processes are automated and advanced data analysis is used.
V: Maximizing	Some functional areas are expanded. Digital transformation is a predetermined objective for management and is translated into operational and measurable objectives. it fully utilizes the digital potential of core PR activities and processes

* *Source*: Adapted from the paper of the University of St. Gallen and Crosswalk (IWI-HSG & Crosswalk, 2015-2016).

4. The Role of digital transformation in Empowering PR

In the study of the concept of the role of public relations Zerfass (2008), has suggested that the role of Public Relations in an organization can be divided into four categories, namely:

1. *Expert Prescriber*. An experienced professional with high consultative skills. Public Relations experts can help find solutions to public relations problems. Relationships between public relations experts and organization leaders such as the relationship between doctors and patients act passively to accept or believe what is suggested or proposed by the Public Relations expert (preaching specialist) in solving and overcoming the problem of public relations faced by the organization concerned.
2. *Communication Facilitator*. In this case, Public Relations professionals act as communicators or mediators to help management in terms of listening to what the public (consumer) wants. Likewise, the facilitator is required to be able to explain the wishes, policies, and expectations of the organization to the public. So mutual communication can create mutual understanding, trust, respect, support, and good tolerance on both sides.
3. *Problem-Solving Process Facilitator*. The role of public relations professionals in the process of solving public relations issues is part of the management and leadership team. This function aims to help the leaders or directors of the organization to become active as advisors to take action (decision-making) in dealing with problems or crises by facing them in a rational and professional way.
4. *Communication Technician*. The role of the communication technician makes Public Relations experts function as "journalists" who provide technical communication services otherwise known as communication methods in organizations.

Researchers have also discussed the concept of the definition of Artificial Intelligence (AI). Panda et al. (2019) have argued that in addition to technology, words are a powerful part of AI development in the world of Public Relations. There are 3 distinct skills that will continue to be needed in order for PR to drive the current development of AI; they must be able *to identify and manage the character and values of the company*, listen to encourage t*he culture of active listening to understand and not to answe*r, and *raising the sense of professional responsibility*.

5. Conclusions

The changes of the digital age are increasingly taking a line of empowerment in socio-economic developments and social decision-making. The current paper aimed to explore the impact and functionality of the role of public relations experts in the field of digital transformation. Various studies (de Jong, 2020; Panda et al., 2019; Aagard, 2019; Cluley et al., 2019; Ammerman, 2019; Park, 2018; Clark, 2000) have reported that during the development of Artificial Intelligence, the functions of PR include: 1)the role of the PR expert as a communication mediator; 2) the role of the PR expert as an Expert Consultant; 3) the role of mediator for problem-solving processes and 4) the role of PR as a communication technician. Throughout this paper, the role of the "fourth industrial revolution" 4.0 has been revised as a social and communicative process where PR experts must demonstrate certain characteristics. Among the characteristics required for a PR expert in PR development, the authors include the acumen that a PR professional must be able to manage the nature of the organization in which he or she operates. PR professionals need to know the culture of the organization they are attached to. It is this organizational culture that will become a distinguishing feature for this organization from others. Persuasion, lobbying, and negotiation techniques are at the core of human relations and social marketing for the development of internal organizational policies. 2. Listening is another skill that a public relations expert must have. By listening, we become aware of what problems they are encountering and what is actually desired by the social consumer. By listening, we train to understand others. 3. Responsibility. The culture of responsibility must be mastered by public relations. Public relations must be able to provide truthful information and be responsible for the information shared with the public. The sense of responsibility can only be represented by human beings and not by the technological progress of AI.

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DIGITALIZATION IN THE PUBLIC PROCUREMENT IN ALBANIA - ACHIEVEMENTS AND CHALLENGES FOR THE FUTURE

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Abstract

Public procurement in Albania has followed a path of rapid development since the beginning of the 90s. The public procurement system was adapted to changes in the trade and business climate as well as developments and improvements in technology. The reforms in public procurement were accompanied by the digitization of the process, through the establishment of the electronic procurement platform, with the aim of increasing efficiency and reducing corruption. E-procurement was a new system for Albanian public administration and the business community. It has advanced through continuous improvements and has been associated with various concerns. This paper focuses on the advantages and challenges that the electronic procurement system has brought to Contracting Authorities and Economic Operators, the two main parties that have the obligation to use it. The study is based on primary data collected from users of the system and secondary data from other sources at the national and international levels. The survey has enabled to highlighting of some technical, legal, and managerial issues during the use of e-procurement, as well as to provide several recommendations for future improvements.

Keywords: public procurement, e-procurement, digitalization, competition, corruption.

6. INTRODUCTION

Public procurement is the purchase of works, the supply of goods or services through a public contract by one or more contracting authorities or entities from economic operators (Law 162/2020). The main goals of the public procurement process are to increase efficiency and effectiveness in public procurement procedures, to ensure the proper use of public funds and to reduce procedures' costs, as well as to promote competition between economic operators.

Public procurement is one of the main areas of state activity and is considered one of the most important processes in the management of public finances. The World Bank (2017) estimated that public procurement accounts for around one-fifth of global GDP, with relatively small efficiency and effectiveness

improvements leading to significant benefits. The annual budget fund spent on public procurement in the Western Balkans countries for the last 5 years accounts on average from 5% to 12% of the GDP (FSHHSH, 2020; APP, 2022). According to the yearly reports published by the Public Procurement Agency, public procurement for the last three years in Albania (2020, 2021, 2022) accounted for 14.7%, 8.9%, and 9.4% of GDP, respectively (www.app.gov.al).
Public procurement in Albania started to be recognized and implemented as a process after the 90s. The Albanian legal framework for public procurement has been drafted and improved starting with the approval of the first law on public procurement in 1995 (Law 7971/1995). In the context of Albania, the World Bank (2011) reflects that despite a decade of attempts to improve procurement reform and laws, the threshold in terms of procurement reform moved to a new level in June 2006 with the signing of the Stabilisation and Association Agreement with the EU. After that, a procurement law guided by the relevant EU legislation fundamentally changed the public procurement system in Albania (Law 9643/2006), paving the way for electronic procurement. The law on public procurement is considered one of the main strategic instruments that helps the government to achieve its economic, social, and environmental objectives through a responsible, effective, and transparent system of fair use of public funds and government expenditures (FSHHSH, 2020). In order to achieve the best alignment with the directives of the European Union and to implement the National Public Procurement Strategy, Law 162/2020 has recently entered into force (APP, 2020).
Despite the frequent changes that the legislation has undergone, public procurement has always been based on the 3 basic principles of 1- Non-discrimination and equal treatment; 2- Transparency in procurement procedures, and 3- Equality in the treatment of requests and obligations, which are charged to bidders or candidates.
From this point of view, public procurement has a cross-sectoral nature and is closely and reciprocally connected with other important areas, such as the fight against corruption, free and fair competition, health and consumer protection, environmental protection, business climate and the development of small and medium-sized enterprises, sustainable development, etc.
Public Procurement is a dynamic field that has continuously evolved even because of changes in the trade and business climate and the developments and improvements in technology.
The development of information and communication technologies (ICT) opened a wide range of opportunities for improving processes within and between organizations leading to the design of electronic procurement systems. Electronic procurement in the public sector (eProcurement) is the business-to-

government tendering and sale of goods, services, and works through online platforms as well as other networking systems, such as electronic data interchange and procurement planning facilities (EBRD, 2015). A number of public sector agencies worldwide have identified e-procurement as a priority for the e-government agenda and public procurement is being perceived as a major function of government. (Fernandes & Vieira, 2015). Nevertheless, the establishment of e-procurement as a stand-alone reform is unlikely to bring about positive transformational results. As Transparency International highlights, countries have to invest in coherent legal frameworks, training, and oversight capacity to ensure that the potential benefits of e-procurement in terms of reducing corruption are exploited to their maximum (TI, 2014).

Despite the importance of the proper functioning of public procurement in general and electronic procurement in particular, there are few studies pertaining to this field in Albania and even those are focused on the legal aspects of the process (Kashta, 2014 and 2015; FSHHSH, 2020). The observations made by foreign authors and organizations mainly belong to the period before the latest legal changes (AmCham,2010; TI, 2014; EBRD, 2015; Ferrand, 2017). Such lack of empirical studies in recent years, while the participants in public procurements encounter problems of both managerial and technical nature, has encouraged our research in the field of public procurement. The purpose of this paper is to identify the benefits and challenges faced by the users of the electronic procurement system (EPS) through a research and analysis process. Thus, the work can modestly contribute with recommendations for improving the public procurement process and system in Albania.

2 . LITERATURE REVIEW

2.1. Electronic Procurement – origin and role

Using digital tools in procurement practices goes back further to the 1980s. The Electronic Data Interchange (EDI) allowed businesses to transmit simple, standardized, transaction-related data from computer to computer. Many organizations adopted EDI to conduct business more efficiently (UN, 2022). Then during the tech boom of the late 1990s, the first systems dedicated to e-procurement were created. They were enterprise resource planning (ERP) systems and were primarily focused on workflows, catalogs, and creating purchase orders (Hallikas et al. 2021). Over time their popularity grew enabling many companies to prepare for the dawn of e-purchasing by the beginning of the 21st century.

In the European Union, eProcurement for the public sector was first introduced in 2004 (the Directives 2004/17/EC and 2004/18/EC). These directives, which were subsequently revised in 2014 (Directives 24 & 25) set up the framework for transparent and equal opportunities for public procurement including the mandatory use of electronic communication for publishing opportunities, the standardization of procurement processes, electronic tender submission procedures, handling of objections, etc., for all public procurement made in the EU above certain thresholds. It has been proven by EBRD surveys (2015) that when appropriate reforms, including correctly applied eProcurement solutions (online procedures and e-tools), are implemented across the public sector, these reforms can deliver all three key policy objectives: value for money[15], good governance, and economic development.

Analysis by EBRD (2015) has clearly demonstrated the far-reaching benefits of incorporating eProcurement as a part of wider public procurement reforms. Some of the benefits deriving from eProcurement are summarized in Table 1. They affect all stakeholders of public procurement.

Table 1: Summary of benefits from eProcurement.

Type of benefits	Description	Governance	Value for money	Economic development
Tangible benefits	1. Lower Prices – decrease in public spending		✓	
	2. Faster procurement process - shorter tender cycles		✓	
	3. Reduced administration costs	✓		
	4. Standardisation and optimization of inventory	✓		
Intangible benefits	1. Free access for suppliers and contractors/ increasing access to information			✓
	2. More competition/ number and quality of bidders		✓	
	3. Enhanced transparency/ limiting opportunities for corruption	✓		
	4. Greater accountability/ opportunities even for citizens, the media, civil society and bidders themselves to monitor the procurement process	✓		

[15] Value for Money is about achieving the optimum combination of whole life costs and quality (World Bank, 2003).

	5. Improved process management for government/ businesses	✓		✓
	6. User-friendly for suppliers and contractors/ foreign operators can be registered		✓	
	7. Improved management reporting, monitoring & audit/ facilitating contract oversight improving audit capabilities		✓	
	8. Automatic collection of market data	✓		

Source: processed by authors based on EBRD document (2015)

The qualitative benefits are not readily measurable; however, the quantitative results in some cases report savings ranging between 5%-20% of public procurement expenditure. From its side, the World Bank (2017) estimates efficiency gains as a result of moving to eProcurement have led to savings between 10% and 20% of the total procurement value.

The above list of reported benefits is not exhaustive, however, it is a great incentive to push countries toward the adoption of electronic procurement. Further on, it is evidenced that implementation of eProcurement initiatives could improve the professionalism and outside perceptions of procurement specialists. eProcurement applications also have a positive impact on employees' satisfaction, job formality, and work relationships (Fernandes & Vieira, 2015; Gasco et al., 2018).

However, the implementation of eProcurement has not been quite easy, nor has it necessarily brought the anticipated savings (Costa et al., 2018). The adoption and efficient usage of eProcurement systems is hindered by challenges of different types. Scholars have identified and classified a number of challenges that should be addressed in the appropriate ways to bring the expected advantages to all parts involved in public procurement (Garco et.al., 2018; Mavidis, Folinas, 2022; Mohungoo et al., 2020). Table 2 provides a summary of key challenges within three main contexts.

Table 2: Summary of challenges to implementing eProcurement

Technological	**Organizational**	**Environmental**
Complicated system/ platform, tools Inadequate IT & networking infrastructure IT security issues/ confidentiality, integrity, availability Lack of system integration Acceptance and usage issues	Lack of training and skilled personnel Change management problems Major reforms through ICT Shortcomings in leadership Value-driven outcome Leadership engagement/ commitment at the political level	Regulatory frameworks/ compulsory, fast-changing, coordinated SME issues/ availability of information, of know-how & support to use platforms Country context/ corruption level, level of education

Source: processed by authors based on literature review

While the organizational and environmental context includes challenges that can mostly be addressed by managerial approaches, challenges in the technological context often occur due to the IT systems in use, which can be resolved by new technological approaches (Hallikas et al. 2021). Technical malfunctioning of the platform and technical issues (like the system crashing on the very day the bid is due) and inadequate ICT and internet infrastructure of the organization to support e-tendering are among the main concerns for an efficient implementation of the process. From another point of view, but in the same context, there is an explicit concern that eProcurement focuses on ensuring transparency throughout the tendering process, however, it has flaws such as a centralized database that is vulnerable to attacks (Goswami et al., 2020). Albania has a recent experience with such attacks in its centralized database (Zaimi, 2022).

2.2. eProcurement in Albania

Within the framework of reforms in public procurement in Albania and with the main objectives of increasing transparency and the fight against corruption, the Public Procurement Agency with the help of USAID has set up an electronic procurement platform (www.app.gov.al). The goal of establishing the electronic platform was the automation of all contracting authorities, the safe execution of transactions, the removal of unnecessary documents, and the provision of secure data during the process. E-procurement was a new system for the Albanian public administration and the business community. For the first time, electronic procurement in Albania started in 2008, when the first phase of the system's implementation was carried out as a test phase. A limited number of Contracting Authorities were chosen (15), based on their technical and administrative capacities. After the successful 1st phase, it was decided that all contracting authorities will start using eProcurement by the beginning of 2009. This system enables all procedures to be carried out electronically, except for the negotiation procedure without prior publication and procurement below a threshold (value up to 100,000 ALL). Currently, eProcurement is 100% functional.

The introduction of the eProcurement system in Albania has led to positive results on various fronts. Competition increased from an average of 2.3 bidders per tender to 7.7 bidders per tender while costs were reduced for all parties involved. Cost savings on the operational budget for the management of the public procurement system amounted to 15% in the year 2009, 12% in 2010, and 20.1% in 2011 compared to the costs connected to the management of the paper-based system (Public Procurement Agency Albania 2009, 2010, 2011; TI, 2014). In 2010, the system received the United Nations Public Service Award in the category Improving Transparency, Accountability, and Responsiveness in

the Public Service (TI, 2014). Being an early adopter of the system, Albania is mentioned among several countries as a success story for "a comprehensive eProcurement reform implemented in 2009" (EBRD, 2015).
A major factor in the successful implementation of the eProcurement system was delivering the appropriate training program on how to use the system, tailored one for public administration and another for the business community (AmCham, 2010; TI 2014).
Since 2017, EPS has undergone major improvements, including important functionalities and modules not only to improve the performance of the electronic system but also the performance of the whole procurement system (APP, 2020).
Although advancement, there is a road ahead to make the platform more transactional and cover the whole public procurement cycle. The public procurement cycle refers to the sequence of related activities, from needs assessment, through competition and award, to payment and contract management, as well as any subsequent monitoring or auditing (OECD 2020). EPS in Albania supports some activities of the procurement cycle: publishing procurement plans (100%), announcing tenders (100%), provision of tender documents (100%), Electronic submission of bids, and notification of awards (100%). However, little development is observed in Western Balkan countries, including Albania regarding post-tendering stages (OECD, 2020).

3. METHODOLOGY

Theoretical framework. The purpose of this study is to highlight the benefits and challenges faced by users of the electronic procurement system (EPS) in Albania. Since EPS is mandatory for use by Contracting Authorities (CA) and Economic Operators (EO), the design and adoption challenges of electronic procurement processes and functions are not covered in this work. However, the interference and correlation with the public procurement system in general is impossible to avoid and it appears in the findings of the study.

The research question is 'What are the challenges of SPE in Albania for the users of the system?' The main objectives through which this question will be answered are:

1- to explore the perceived performance, promoter role, and challenges of eProcurement implementation from the business point of view.
2- to explore the perceived development and challenges of eProcurement implementation from the Contracting Authorities' point of view.

The focus is on the problems that eProcurement faces even in the second decade of its implementation in the Albanian environment. Knowing them will enable finding approaches and solutions at the institutional and individual levels for both user groups.

The research follows a descriptive methodology, based on the combination of a desk study and an empirical survey. The desk study has permitted us to carry out a review of the relevant literature and to design the conceptual framework for collecting secondary data. The sources of information included various journals, books, websites, and available reports from national and international organizations.

The primary quantitative and qualitative data were provided through the survey research method and were analyzed by employing descriptive statistics.

There are drafted two questionnaires, one for the Contracting Authorities (CA) and the other for Economic Operators (EO). They both contain questions to get general information about the respondent unit, questions about the perceived benefits of the usage of e-procurement, and questions about challenges they face during the procurement process. The similarity of questions for both groups enables us to make a comparative analysis. An open question is made at the end of the questionnaire to collect detailed suggestions for improvements to EPS.

Sample. A cluster sampling was followed to create both samples of CA and EO. The geographical criterion was used, picking CA from Tirana region (capital city), where a great number of public CA are located (see List of CA, APP). As to the EO, in order to facilitate the analysis and the comparison, the same region was chosen to pick the sample.

The questionnaires made in Google form were sent via e-mail to key representatives of the entities (chief of procurement department/ administrator). They were electronically collected and processed afterward. The statistics for both samples are presented in Table 3.

Table 3: Sample statistics

Indicator	Economic Operator	Contracting Authority
Sample size	146	115
Population	n/a	1304
Correctly filled in questionnaires	124	60
% of responses	85.5%	52.2%
Confidence level/ margin of error	95% / 6.5%	95% / 7%

The sample size and the respondent rate are the key limitations of the study. The geographical criteria also might bring some narrowness to the study. A larger scale survey would bring a broader base for the reported results. However, the cross-sectional analysis enables the generalization of results in terms of challenges and improvements to the EPS.

4. FINDINGS AND DISCUSSION

Main data. The evaluation of the impact, improvements, and problems that accompany eProcurement should be based on a certain experience and good knowledge of the rules for the operation of the system. The respondents were asked to express their opinion in the framework of the institution, both in the case of CA and EO. All entities included in the survey have experience with EPS since the beginning of system implementation. Both CA and EO participate in a considerable number of procurement procedures (PP) during the year, as shown in Table 4.

Table 4: Average number of procurement procedures during a year

Entity	0 - 10	11 - 50	51 - 100	100+
EO	23.4%	23.4%	22.6%	30.6%
CA	26.7%	53.3%	20.0%	0%

EO are juridical persons (69.4%) and physical persons (30.6%). They provide goods (69.4%), services (23.4%), and works (7.3%). This diversity of the sample increases the chances for a comprehensive response regarding achievements and problems, as well as for results that can be generalized at a higher level.

31.5% of EO also participates in non-electronic procurement procedures, which take place outside the EPS. Despite the legal changes and the tendency to reduce this part of the PP, a number of procedures continue to be carried out in paper form (including procedures for funds allocated by EC and other donor organizations). The data from APP for negotiated procedures without prior announcement (not through EPS) show a drastic decrease in the last 4 years (2018-2022) compared to the previous period since 2010. The ratio of the negotiated procedure without prior announcement to the limit fund of the winning procedures is reduced from 17.9% in 2010, to 3.9% in 2018, to 0.9% in 2022 (www.app.gov.al).

The findings from the EO survey allow to explore the perceived performance, promoter role, and challenges of eProcurement implementation from the business point of view, which is the first objective of the study.

EOs have no choice but to get involved in the EPS and design their own strategy to use the system as effectively as possible. In this framework, they are interested in benefiting from the opportunities it offers. It is accepted to a very large extent (92%) that submitting the offer electronically has had a positive effect, reducing costs both in time and financial terms. The fact that it was accepted by 82% in the survey conducted at the beginning of EPS use (AmCham, 2010) reconfirms this tangible benefit. However, in conditions where the use of EPS is mandatory, this benefit becomes irrelevant.

Regarding the impact that the system has had to increase their participation in the PP, EOs generally (over 90% of them) consider the EPS as an opportunity to figure out the demand of the public market (Fig.1). However, there is a degree of skepticism about the transparency of the system regarding information and the chances of participation (8.1%). As this answer comes only from physical persons, we guess it is not directly related to the operation of the system, but mostly to the time limits and capacities of EO. The same issues are pointed out in the monitoring report of OECD for Albania (2021): "The strong focus on open competition, with mandatory publication of tender notices as of relative low thresholds, has generated a high number of procurement opportunities but also generated costly transactions in the procurement system."

It is expected that eProcurement will promote competition and stimulate economic activity for both large businesses and SMEs. Respondents were asked about the impact of public procedures in relation to the expansion and development of their business, but only 22.6% of them consider it as an impactful factor (Fig.2). The rest either accept it as a possibility but without much optimism, or - even worse - do not consider it a helpful option (46%). This is also one of the challenges of the environmental nature that is highlighted in the literature (Table 2) and is confirmed by the responses of EOs regarding the difficulties of using EPS below.

Fig.1. Access to procedures

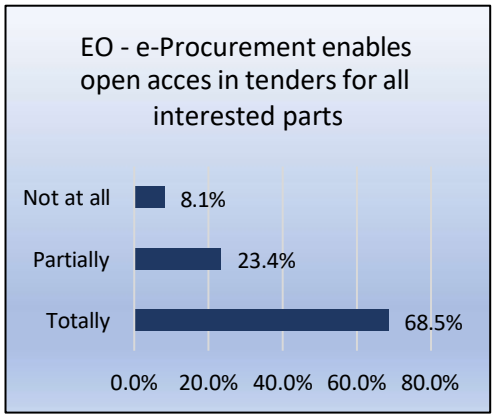
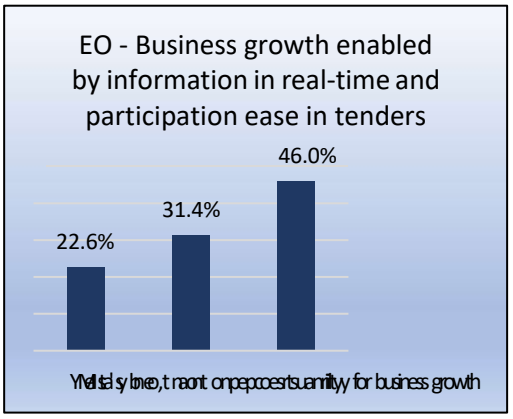


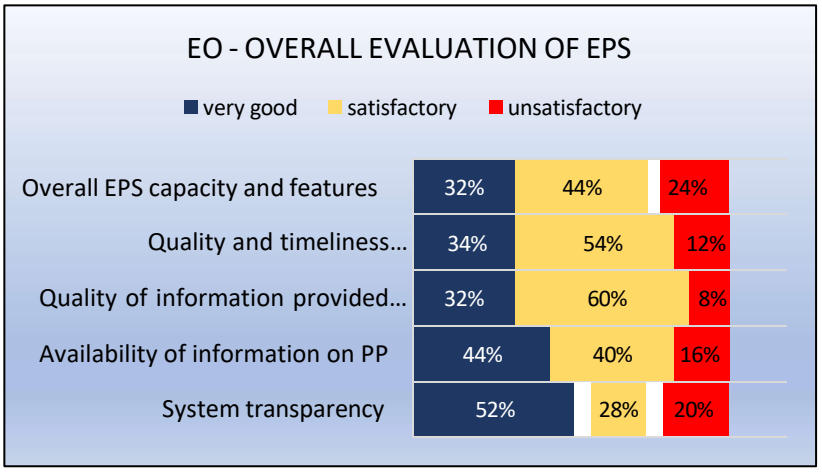
Fig.2. Growth opportunities perception



Regarding the general evaluation of the system by several criteria, EOs list the transparency of the systems and the availability of information for PP in the top places (Fig. 3). The quality of information given in the tender documents, and the timely and correct information for the procedures provided to them by the CA are ranked at an average level. This implies that there are deficiencies in the CA work, which hinder the EOs from participating in the PP and/or using the system.

We note that there is improvement in the evaluation of these aspects compared to the 2010 survey (AmCham); still, the need for improvement is significant. Regarding the capacity of the SPE and the characteristics that allow participation in the PP by spending a reasonable amount of time and financial resources, it remains the least valued criterion by the EOs.

Fig.3. Current evaluation of EPS by economic operators

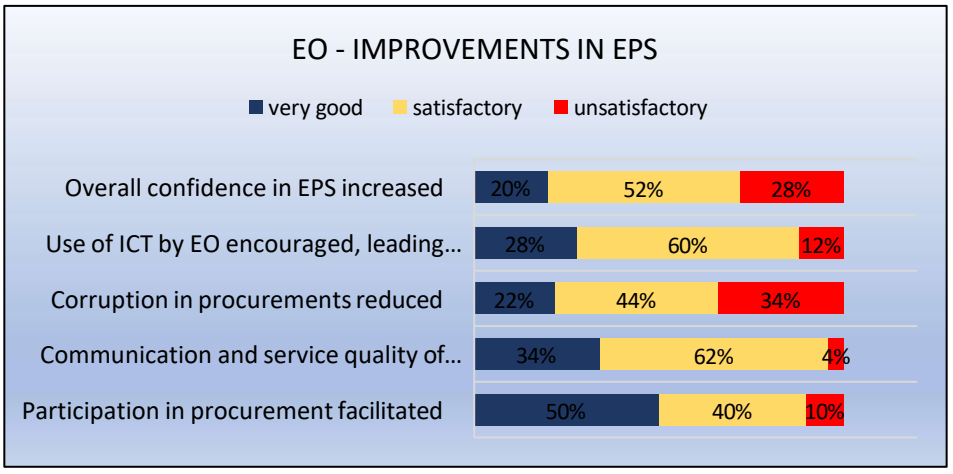


Beyond the evaluation of the current state of the EPS, when asked about the improvements it has made during the years of use, the EOs confirm that the system has facilitated the process of their participation in the PP and has improved the quality of service from the CA (Fig.4). The positive role of EPS as an incentive for the use of ICT in EOs is evident. They accept it did drive them to increase infrastructure and human capacities, which in turn can contribute to the penetration of ICT in other processes within businesses, a benefit that is also emphasized in other countries (Costa et al, 2018; Gasco et al., 2018).

The general level of trust in EPS has not changed as expected over the years of system use. It has remained mostly at average levels, compared to the 2010 survey, regardless of the positive evaluations for specific elements of the system.

On the other hand, a question related to the reduction of corruption has been included in our survey, as one of the important desirable benefits, especially for countries like Albania (TI, 2014: OECD, 2020, 2021). Respondents believe that corruption (or at least the perception that it exists) is present in public procurement cases, despite the opportunities that EPS offers to limit or eliminate it. From a historical point of view, since the beginning of the system' use EOs estimate a slight improvement regarding corruption. This perception is independent of the legal form of the businesses that have respondents, the number of procedures they participate in, or the type of products they offer. There might be different reasons not necessarily related to the operation of the system. Exclusion from the PP, which most EOs admit have experienced, and the mishandling of the complaints they sent to the CA (or PPA, PPC) are among the reasons that increase their dissatisfaction and mistrust of the process as a whole.

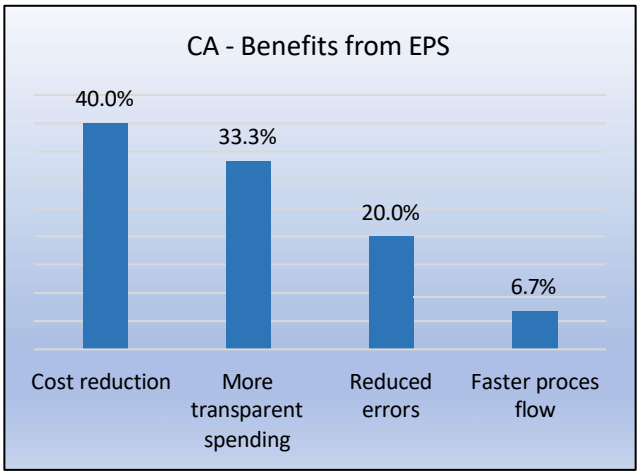
Fig.4. Improvements in the process



The most recent procedural changes announced by the Public Procurement Commission that all complaints for PP (and other procedures out of this survey) will be submitted in electronic form through the unique government platform E-Albania have not yet provided results to mention in this research. According to PPC, the E-Complaint system has been helpful to all interested entities, as it counts some tangible results, such as reducing the number of complaints and respective costs, increased quality, as well as has avoided direct contact with any public office, including the Public Procurement Commission itself (KPP, 2022). This remains to be investigated in the future.

The findings from CA survey enable to explore the perceived development and challenges of eProcurement implementation from the Contracting Authorities' point of view.
CA representatives confirm the expected benefits from EPS are higher in terms of reducing PP expenses (elimination of paper procedures, increasing the accuracy and quality of the process by avoiding repetitions, shortening the time of communication with EO) (Fig.5). The system enables CA to be transparent by displaying how they spend funds for goods and services, increasing chances even for citizens, the media, civil society and bidders themselves to monitor the procurement process (EBRD, 2015) and this benefit accounts for around 33%. This is an influential factor in the general perception of the transparency and effectiveness of the system, which the CAs are interested in.

Fig.5. Benefits from EPS acc. CA



The reduction of errors in PP due to easier detection and correction of them in the system is evaluated as a meaningful indicator of the process quality and has an impact on the effectiveness of the institutions. Despite the contribution of

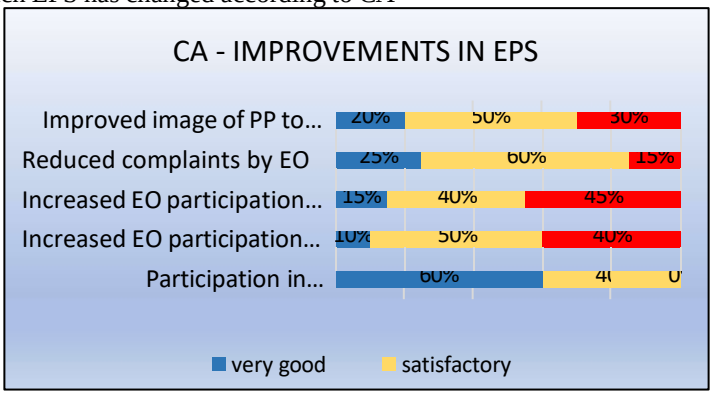
technology, which affects the acceleration of certain parts of the process, in the opinion of the CAs, the entire PP is not significantly shortened. Time limits according to the legal framework and often the cancellation/repetition of procedures for various reasons affect the time of completion of the procedures more than the electronic system itself.

CA's perception of the changes brought about by EPS over the years since 2009 is variable. It is obvious that the changes were more significant at the beginning of the EPS, when it became evident the introduction of the system increased the professionalism in conducting procurement procedures, improved the reputation of public institutions, and motivated both EOs and CAs to be more serious and responsible in performing their duties until the end of the procurement procedure (Amcham, 2010).

Currently, there is a broad consensus that the EPS has facilitated the process for the CAs themselves (Fig. 6). There is a positive opinion that is attributed to the system for reducing complaints from EO and that converges with the benefits that the CA itself has from using the system, as noted above. But CAs are generally skeptical when asked about the possible impact of eProcurement on increasing the quality of goods/services offered or reducing the financial offers. Over 40% of respondents see a very small impact in both directions when it is theoretically expected that the competition in the process would bring opposite effects. Practically, the use of EPS has promoted the increase of competition between economic operators (increase in the number of bidders), but the legal framework for selecting the winner (favoring the lowest price) is very likely to bring a decrease in the quality of work, goods, and services.

The increased level of confidence in EPS and the improvement of the procurement process' image by EO and third parties are ranked more or less at the same levels by CAs and EOs (fig. 4). The change is not considered sufficient by around 30% of the respondents.

Fig.6. How much EPS has changed according to CA



Similar problems. Although the two groups look at the effectiveness and convenience of EPS from different angles, several problems are common and have a similar negative impact. Consequently, a joint approach and efforts to find solutions could be more effective. The technical aspects of system operation (platform operation, upload speed/ easiness, uninterrupted internet) have been (AmCham, 2010) and remain challenges for both user groups, regardless of improvements in the ICT infrastructure. According to the EO survey (Fig.7), they keep encountering such problems. In about 46% of cases, this has led to the inability of EOs to participate in the announced procedures, penalizing and discouraging them. This becomes more worrying when happens to SMEs, which have smaller human and technical capacities.

Fig. 7. Access in the system for EO

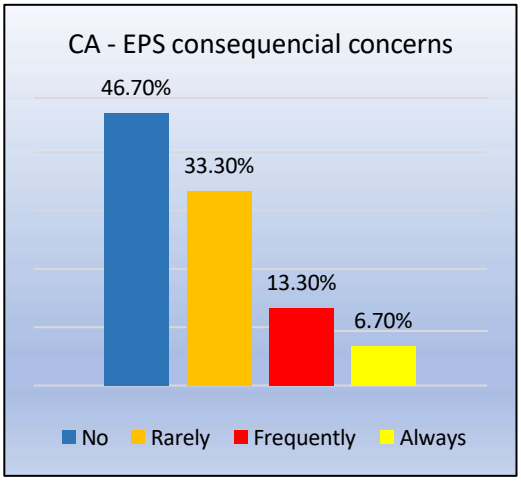
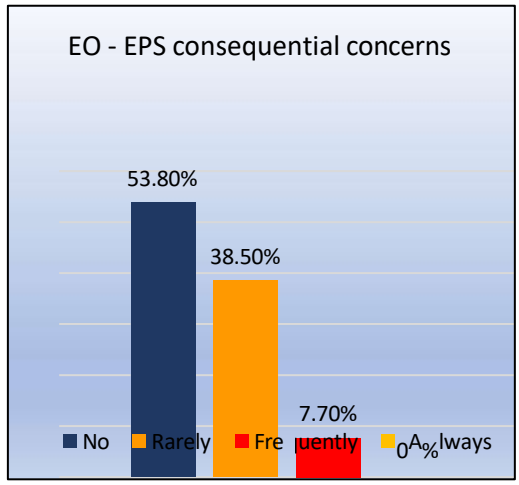


Fig.8. Access in the system for CA



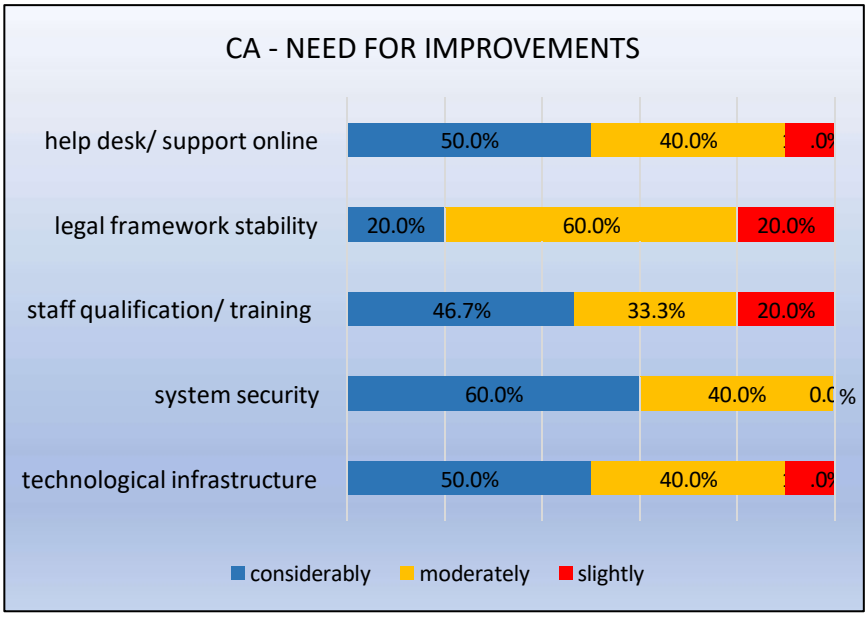
Despite the objectives of the procurement strategy for capacity building and investments in PP infrastructure, CAs are not exempt from this risk. On the contrary, there is a higher percentage of Cas compared to EOs (Fig. 8) who encounter problems regarding access to the system/difficulties of a technical nature, which have led to the cancellation of the procedures.

The difficulties encountered by EPS users point to issues that need improvement. In the CA's opinion (Fig.9), the issues of the technological context are listed first. Increasing the security of the system is suggested by everyone and currently it has to do with: Security risks resulting from unauthorized penetration of trading platforms and failure to protect transaction related data while being transmitted or stored; Privacy risks arising from inappropriate information collection and information transparency; Uncertainty over trust and commitment among trading partners. The installation of online

support (like the model installed in the tax system) is suggested by both CA and EO as an instrument that would facilitate the work of users during the organization of and participation in PP.

Although PPA has made possible periodic training on EPS for CAs, there is still a need for further training. The fact that the EPS is often changing, and the turnover of the employees are a reason to organize continuous training and to update both technical and legal knowledge. The obligatory use of the system also imposes on the EOs to have a high level of skills in the use of ICT and to recognize the changes in the legal framework intertwined with EPS. The same challenge is highlighted by OECD (2021): The lack of institutionalized and systematic training in public procurement for procurement staff may be an impediment to the efficient and professional execution of procurement functions. No comprehensive manual or article-by-article commentary on the provisions of the PPL and DCM are available, covering the whole procurement process, all types of procurement procedures and tools. This could be used by contracting authorities (entities) and economic operators.

Fig.9. Future challenges



Regarding the legal framework, CAs would prefer higher stability since frequent changes negatively affect their work. Moreover, at present, the procurement process is generally over-regulated and the legal framework is too stringently prescriptive (OECD, 2021).

5. CONCLUSIONS AND RECOMMENDATIONS

This paper deals with the development of the electronic public procurement system in Albania and its impact on contracting parties. The EPS in Albania was installed and has been operational since 2009 and was intended to bring improvements in three key policy objectives: value for money, good governance, and economic. Although ideally the Albanian public procurement system is improving and adapting rapidly, in practice there are still concerns. The paper answers the research question by fulfilling its two main objectives.
For this, the study:

- Brings empirical data on the use of EPS by contracting parties, which were missing since 2010 in the country's literature.

- Figure out the benefits the system has brought and the improvements it has undergone over the years and evaluate the amplitude of change based on the perception of users.

- Makes a critical analysis of the difficulties and problems encountered by users, with the intention of finding their main causes.

- Based on the results of the surveys and the review of the literature, the study highlights some of the directions in which improvements can be made in order for the EPS to optimally fulfill the objectives of the national strategy of the PP.

Some of the recommendations for policymaking and the executive, which are in line with the recommendations of the monitoring organizations and with the objectives of the PP strategy still unaccomplished, include:

✓ Employ recent digital technology developments that:

- ensure privacy and integrity, provide fair treatment, and protect sensitive data, while supplying the core capabilities and functions that allow business innovation;
- allow integrated e-procurement solutions covering the public procurement cycle.

✓ Connection of the electronic procurement system with other systems (e-Albania, tax system, social security, license database, etc.), thus increasing the efficiency of meeting some of the participation conditions for the process of EO qualification

- ✓ Interconnection of the electronic procurement system with the electronic treasury system, to expand the procurement cycle with activities like payment and contract management.
- ✓ Frequent changes in by-laws bring confusion. It is recommended the stability of the legal framework and its formatting in a manual which will serve as a guide to help Contracting Authorities and Economic Operators during the procurement process.
- ✓ The Public Procurement Agency should design and install online assistance through a real-time help desk for operational issues requested by CA and EO.

Regarding businesses, in addition to investments in ICT infrastructure, more commitment and investment in the qualification of their procurement employees is recommended.
A special recommendation goes to higher education for increasing the amount of knowledge about public procurement in general and eProcurement in particular in the curricula, as well as to expand research in the field of procurement, where a variety of problems can be observed.

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PRIVACY AND SOCIAL MEDIA

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Abstract

The right to privacy is considered one of the basic human rights and is protected by law. These related rights can be grouped into two broad categories—negative and positive rights. Negative rights, such as the right to privacy, the right not to be killed, or the right to do what one wants with one's property, are rights that protect some form of human freedom or liberty.

Social media has impacted privacy by enabling the collection of private data. Social media platforms are able to collect data about their users via their website logs, search engines, cookies, third-party apps and other sources.

Privacy protection describes the ability to keep specific information private or restricted to a limited number of people, where control is key. Without that control, anyone with the intention and means can manipulate your identity to serve their goals, whether it is selling you a more expensive vacation or stealing your savings.

There are four different types of privacy protection:

- *Physical types of protection include the use of locks, pass codes or other security tools to restrict access to data or property.*
- *Virtual privacy protection refers to all activity conducted via a computer or over the internet, such as firewalls, security protocols, software programs to eliminate viruses, etc.*
- *Third-party - There are several well-known companies that specialize in privacy protection as a manner of business.*
- *Legislation - Privacy law is the part of law that deals with the storing and using of personal identifiable information, personal healthcare and financial data, regulating the right way this information is collected by governments, public or private organizations, or other individuals.*

In this paper we will deal with all the main problems related to privacy and social media.

Keywords:Social media; privacy; law; internet; information.

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1. Introduction

We live in modern times. In our time social media is flourishing. We all have friends that upload photos, videos or information of almost everything of their everyday life in Instagram[17], Facebook[18], WhatsApp[19], TikTok[20], Snapchat[21] and many other social platforms[22]. Let's take an example of a baby being born. His/her parents start uploading photos of the baby in the hospital crib, the welcome party in the house, the first laugh, the first step, the first word, the first birthday celebration, the fifth birthday celebration, the first day of school, and so on. This baby now is 18 years old and start his/her own social media journey. This is all a great picture right? Well, let me explain you what happens behind closed doors.

Did you remember the picture that was taken and uploaded by your parents? This information was collected, analyzed and maybe sold by the social media to its affiliates and partners. Even before you were conscious of it, you start to exist on the Internet[23] and data starts being compiled about you, to be used sometime later. The Internet knows where you studied, even before you had the chance to enter that information in the online space. This may not bother you - who cares where you studied? But what happens when you started your own Social Media activities? Social media platforms, websites[24] and mobile applications[25], collect, process and profile your data into statistics that are ready to be sold. By agreeing to the terms and conditions of a social media network, websites and mobile applications, you grant permission to their owners to collect, process and sell personal details such as:

- uploaded data containing information regarding your geo location, which can help people track you down,

[17] Accessible at : https://about.instagram.com/
[18] Accessible at : https://about.meta.com/
[19] Accessible at : https://www.whatsapp.com/
[20] Accessible at : https://www.tiktok.com/about?lang=en
[21] Accessible at : https://www.snapchat.com/en-US
[22] A social platform is a web-based technology that enables the development, deployment and management of social media solutions and services. It provides the ability to create social media websites and services with complete social media network functionality.
[23] The Internet is a global network of billions of computers and other electronic devices. With the Internet, it's possible to access almost any information, communicate with anyone else in the world, and do much more.
[24] Website is a group of World Wide Web pages usually containing links to each other and made available online by an individual, company, or organization.
[25] A mobile application or app is a computer program or software application designed to run on a mobile device such as a phone, tablet, or watch.

- sensitive data you provide,
- information that other people on your friend list provide,
- information about your devices, from which you have logged on to social media:
    - your location,
    - operating system,
    - device settings,
    - information about you visiting and using other websites which have integrated social media services, and so on.

Even when you are not logged in to your Social Media profile some actors may provide data to Social Media, provided from:

- social media's affiliate partners[26], or,
- information that the mobile applications gather from your phone.

This data about you and millions of other users is utilized by companies[27]. Actually, your "likes[28]", "shares[29]", and "posts[30]" reveal a lot about your personality.

Companies modify their goods and services considering your preferences revealed to them through an analysis of your online behavior. They use models for profiling, like extracting information about your habits, habits that even you did not notice! They get insights to our preferences, sexual orientation, financial situation, social circle, political affiliation and religious believes.

Your next employer may have access to such information and may already know more about you then you know about yourself. They can even try to judge what your level of intelligence is.

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[26] A social media affiliate is someone who promotes offers and services related to the social media vertical. Social media tools offer many affiliate marketing programs, each offering a different set of benefits and precise requirements.

[27] A company is a legal entity registered to conduct business activities and to generate profit.

[28] A “like” option is a feature in communication software such as social networking services, Internet forums, news websites and blogs where the user can express that they like, enjoy or support certain content.

[29] Social media “share” option allows people to share your page on their respective social media account, and vice-versa.

[30] A “post” is content shared on social media through a user's profile.

Under certain circumstances, this data may also be used by public authorities for deciding whether you are a threat to national security[31].

You may or may not be okay with this, but the important part is being aware of the other side of the story. Privacy policies usually contain a lot of text. Be careful to always review the privacy policy and adjust the privacy settings. You can reap the benefits of the digital world, but it should be done in a smart way to protect yourself from risks.

Chapter 1 – The legal foundation that protects privacy on Social Media platforms.

Social media has impacted privacy by enabling the collection of private data. Social media platforms are able to collect data about their users via their website logs, search engines, cookies, third-party apps and other sources.

What personal information is being shared?

When you post a photo online, or send a tweet, or participate in a discussion on a social network, you're sharing a lot more than you might think. Obviously you're sharing the things that are in your post; photos, videos, and your username – but there's also other data that gets shared :

- the time you made the post,
- your location when you made the post,
- links to your social media profile,
- personal details about yourself, including contact information, birthday or gender,
- links to the friends or other people you've connected with,
- links to the friends or other people that are tagged in the post,

[31] During times of national security threat, public authorities use social media to monitor public sentiment and detect potential threats in real-time. For example, when there is a threat of protests or riots, law enforcement agencies use social media to track the spread of the event, identify potential organizers and gather information on the protest's location, timing, and size. This information could then be used to deploy law enforcement resources to prevent violence and ensure public safety. Additionally, social media can help intelligence agencies detect and monitor potential terrorist activities, including the recruitment of new members, propaganda dissemination, and coordination of attacks. By utilizing social media, public authorities can stay ahead of potential security threats and better protect the public.

- identified faces of people in a photo or video, and links to their social media profiles,
- identified locations from a photo or video.

Privacy has been defined as the selective control of information sharing, where control is key. Internet privacy is important because it gives you control over your identity and personal information. Without that control, anyone with the intention and means can manipulate your identity to serve their goals, whether it is selling you a more expensive vacation or stealing your savings. Privacy protection describes the ability to keep specific information private or restricted to a limited number of people.

There are four different types of privacy protection[32]:

i. Physical - physical types of protection include the use of locks, pass codes or other security tools to restrict access to data or property. These security methods are effective only if access to the key or code is restricted or difficult to obtain.

ii. Virtual - virtual privacy protection refers to all activity conducted via a computer or over the Internet, like a firewall software and protocols to the Internet connection.

iii. Third-party - There are several well-known companies that specialize in privacy protection by selling advanced software protection programs. The specific tools used to provide the protection vary, depending on the specific areas of concern for each client. For example, a celebrity may want health issues to remain private.

iv. Legislation - The right to privacy is considered one of the basic human rights and is protected by law. These related rights can be grouped into two broad categories :

    - Negative rights - negative rights, such as the right to privacy, the right not to be killed, or the right to do what one wants with one's property, are rights that protect some form of human freedom or liberty.
    - Positive rights - positive rights provide the right holder with a claim against another person or the state for some good, service, or treatment.

[32] Retrieved from https://www.easytechjunkie.com/what-are-the-different-types-of-privacy-protection.htm

In Albania there are several laws that defend the right to privacy, such as:

- Law No. 9887, dated 10.3.2008, "For the Protection of personal data"[33];
- The Penal Code[34];
- Law No. 2/2017, "Cyber Security"[35];
- Law No. 9918, dated 19.5.2008, "For Electronic Communications In The Republic of Albania"[36];
- Law No. 9902, dated 17.4.2008, "For the protection of consumers"[37];
- Constitution of Republic of Albania[38];
- Universal Declaration of Human Rights[39], ratified Albania[40];
- European Convention on Human Rights[41] and several of its protocols, ratified by Albania in 1996; and many other legislative acts, … and many more.

Social media online activity in Europe is regulated by various different laws. Mostly, the legal basis of Meta[42] activity in Europe consists of:

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[33] Retrieved from https://www.idp.al/wpcontent/uploads/2020/03/Ligj_Nr.9887_dat%C3%AB_10.3.2008_i_ndryshuar.pdf

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[41] Art.8, retrieved from https://www.echr.coe.int/documents/convention_eng.pdf

[42] Meta Platforms, Inc., doing business as Meta and formerly named Facebook, Inc., is an American multinational technology conglomerate that owns Facebook, Instagram, and WhatsApp, among other products and services. Official website https://about.meta.com/company-info/

a. General Data Protection Regulation[43] (GDPR): The GDPR is a comprehensive data protection law that governs the collection, use, and storage of personal data within the European Union. Under the GDPR, Social Media must provide users with clear and transparent information about how their data is collected and used. The General Data Protection Regulation (GDPR) is the toughest privacy and security law in the world. Though it was drafted and passed by the European Union (EU), it imposes obligations onto organizations anywhere, so long as they target or collect data related to people in the EU.

b. ePrivacy Directive[44]: The ePrivacy Directive regulates the use of cookies and other tracking technologies on websites and apps. Social Media must obtain informed consent from users before using these technologies to track their online behavior. So, the Directive specifies that people have to opt in before a company can send communications to them. This applies to not just email marketing, but also calls, texts, and any other form of electronic communication. Unsolicited emails or calls are not allowed.

c. Network and Information Systems Directive (NIS2[45] Directive). This law aims to enhance cybersecurity across the European Union and requires online platforms like Facebook to take appropriate technical and organizational measures to ensure the security of the network and information systems they use. This includes implementing measures for detecting and managing security incidents, preventing unauthorized access and ensuring business continuity. The NIS Directive also establishes a cooperation framework among Member States to improve incident response and promote information sharing among critical service providers. Ultimately, the NIS Directive aims to enhance user trust and confidence in the online environment.

d. Data Protection Directive[46]: The Data Protection Directive prohibits the transfer of personal data[47] to countries outside the

[43] Retrieved from https://gdpr-info.eu/
[44] Retrieved from https://edps.europa.eu/sites/default/files/publication/dir_2009_136_en.pdf
[45] Retrieved from https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/689333/EPRS_BRI(2021)689333_EN.pdf
[46] Retrieved from https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31995L0046:EN:HTML

European Union that do not provide adequate data protection. Social Media must ensure that any data transfers comply with the requirements of the Directive.

e. Charter of Fundamental Rights of the European Union[48]: The Charter of Fundamental Rights protects the right to privacy[49] and data protection, and imposes certain obligations on companies that collect and process personal data.

Overall, these laws provide a framework of protections for users of Meta and other apps within the European Union, safeguarding their right to privacy and controlling the way in which their personal data is used.

Chapter 2 – Facebook privacy problems

In the last years Facebook has come under a lot of heat specifically in regard to data privacy, how much they've got access to and what they're doing to keep that information secure. One of the biggest complaints when it comes to data privacy is a feeling of helplessness that people get when they are kind of forced to use this platform and forced to put all their information on them, and then the company does nothing to do anything to protect it, to keep it safe and to keep it out of the reach of spammers or scammers or unethical organizations that'll use it against them.

First of all I need to mention two crucial points :

i. No one is forcing anyone to use Facebook or to use Google. It is understandable that they've got kind of a monopoly on this online activity. So, if you choose to participate in this world, you're going to somehow use these organizations and those software pieces. The

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[47] Art. 2(a) of the Directive - Personal data are defined as :
- data subject - any information relating to an identified or identifiable natural person;
- an identifiable person is one who can be identified, directly or indirectly, in particular by reference to an identification number or to one or more factors specific to his physical, physiological, mental, economic, cultural or social identity.

[48] Retrieved from https://www.europarl.europa.eu/charter/pdf/text_en.pdf

[49] Article 8 of the EU Charter of Fundamental Rights :
- Everyone has the right to the protection of personal data concerning him or her.
- Such data must be processed fairly for specified purposes and on the basis of the consent of the person concerned or some other legitimate basis laid down by law. Everyone has the right of access to data which has been collected concerning him or her, and the right to have it rectified.
- Compliance with these rules shall be subject to control by an independent authority.

argument to not have to use Facebook, that's kind of a moot point, especially if you have an online business activity that generates you income.

ii. Do Social Media have an obligation to keep your data safe? The answer is yes, they do have an obligation to try to keep personal data safe by obliging international laws.

What happens when someone that's unethical or a spammer or a scammer, get a hold of your data, whose fault is this? In regards of protecting the data that absolutely is going to fall under Facebook to keep the information safe and secure on the platform.

Here is an analysis of the user agreement with Facebook via signing their Terms and Conditions[50].

How does Facebook collect privacy data?

- Information you provide: When you create a Facebook account, you provide information such as your name, email address, phone number, and date of birth. Facebook may also ask you to provide additional information, such as your employment history, education, and relationship status.
- Information from your activity: Facebook collects information about your activity on the platform, such as posts, likes, comments, and messages. Facebook also collects information about the pages you follow, groups you join, and ads you click on.
- Information from partners and third-party websites: Facebook collects information from websites and apps that use its advertising services, as well as from partners who provide Facebook with data about you.
- Information from devices: Facebook collects information about the devices you use to access its services, such as your IP address, browser type, and operating system.
- Location data: Facebook collects location data from your mobile device, even when you are not using the app, if you have enabled location services.

[50] Retrieved from https://www.facebook.com/legal/terms?paipv=0&eav=AfZEp77YquDmUUmM6qp0GLoQ9CeoXd_KE2fPIfxseYtI8PCE3T3qyy7W5RzX2pkcc1I&_rdr

All this data is used by Facebook for various purposes, including targeted advertising, content recommendations, and improving the overall user experience. It is important to note that Facebook has faced criticism and controversy related to its data privacy practices, and it is important for users to be aware of how their data is being collected and used on the platform.

How can Facebook legally use my personal data?

a. User agreement[51]: When you sign up for a Facebook account, you agree to the platform's terms and conditions, which include the use of your personal data. Facebook can legally use your data as long as it's done in accordance with these terms.

b. Consent: Facebook may ask for your consent to use your data in certain ways, such as for targeted advertising. If you give consent, Facebook is allowed to use your data in that way.

c. Legal requirements: Facebook may be required to share your data with law enforcement or government agencies if legally obligated to do so.

d. Service providers: Facebook may share your data with third-party service providers, such as cloud storage providers, in order to provide its services to you.

How can Facebook abuse my personal data?

- One potential abuse is by using your data to target you with personalized ads. Facebook uses your personal information to create detailed profiles of your interests, behaviors, and preferences, which are then used by advertisers to target you with more relevant ads.
- Another potential abuse is by selling or sharing your personal data with third-party companies, which may use your data for their own purposes. In the past, Facebook has been criticized for allowing companies like Cambridge Analytica[52] to access users' data without their knowledge or consent[53].

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[51] Retrieved from https://www.facebook.com/legal/terms?paipv=0&eav=AfZEp77YquDmUUmM6qp0GLoQ9CeoXd_KE2fPIfxseYtI8PCE3T3qyy7W5RzX2pkcc1I&_rdr

[52] More information here https://www.nytimes.com/2018/04/04/us/politics/cambridge-analytica-scandal-fallout.html

[53] The Facebook – Cambridge Analytica step by step scandal analysis :
The Facebook-Cambridge Analytica data privacy scandal came to light in March 2018, and it involved the unauthorized use of Facebook user data by political consulting firm Cambridge Analytica. The scandal affected millions of Facebook users globally.

- Facebook could also potentially use your personal data for research or other purposes without your consent, as they have done in the past with their controversial emotional manipulation study[54].

Facebook's ability to collect, use, and potentially abuse personal data has raised concerns about the safety and privacy of users' information, and has led to increased scrutiny and regulation of the company. Facebook and it's partners steer us[55] into sharing vast amounts of information about ourselves, through cunning design, privacy invasive defaults, and "take it or leave it"-choices. They can manipulate us into sharing personal data in some ways, like :

- Standard Settings - Research has shown that users rarely change pre-selected settings. In many cases, both Facebook and Google have set the least privacy friendly choice as the default.
- Cunning design choices - Sharing of personal data and the use of targeted advertising are presented as exclusively beneficial through wording and design, often in combination with threats of lost functionality if users decline.
- Confusing layout - The privacy friendly choices require significantly more clicks to reach and are often hidden away.

Cambridge Analytica obtained data through a Facebook app: Cambridge Analytica obtained the data of up to 87 million Facebook users through an app called "This Is Your Digital Life". The app was created by a researcher named Aleksandr Kogan, who worked at Cambridge Analytica. The app collected data from both users and their friends: The app collected data not only from users who took the quiz but also from their Facebook friends, even if those friends did not consent to sharing their data.

The data was used to create political profiles - Cambridge Analytica used the data to create political profiles of voters, which were then used to target them with political ads during the 2016 US presidential election.

Facebook was criticized for not protecting user data - Facebook was criticized for not doing enough to protect user data and for allowing third-party developers to access a large amount of user data without proper safeguards.

Facebook CEO apologized - In the wake of the scandal, Facebook CEO Mark Zuckerberg apologized for the company's role in the scandal and announced measures to improve data privacy on the platform.

Cambridge Analytica shut down - Following the scandal, Cambridge Analytica shut down its operations and filed for bankruptcy.

[54] Retrieved from https://www.forbes.com/sites/kashmirhill/2014/06/28/facebook-manipulated-689003-users-emotions-for-science/?sh=58c9d222197c

[55] Retrieved from New analysis shows how Facebook and Google push users into sharing personal data – Forbrukerrådet (forbrukerradet.no)

- Illusion of choice - In many cases, the services obscure the fact that users have very few actual choices, and that comprehensive data sharing is accepted just by using the service. The feeling of control may also convince users to share more information.

But manipulation into sharing private content can get way more personal by:

- Offering personalized content: Facebook may tailor content to your interests and preferences, using this to encourage you to share more personal information about yourself to further refine and personalize the content.
- Social pressure: Facebook can make you feel like you need to share personal data to fit in with your social circle or to be considered a part of a particular community.
- Psychological targeting: Facebook can use data analytics to understand your personality, interests, and behavior and create targeted ads that trigger your interest, making you more likely to reveal more about yourself.
- Incentivizing sharing: Facebook can offer rewards or perks for sharing personal data, such as access to exclusive content or special offers.

It's important to understand that users should be cautious and always consider the risks and benefits of sharing their personal data on the platform.

One of the biggest concerns about privacy violations is how Facebook collects data from partners and third-party websites, creating an opportunity to access personal sensitive data even when the user does not have a Facebook account.

One way of access is by partnering with companies that provide services or products that complement Facebook's offerings. For instance, if you visit a website or use an app that has embedded Facebook widgets or scripts, Facebook can access data about your browsing or app usage behavior, such as the pages you visit, links you click, ads you see or interact with, and types of products or services you are interested in. In these partnerships, the companies might share customer data with Facebook, which can then be used by Facebook to improve its advertising targeting or develop new products and services. Here's how it works[56]: Facebook provides its business partners tracking software they embed in apps, websites and loyalty programs. Facebook takes in this data and tries to match it up and to shape your online experience. Among the 100 most popular

[56] Retrieved from https://www.washingtonpost.com/technology/2021/08/29/facebook-privacy-monopoly/

smartphone apps, you can find Facebook software in 61 of them, e.g. Spotify[57], Tinder[58], Airbnb[59], etc.

Another way that Facebook can collect data from partners is through the use of third-party cookies[60] and tracking pixels[61] on their websites. They can be used by Facebook to track users' behavior on partner websites and to collect data about their interests, demographics, and other profile information which can then be used to improve Facebook's ad targeting.

Facebook also has an extensive network of third-party data brokers and advertisers that it works with to further expand its data collection capabilities.

All these privacy violations have resulted in several penal fines given to Facebook over recent years, most importantly:

- One of the significant fines came from the European Union[62] in July 2018, where Facebook was fined €110 Million for providing misleading or incorrect information about its acquisition of WhatsApp in 2014, and for not adequately protecting users' data[63].

[57] Retrieved from https://open.spotify.com/
[58] Retrieved from https://tinder.com/
[59] Retrieved from https://www.airbnb.com/
[60] Cookies are small text files that are stored on your computer or mobile device when you browse the internet. Cookies are created by websites that you visit, and they are used to store information about your browsing activities, such as your preferences and interests.
[61] Pixels, also known as tracking pixels or web beacons, are small images or pieces of code that are embedded in a web page or email. Pixels are used to track user behavior, such as when a user opens an email or visits a website.
[62] Retireved from https://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf
[63] In 2014, Facebook acquired WhatsApp, a popular messaging app, for $19 billion. The acquisition was subject to review by various regulatory bodies, including the European Union's antitrust authority, which approved the deal in 2014. However, in 2017, the European Commission fined Facebook €110 million ($122 million) for providing misleading information during the regulatory process for the acquisition. The commission found that Facebook had falsely claimed that it would be unable to automatically link Facebook and WhatsApp user accounts, but then proceeded to do just that in 2016. The European Commission stated that the fine was intended to send a signal that companies are required to provide accurate information during the regulatory process and to show that such practices will not be tolerated. The fine was relatively small compared to Facebook's revenue and profits, but it was still significant as the first major penalty imposed on the company by the European Union for antitrust and data privacy violations.

- The Irish Data Protection Commission (DPC) and Facebook case[64] :

  The DPC has also been investigating[65] Facebook over several privacy issues, including the handling of user data in advertising and user profiling activities. The DPC concluded two investigations into certain data processing operations carried out by Meta[66] Platforms Ireland Limited, and decided to fine Meta €210 million (in connection with its Facebook service) and €180 million (in connection with its Instagram service), which was the largest fine ever issued by the DPC under GDPR. As a result, Meta is now prohibited[67] to bypass the GDPR[68] via a clause in the terms and conditions. Meta has to get "opt-in" consent for personalized advertisement and must provide users with a "yes/no" option. This is considered a huge win in privacy protection, meaning that Meta now can't force users to agree to data collection.

Chapter 3 – Instagram privacy problems

Instagram is a platform for users to post content, including photos, videos, comments, and other information[69]. Instagram provides social interactions between users who can post comments, likes, or other messages on a user's content. These interactions include direct messages between individual users, and "disappearing" messages. Instagram's terms state they collect a broad range of personal information from people using the site, and about friends and contacts of people using Instagram. Instagram's terms state that if Instagram learns they have collected personal information from a child under the age of 13

[64] Retrieved from https://eur-lex.europa.eu/legalcontent/EN/TXT/HTML/?uri=CELEX:62018CN0311&rid=7

[65] In 2018, the DPC launched an investigation into Facebook's compliance with General Data Protection Regulation (GDPR) regarding the transparency of its data handling practices. The investigation focused on Facebook's use of user data, including its transparency around data sharing between WhatsApp and Facebook. The DPC found that Facebook did not provide users with clear and transparent information about how their data was being used and shared. The case highlights the importance of compliance with GDPR and the growing role of regulatory bodies in holding companies accountable for data privacy and transparency issues.

[66] "Meta", previously known as "Facebook".

[67] Retrieved from https://edpb.europa.eu/system/files/2023-01/instagram_inquiry-18-5-7_final_decision_en.pdf

[68] Meaning "Meta" is prohibited from use of personal data for advertising in Europe.

[69] Retrieved from About Instagram | Capture, Create & Share What You Love

without parental consent, they will delete that information as quickly as possible.

Instagram's Terms of Use[70] state it is a platform for users to post content, including photos, comments and other materials to the service and to share user content publicly. This means that other users may search, see, use, or share any user content that is posted and made publicly available through the service. Instagram's terms state they collect a range of personal information from people using the site, such as:

- Registration information: This includes your name, email address, phone number, and date of birth.
- User-generated content: Instagram collects the content you post on the platform, including photos, videos, and captions.
- Activity data: Instagram collects data about your activity on the platform, including the posts you like, comment on, and share, as well as the accounts you follow and interact with.
- Device information: Instagram collects information about the devices you use to access the platform, including your IP address, device type and model, operating system, and mobile carrier.
- Location information: If you give Instagram permission to access your device's location, it can collect information about your location when you use the app.
- Advertisers and other third parties: Instagram may receive information about you from advertisers and other third parties, such as demographic and interest data, to better target ads to you.

It's important to note that Instagram's Privacy Policy[71] outlines the types of data it collects and how it uses that data, and users have the ability to control certain settings related to data collection and sharing.

Reviewing Instagram's Terms of Use and Privacy Policy, I identified several privacy problems:

- It is unclear whether the platform collects personal information from children under 13 years of age, given that there is no stated way to properly confirm the exact age of the user.

[70] Retrieved from Terms of Use | Instagram Help Center
[71] Retrieved from Meta Privacy Policy - How Meta collects and uses user data | Privacy Center | Manage your privacy on Facebook, Instagram and Messenger | Facebook Privacy

- It is unclear if specific types of personal information are excluded from collection.
- Collection or use of data is not limited just to product requirements.
- Data are shared for analytics by third part parties, and also for research and/or product improvement, providing no further specific details.
- Personal information is shared by Instagram for third-party marketing, without user consent.
- Personal information about users is obtained from third parties, without specification.
- Instagram may combine data with additional data from third-party sources, leaving it unclear whether data shared with third parties can be combined with other data.
- It is left vague whether use of information is limited to the purpose for which it was collected.
- There is no notification provided if the context in which data are collected changes.
- It remains unclear if there are methods available to restrict who has access to data.
- It is not stated if the school, parents, or students can review student data.
- It is unclear whether all data are stored in an encrypted format and if the employee can physical access user information.
- There is no notification in the event of a data breach…and many more

These problems, and many more others, have led to severe privacy concerns, such as:

- Data Breaches: Instagram has faced several data breaches in the past that have resulted in user data being exposed, including email addresses and phone numbers.

  For example:

- In May 2019, Instagram suffered a massive data breach that exposed the personal data of millions of users, including their contact information[72] and location data. The breach was caused by a phishing attack.
- In August 2021, Instagram confirmed a data breach that affected millions of users, exposing their email addresses and phone numbers. The breach[73] was caused by a vulnerability in Instagram's API[74], and the company urged users to be vigilant about suspicious activity on their accounts.

- Third-party data sharing[75]: Instagram has been accused of sharing user data with third-party apps without user consent, which can lead to personal information being exposed and used for malicious purposes. For instance, in 2018, Facebook (which owns Instagram) came under fire after the Cambridge Analytica scandal[76], which involved third-party app developers collecting massive amounts of data from users without their knowledge or consent.
- Targeted Advertising: Instagram uses user data to target advertisements to users, which can raise privacy concerns for some users.
    - One potential privacy abuse example for Instagram targeted advertising is when a user's sensitive information, such as health status or financial data, is inadvertently used to target them with ads. While Instagram states that it does not share sensitive information for advertising purposes, mistakes can happen and data breaches can occur[77]. So, if a user's financial

[72] More information here : Instagram Confirms Security Issue Exposed User Accounts And Phone Numbers—Exclusive (forbes.com)
[73] More information here : Hundreds of millions of Instagram, TikTok, YouTube accounts compromised by data breach | TechRadar
[74] An API, or application programming interface, is a set of rules that enables different applications to communicate with each other using the HTTP protocol.
[75] For example, a third-party app that provides Instagram analytics may request access to a user's account information, such as the number of followers and likes they receive. In order to provide this functionality, the app would require access to the user's Instagram account data, which Instagram may share through its API.
[76] More information here https://www.nytimes.com/2018/04/04/us/politics/cambridge-analytica-scandal-fallout.html
[77] For instance, if a user searches for information about a specific health condition, Instagram may collect this data and use it to serve targeted ads about healthcare products or services, which could potentially be seen by other users. This could reveal the user's health condition to

information is accidentally used to target them with ads for financial products or services, it could lead to potential financial abuse or fraud.

- Another potential privacy abuse could occur when Instagram uses data from other websites or apps to target an individual with advertisements. For instance, if a user visits a website or app that collects personal information and then shares that information with Instagram, it could potentially reveal the user's browsing habits, personal interests, and even online purchases to advertisers without their knowledge or consent.

- Facial recognition technology: Instagram's facial recognition technology has raised questions about privacy, as it may be used to identify users without their consent.

  Facial recognition technology can be used to identify individuals in photos and videos, which raises privacy concerns. For example, in 2020[78], Instagram was found to be storing users' facial recognition data on its servers, even if they had never opted in to the facial recognition feature. This could potentially put users' privacy at risk if the data was accessed by a third party without authorization.

- Targeted advertising: Consenting to Terms and Conditions to use Instagram, you have the option to agree to use the device's microphone, especially for video calls. Once the microphone is activated, Instagram can listen to your interests and therefore personalizing the advertisements they show on your platform profile.

  So, not only is your phone listening to you, but it's 100% legal for social media to do so. You might be thinking "I didn't give my consent!" Well, unfortunately, you almost certainly did. Any time you accept terms and conditions for a software upgrade or app download, that's exactly what you're doing. This is how smartphone manufacturers and app developers collect your data — from audio to browsing to other web activity. However, just because your device can listen to you legally doesn't mean that it can't listen to you illegally. Just like with any other device connected to the internet, your smartphone can be infected with spyware or malware that can track your activity.

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people who should not have access to it.

[78] More information here : Instagram faces lawsuit over illegal harvesting of biometrics | Fortune

- Location tracking: Instagram's ability to track user location can be seen as intrusive and raises privacy concerns[79], particularly if users are not aware that their location is being tracked.

In Europe, Instagram has faced various penal consequences, most importantly[80]:

- Germany[81]: In 2019, the German Federal Cartel Office ordered Facebook to stop merging user data from Instagram and other sources without users' consent. The order is backed by a fine of up to 10 million euros ($11 million), if Facebook violates it.
- Ireland[82]: In 2018, the Irish Data Protection Commission opened an investigation into Instagram's handling of users' personal data after it received a complaint alleging that the company was improperly sharing user data with third-party companies. On January 2023, Instagram was fined 180 million Euros.
- Italy[83]: In 2020, the Italian Competition Authority fined Facebook €7 million ($8.5 million) for failing to fully inform users about the

[79] Some of which are :

- Potential misuse of data: Instagram can collect a significant amount of data about a user's location, which can be used to target them with ads or inform other business decisions on the part of Instagram's parent company, Facebook. This data could be misused or mishandled, such as being sold to third-party advertisers or used for surveillance purposes.
- Security risks: Sharing your location information on Instagram can put your personal safety at risk. If someone gains unauthorized access to your account or if you share your location information with people you do not know, it could put your physical location and privacy at risk.
- Increased surveillance: Instagram's location tracking can be seen as a form of surveillance. This data can be used to monitor users' behavior and movements, even when they are not actively using the app.
- Eroded anonymity: By sharing location data, Instagram users are giving up some of their anonymity. This can have implications both online and offline, as users' movements and behavior can be tracked and analyzed by others.

[80] It is worth noting that some of these fines are still under appeal, and the outcomes of these appeals are not yet clear.

[81] More information here: https://www.activemind.legal/guides/fct-antitrust_meta/#:~:text=The%20German%20Federal%20Cartel%20Office,users'%20data%20without%20their%20consent

[82] More information here: https://www.clearycyberwatch.com/2023/01/irish-data-protection-commissions-decisions-regarding-facebook-and-instagram/

[83] More information here : https://www.euronews.com/2021/02/17/facebook-fined-7-million-in-italy-for-misleading-data-practices

collection of their data by Instagram and for misleading users about the use of their data for commercial purposes.

- Belgium[84]: In 2020, the Belgian Data Protection Authority fined Instagram €50 million ($59 million) for failing to obtain users' consent to process their personal data and for engaging in undisclosed tracking of users' activities on third-party websites through the use of cookies.

Chapter 4 – WhatsApp[85] privacy concerns

Analyzing WhatsApp's Terms of Service[86] and it's Privacy Policy[87], I identified these privacy concerns:

i. User Data Sharing: WhatsApp has updated its privacy policy to allow sharing of user data with its parent company, Facebook. This has raised concerns over privacy since Facebook has a history of mishandling user data, some of those are listed above.

ii. End-to-End Encryption: While WhatsApp provides end-to-end encryption to its messages, it doesn't encrypt metadata, such as who you contact, how frequently, and how long you talk to them, which can reveal a lot about your daily life.

   End-to-end encryption is a privacy feature on WhatsApp that ensures that messages sent between two parties cannot be intercepted or read by anyone, including WhatsApp itself. However, there are still some privacy problems related to this feature:

   - Third-Party Access: It has been reported that WhatsApp's end-to-end encryption can be bypassed by third-party applications that can access stored data.
   - Metadata Collection: While end-to-end encryption secures message content, it doesn't encrypt metadata like who you are communicating with or when. This data can be used for targeted advertising or other purposes.

[84] More information here: Recommendations 01/2020 on measures that supplement transfer tools to ensure compliance with the EU level of protection of personal data | European Data Protection Board (europa.eu)
[85] Official website https://www.whatsapp.com/
[86] Retrieved from Terms of Service (whatsapp.com)
[87] Retrieved from Privacy Policy (whatsapp.com)

- Cloud Backup: WhatsApp allows users to backup their chats on cloud services that are not encrypted using end-to-end encryption. This means that conversations could be accessed by third parties if the cloud service is breached.
- Forwarded Messages: Although end-to-end encryption secures the content of messages, it doesn't prevent the spread of forwarded messages which can contain harmful or false information.
- Security Risks: End-to-end encryption relies on the security of the encryption keys used to decrypt messages. If these keys are compromised, then the entire system can be subverted.

iii. Backups: WhatsApp users can back up their chats on cloud services like Google Drive or iCloud, which can lead to concerns about the safety of the data stored there :

- Backups are not end-to-end encrypted: The data sent over WhatsApp is end-to-end encrypted, meaning only the sender and recipient can read the messages. However, backups to services like Google Drive and iCloud are not encrypted.
- Third-party access: If you opt to store your WhatsApp messages on a third-party cloud service like Google Drive, you're putting your private data in a company's hand, which can potentially access or share it.
- Unprotected backups: Users can make their backups use the encryption protection provided by Google Drive and iCloud or leave them unencrypted.
- Data retention: Backups stored in the cloud can last indefinitely, even if you delete the original messages from the WhatsApp app.

iv. Location Tracking: WhatsApp has a feature to share your location with other users, but it can raise privacy concerns, as it allows others to know your real-time location. WhatsApp allows for location sharing between users, but this feature also raises some privacy concerns :

- Real-time Tracking: Sharing location information in real-time can be a security risk as it exposes the user's location continuously to other users. This can compromise the user's security and privacy, especially if the information falls in the wrong hands.

- Location History: WhatsApp allows users to share their location with other users, but it also saves users' location history to its servers. This location history can be accessed by third parties if WhatsApp servers are breached.
- Consent: Users may unknowingly share their location with others. While WhatsApp provides notifications of location sharing, users may not always be aware of the extent of the sharing or the implications of this sharing.
- Targeted Advertising: Location data can be used to target advertising to users based on their location, leading to privacy concerns.
- Tracking by Law Enforcement: Location data can be accessed by law enforcement agencies, potentially compromising the privacy of users.

v. Group Chats: WhatsApp group chats can reveal the identities of all members, including those who may want to keep their identity or conversations private.

vi. Metadata Collection: Metadata is data that describes other data, and in the case of WhatsApp, it includes information like when messages are sent and received, who is sending them, and the frequency and duration of communication. While metadata may not contain the content of messages, it can still provide insights into users' behavior and communication patterns. Here are the privacy risks associated with metadata collection on WhatsApp:

- User profiling: Metadata collection can be used to create a detailed profile of an individual's communication patterns, network of contacts, and preferences. This profile can be used to infer personal information, such as political beliefs or health status, which can be sold to advertisers or used for other purposes.
- Tracking: Metadata collection can be used to track an individual's movements, as it can reveal the frequency and location of communication. This information can be misused by third parties, including stalkers or other people with malicious intent.

- Surveillance: Metadata collection can be used by governments to monitor individuals' communications and activities, potentially violating their privacy rights.
- Security breaches: WhatsApp collects metadata from its users, and this data can be stolen by third parties in the event of a security breach. This can lead to the exposure of sensitive personal information and compromise users' privacy.
- Targeted advertising: Advertisers can use metadata to deliver targeted ads to users based on their communication patterns and preferences.

In Europe, WhatsApp has faced various penal consequences[88], most importantly :

- Spain[89]: In 2018, the Spanish Data Protection Agency (AEPD) fined WhatsApp €600,000 for violating data protection rules. The AEPD alleged that the messaging app did not inform its users adequately about how their personal data would be used.
- Italy[90]: In 2019, Italy's antitrust watchdog (AGCM) fined WhatsApp €3 million for misleading users about its data sharing practices with Facebook. The AGCM claimed that WhatsApp's terms of service did not inform users that their data would be shared with Facebook, which is against Italy's consumer protection code.
- Germany[91]: In May 2021, the Hamburg Commissioner for Data Protection and Freedom of Information (HmbBfDI) fined WhatsApp €225 million for violating GDPR rules. The HmbBfDI alleged that WhatsApp did not obtain valid user consent for processing their personal data and did not provide adequate information to users about how their data would be used.

[88] It's worth noting that some of these penalties have been appealed or are still being contested, and the final amount of the fine may be different from the initial announcement.
[89] More information here: https://www.dataguidance.com/news/spain-aepd-fines-whatsapp-and-facebook-600000
[90] More information here: https://www.reuters.com/article/us-italy-antitrust-whatsapp-idUSKBN1881YV
[91] More information here: https://www.politico.eu/article/whatsapp-facebook-privacy-fine-european-commission-data-protection/

2. Conclusions and Recommendations

Here are some *conclusions* regarding privacy and social media:

a. Social media platforms collect vast amounts of user data, which can be used for targeted advertising or other purposes.

b. Users often unknowingly give up their privacy when using social media, by agreeing to terms of service and privacy policies without fully understanding them.

c. Social media platforms have access to a significant amount of personal information, such as user location, interests, and interactions with other users, which can be used to build detailed profiles.

d. Privacy settings on social media platforms can help users control who sees their content, but they do not guarantee complete privacy.

e. Sharing personal information online can have consequences, such as identity theft, cyberbullying, and reputational damage.

f. It is important for users to be aware of the privacy risks associated with social media and to take steps to protect their privacy, such as using strong passwords, disabling location tracking, and being mindful of the information they share online.

g. Social media platforms have a responsibility to protect user privacy and should take steps to ensure that user data is not misused or mishandled.

Here are some *recommendations* to improve social media privacy:

i. Read thoroughly the privacy policies and terms of service before agreeing to them.

ii. Use strong and unique passwords for social media accounts, and enable two-factor authentication. Use a strong and unique password to protect your social media accounts, one that's not easily guessable by anyone else. Make sure it isn't the same password across different accounts. Using two-factor authentication for your social media accounts can provide an additional layer of security to your online identity.

iii. Adjust privacy settings to limit who can see your content and personal information. Review your account privacy settings for each platform and configure them to your needs. Only share your posts with people you trust and, if the platform allows it, limit or disable tagging by others,

check who can find your profile, your personal information (such as your phone number or email address) and adjust your privacy settings accordingly.

iv. Be cautious of what you share on social media, including personal information, location data, and photos. Don't share sensitive information, such as your home address, financial or banking details.

v. Regularly review and audit the apps and services that have access to your social media data. Don't accept friend requests from strangers. Being careful about who you accept friend requests from is essential. Never accept friend requests from people you don't recognize or trust as their intentions may not be genuine.

vi. Report any harmful or abusive content, as it can damage your reputation and violate your privacy.

vii. Use a VPN (Virtual Private Network) to encrypt your internet connection and protect your data from hackers, and other types of cyber threats. Here are some VPN services that are widely regarded as reputable and secure:

- ExpressVPN[92]: Provides high-speed connection and a user-friendly interface that supports various devices.
- NordVPN[93]: Has a strict no-logs policy and provides high speed, reliable connectivity.
- CyberGhost[94]: Uses strong encryption and has a strict no-logs policy, plus it provides fast and easy-to-use services.
- Surfshark[95]: Provides fast and secure connectivity, unlimited simultaneous connections, and strict no-logs policy.
- Private Internet Access[96] (PIA): Has a no-logs policy, supports a wide range of devices, and allows anonymous payment options.

viii. Choose social media platforms that prioritize user privacy and take steps to protect your data. In my opinion, here are some of the best social media platforms that protect user privacy:

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[92] Accessible at: https://www.expressvpn.com/
[93] Accessible at: https://nordvpn.com/
[94] Accessible at: https://www.cyberghostvpn.com/en_US/
[95] Accessible at: https://surfshark.com/
[96] Accessible at: https://www.privateinternetaccess.com/

- DuckDuckGo[97]: A search engine that doesn't track your search queries or personal data.
- Signal[98]: A messaging app that offers end-to-end encryption to secure your chats and calls.
- ProtonMail[99]: A private email service that uses encrypted servers to protect your email data from prying eyes.
- MeWe[100]: a social media platform that protects user data, and values user privacy.

ix. Educate yourself about online privacy and protect your data by keeping updated with the latest trends and guidelines.

[97] Accessible at : https://duckduckgo.com/
[98] Accessible at : https://signal.org/en/
[99] Accessible at : https://proton.me/
[100] Accessible at : https://mewe.com/

GENDER DIFFERENCES INDICATORS IN ALBANIA

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Abstract

This work aims to highlight and suggest ways to overcome both objective and subjective barriers that hinder gender equality in all its facets in Albania. Its purpose is to analyze potential political and social instruments that can encourage the implementation of reforms to provide women with equal rights as men, particularly in securing economic resources.

The main focus of this research is to provide a detailed analysis of the guarantee of economic equality based on the principle of equality in the labor and entrepreneurship market. The primary objective is to demonstrate the current state of women's financial position in Albania, the impact of legal initiatives in this area, and concrete examples of existing barriers supported by figures.

The study employs both deductive and inductive approaches to identify primary sources and conduct quantitative and qualitative analyses of indicators reflecting the "Global Gender Gap Index" in Albania. It draws extensively from the literature and a range of proposals put forth by international organizations for achieving gender equality. Time series analysis is used to evaluate specific hypotheses related to the unemployment rate among women, wage levels, and pension levels, and to predict future trends. By analyzing these phenomena in dynamics, it will be possible to identify changes made in recent years and probable changes in the future.

Nowadays, gender equality has become a fundamental policy for social welfare and sustainable economic growth in the EU. Many international organizations view social equality as a key factor in global economic development. This research aims to demonstrate that gender equality in Albania is also a critical component for ensuring sustainable development.

Keywords: gender inequality, economic inequality, global gender gap index, genetic differences, discrimination, socialization, wrong prejudice.

1. Introduction

To understand gender inequality, we must first make the theoretical distinction between gender and sex. Sex is based on biological characteristics that distinguish men from women, while gender is on social differences that depend on cultural and societal factors of the eras we are living in. Therefore, when

talking about gender inequality, we refer to social differences rather than sex differences. These social differences shape roles, opportunities, and the needs of individuals in their daily lives. While women do not have the same opportunities as men, we speak of social inequality. It is crucial to analyze the fundamental concepts of gender differences as they affect the detailed analysis of the problem and, above all, the numerical indicators used to assess it. Gender inequality highlights the lack of equality caused by sex, while social inequality represents the real difference in the position of women in society.

Gender inequality can have an impact on every area of life. However, in order to measure its extent, indicators have been defined in the following areas: the labor market, financial resources, education, time use, decision-making processes, and health. In this study, we will analyze the primary indicators of gender inequality and the methods used to eliminate these differences.

2. Theoretical analysis in contemporary literature of the problem

Lawrence Henry Summers, in his farewell speech as the leader of Harvard University in 2006, defended the thesis that differentiation between men and women is a genetic product of social inequality. According to him, this inequality is stimulated by two factors: difficulty in socialization and social discrimination. This thesis is still widely debated and discussed today. Summers' speech helps us understand the prejudices in this field and logically connect three concepts:

a) Genetic differences;

b) Socialization;

c) Discrimination.

The concept of prejudice arises from a mental framework that categorizes things and phenomena often without understanding them fully. This framework presents a range of information that leads to the creation of stereotypes. In many cases, stereotypes provide inaccurate information and form the basis for prejudice. Prejudice is a stereotype based on a flawed framework. This is particularly relevant when it comes to genetic differentiation, as it can lead to false stereotypes and prejudice.

In Sara De Lorenzi's work "Stereotipi sport-gendered. Uno studio quantitativo del fenomeno sportivo in ambiente scolastico e agonistico,"[101] it is demonstrated

[101] Sara De Lorenzi: "Stereotipi sport-gendered. Uno studio quantitativo del fenomeno sportivo in ambiente scolastico e agonistico", page 3, https://www.tesionline.it/tesi/autore/sara-de-

that socialization is the tool that individuals employ to assimilate into a particular social group. This process is influenced by the person's and the group's expectations that they will socialize with. However, this process is also affected by prejudice.

There have been numerous studies conducted on the role of prejudice in women's socialization, and one particularly significant example is the comparison of male and female members in symphony orchestras. Before 1970, women comprised only 5% of orchestra members worldwide. However, in that year, the Vienna Philharmonic began implementing blind auditions where evaluators could only hear, but not see, the candidate musician. As a result of this change, the probability of selecting women increased by 50%. This was the most precise demonstration of the impact of social prejudice. Socialization is shaped by an individual's expectations and the group they intend to socialize with.

In the September 2022 publication "Insight Policy Research", the authors of the article "Gender Discrimination: Response to DACOWITS" emphasize that discrimination is a phenomenon that is perpetuated by historical and societal factors, including the lack of self-esteem among women and the overestimation of men. The chapter begins by discussing the concepts that are relevant to and contribute to gender discrimination, such as sex, gender, gender identity, stereotyping, and prejudice.

When we examine the studies carried out by OSCE in collaboration with other international organizations, such as the study "THE CONTRIBUTION OF SOCIAL DIALOGUE TO GENDER EQUALITY,"[102] we can observe some interesting findings. According to this research, up until the age of 12, both females and males perform equally well in all subjects, regardless of the educational system they study in. However, from the age of 13 up to 20, there is a tendency for males to excel in mathematical subjects, while females tend to excel in social subjects. Nevertheless, at the university level, all the data shows that females perform significantly better than males in academic tasks, despite encountering difficulties in finding jobs and receiving lower pay than their male counterparts. Why does such a situation arise? This is because people tend to have different expectations for females and males, despite possessing the same ability. Additionally, females and males have different levels of freedom within

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[102] Manuela Tomei, Verena Schmidt, Emanuela Pozzan, "THE CONTRIBUTION OF SOCIAL DIALOGUE TO GENDER EQUALITY". First published in March 2019 Revised in December 2020, pages 14-22.

society, and they are conditioned by gender stereotypes. Therefore, combating gender stereotypes is the only way to achieve true freedom.

In many cases, living conditions vary from country to country, and in countries affected by armed conflicts or dictatorships, social situations arise that greatly affect the position of women. Women and men in these countries have different resources and opportunities for managing problems that arise, especially in emergencies. Consequently, after a conflict or disaster, they often have different needs for help and support to return to normal life. Since women are often dependent on men and do not have the same status and power, their participation in important decision-making processes in society is not as widespread. As a result, the circumstances and needs of women in these situations are often invisible.

In her study "GENDER EQUALITY HANDBOOK - practical advice for international assistance," Anna-Karin Hamrén emphasizes that "international assistance from all organizations should be as effective as possible and reach all affected populations in a crisis or conflict zone. For this reason, a comprehensive analysis of the current situation in the country is necessary. We need to understand the needs of women and the entire population before planning and implementing a project." The necessity of knowing the scale of social inequality is a prerequisite for any legal, economic, or cultural action taken to eliminate it.

Gender equality is a phenomenon that has affected many countries, especially the post-communist countries and the Western Balkans. The economic and social changes that characterized these countries after the 1990s have brought to light many problems in this field. The efforts of most of these countries to integrate into the EU have led them to undertake a series of legal and social reforms to narrow gender gaps. In a study by the European Parliament in January 2019, "WOMEN'S RIGHTS IN WESTERN BALKANS," it is emphasized that "the legislative framework and the accession processes to the EU offer the starting points for the possible solution of conditions of discrimination and social deprivation. However, strategies need to be developed and concrete steps taken to implement laws that ensure that gender equality is effective"[103].

[103] Daša DUHAČEK, Biljana BRANKOVIĆ, Milica MIRAŽIĆ, "WOMEN'S RIGHTS IN WESTERN BALKANS", page 9.

3. Methodology and evaluation of the current situation

The study extensively uses deductive and inductive systems to find primary sources and conduct qualitative analyses. It relies on a series of studies conducted by international organizations for gender equality. The study also looks at invisible barriers, such as conceptual, habitual, and opinion-based barriers, which are analyzed through surveys and processed using appropriate methodologies for results analysis.

For this study, an extensive survey was conducted with employees from seven different workplaces, including two government ministries, two public universities, two private universities, and one municipality with over 500,000 residents. All institutions had over 100 employees. The survey targeted individuals with higher education qualifications and whose ages ranged from 25 to 67, with work experience ranging from one year to three decades. The survey included a gender inequality rating system that required participants to answer each question with a "yes" or a "no." A "yes" answer received one point, while a "no" answer received minus one point. A total of 467 questionnaires were distributed, and 312 responses were received. The first 120 responses from men and women were analyzed separately, excluding the first question that identified the respondent's gender, which did not have a "yes" or "no" answer.

In terms of methodology, this method is similar to the methodologies used by INSTAT for gender differences in basic indicators of gender differences assessment. INSTAT has identified the main areas of gender differences that we have taken into consideration and we are presenting some key findings for 2021. These are[104]:

1. Population: Adolescent fertility has decreased compared to the previous year.

In 2021, there were 12.1 births registered per 1,000 girls aged 15-19, compared to 13.3 births in 2020. The marriage rate among women has declined up to the age of 24, and there has been an increase in the average age of marriage for girls. Women are now getting married at an average age that is 0.7 years older than it was five years ago.

Health: The abortion rate has improved in recent years. For 2021, there were 164 abortions per 1,000 live births. For ages 15 to 19, the abortion rate is highest at the age of 18, with 140 abortions per 1,000 live births.

[104] Men and Women, page 62 https://www.instat.gov.al/media/8713/burra-dhe-gra.pdf

Crimes and criminal justice: Out of 61 registered murders in 2021, 26.2% of them were the result of murders due to family relationships. 62.5% of the victims of murders due to family relationships are women. Women imprisoned for murder and fraud have the highest percentage of imprisoned women, namely 22.2% and 20.6%, respectively. Imprisoned women make up 1.3% of all prisoners in 2021, the majority of whom have a 9-year education and belong to the age group of 30-39 years.

2. Social Indicators from Family Surveys:

Elderly beneficiaries in social centers for 2021 are 55.4% men and 44.6% women. Women in 2021 have made more online purchases for clothing/sporting goods compared to men (59.1% for women and 40.9% for men).

3. Women in decision-making:

In the structure of the police, the number of female employees increases with the decrease in grade levels. For the rank of Inspector, the percentage of women is higher (43.5%). In 2021, the participation rate of women in parliament is 35.7%. The significant improvement of female membership in the Albanian Parliament became possible after the inclusion of a 30% quota in the electoral code amendments in 2008. The increasing trend was also observed in the 2013 parliamentary elections, where it reached 18,0 %.[105]

4. Economic equality.

The number of businesses with female owners or administrators is higher in Trade at 34.3% and Other Services at 40.1% for the year 2022.

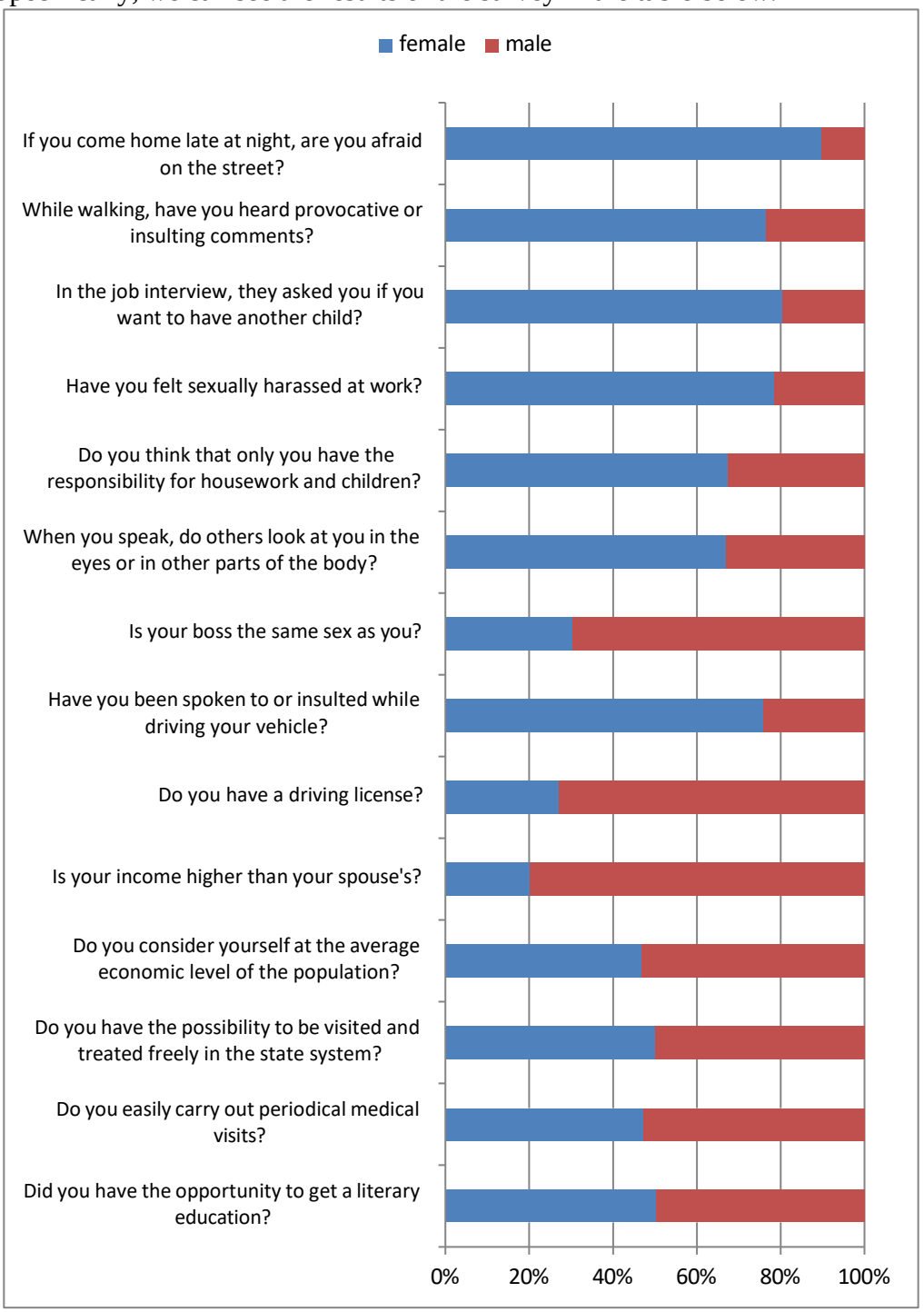
4. Results and discussions. Comparison of albania with osce countries

To observe gender differences in the social aspect of society, we constructed a questionnaire that highlights this phenomenon in the main fields using the assessment of the "Gender Inequality Index (GII)." On the other hand, through this survey, we aimed to highlight elements of genetic differentiation, socialization, and racial discrimination. Indirect questions assess the positioning of women in Albanian society, mostly in the psychological aspect and less in the legal and demographic aspects. Meanwhile, in assessing the current situation in Albania, we rely on measurable statistical indicators. Through this survey, we aim to highlight the psychological differences arising from genetic elements, socialization, and racial discrimination against women in Albania. In some of the directed questions, it is indirectly confirmed that the gender difference is

[105] Men and Women, page 64 https://www.instat.gov.al/media/8713/burra-dhe-gra.pdf

significant as a result of Albanian society's psychology rather than the legal equality of women. With the law, gender equality has been limited, while in social psychology, it remains deep, especially in defining the role of women in the family and labor market.

Specifically, we can see the results of the survey in the table below.



- ✓ In the job market, women have fewer opportunities to find employment and tend to work part-time more than full-time. In EU countries, while 38% of women work part-time, men are only 8% in this ratio. In Albania, the employment rate for the population aged 15-64 is 77.1% for men and 61.2% for women in this age group. The structure of employed individuals by activity status shows that 43.3% of women are paid employees, while 22.8% are unpaid workers in family businesses. For employed men, these figures are 41.6% and 13.1%, respectively. A considerable proportion of men are self-employed (33.3%), while self-employed women constitute 21.5%.[106]
- ✓ In terms of income from work, in EU countries, women's hourly wages are 14.8% lower than men's wages for the same job, leaving them more exposed to the risk of poverty. In Albania, the gender pay gap is 6.6%. Therefore, men have an average gross monthly wage that is 6.6% higher than women's wages. Compared to the previous year, there was a decrease in the gender pay gap by 3.5 percentage points in 2020.[107]
- ✓ In the field of education, after 2015, women have higher education than men, but this contradicts the fact that women's scientific integration in engineering or executive science study projects is much lower. This trend is also observed in Albania. The number of graduates in higher education in the academic year 2019-20 was approximately 33,000 students, of which girls accounted for 65.3%. The number of graduated girls decreased by 1.1% compared to the previous year.[108]
- ✓ Regarding time and its use, an increase in women in the labor market has not been accompanied by a decrease in their obligations towards family and children. In this aspect, it is difficult for women to return to their place in the labor market without a reorganization of their family duties. Also, there is a significant lack of women's participation in decision-making processes. In the EU Parliament, only 30.3% are women, in Ministries only 30%, and in businesses 26.6%.[109] INSTAT studies show a softening of gender differences in decision-making in politics. In the 2009 parliamentary elections, women's participation in parliament more than doubled, from 7.1% to 16.4%. The increasing trend was also observed in the 2013 parliamentary elections, where it reached 17.9%. From 2013 to 2020, the

[106] Men and Women, page 69 https://www.instat.gov.al/media/8713/burra-dhe-gra.pdf
[107] Men and Women, page 70 https://www.instat.gov.al/media/8713/burra-dhe-gra.pdf
[108] Men and Women, page 61 https://www.instat.gov.al/media/8713/burra-dhe-gra.pdf
[109] 2022 Report on gender equality in the EU, pages 12-18.

increasing trend of the number of women in parliament continued as a result of the replacement of male deputies with female deputies, due to the leaving of mandates. As a result of this replacement in 2020, there were 29.5% female members in parliament. Important changes in the electoral code have played a significant role in this direction, making it possible to significantly improve gender representation in local government bodies. In the composition of the lists in the 2015 mayoral elections, women's participation as candidates accounted for 10.8% and 14.8% of women were elected as mayors. Women's participation in municipal council elections was higher, with female candidates for the municipal council almost equal to male participation, accounting for 49.4% of women. Only 34.8% of female candidates were elected in the 2015 elections. A similar situation was observed in the 2019 local elections.[110]

- ✓ According to the "Gender Gap Index in 2020," EU countries have a score of 0.12, despite the legal measures taken by all European countries to address gender inequality. In Albania, the Gender Inequality Index (GII) for 2021 is 0.09, an increase from 0.06 in 2020. Over the years, there have been slight improvements in all the indicators used to calculate the GII, except for the official mortality rate, which has fluctuated and played a significant role in the GII's fluctuations.

The European Parliament has taken a series of measures that primarily affect women's use of work time. Thus, it has expanded working conditions from home and with the law has introduced flexible hours for women. In terms of governance and regardless of the progress made, Albania still has a lot of work to do. The concept of gender equality is no longer theoretical but is now a measurable process with indicators that allow for comparison and temporal development. In addition to the basic indicators we have analyzed above, many other statistical indicators measuring specific aspects of this phenomenon have been integrated into this process. Analysis of these indicators is the basis for using the necessary tools to overcome this gender gap. According to the "Word Economic Forum," If this level of effort for gender equality is maintained, it will take 100 years for women to be equal to men. The conclusion that European forums have drawn in 2021 is: "As long as women feel even one step behind men, they will never consider themselves equal."

[110] https://www.instat.gov.al/media/10299/njoftim-per-media-grate-dhe-burrat-ne-shqiperi-2021.pdf

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FORECASTING WITH ANNS: A SIMULATION STUDY

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Abstract

Nowadays, large quantities of data are being collected for analytical and forecasting purposes. They not necessarily have the same data generating process; thus, it might be difficult identifying a single forecasting model to apply to all possible scenarios. Considering a time series as an independent dataset, choosing whether to apply whether a linear or a nonlinear forecasting model separately, may lead to inaccurate results, which means inappropriate future interventions and decisions.

This paper regards a simulation study for the quantitative evaluation of the dependence of the forecasting models' performance on the characteristics of the data. We have simulated several datasets with known time series characteristics, under controlled conditions, including linear data generating processes, such as Autoregressive (AR), Seasonal Autoregressive (SAR), and nonlinear ones such as Self-Exciting Threshold Autoregressive (SETAR) and Logistic Map. Heterogeneous time series are obtained by combining several data generating processes into one time series, to identify the more appropriate forecasting model for real world datasets, while the length and the number of the series are varied in different scenarios, to explore the effect of data availability on the performance of the forecasting models.

We have performed forecasts using both linear and nonlinear forecasting models, an Autoregressive Integrated Moving Average (ARIMA) model, a Linear Exponential Smoothing model, an Exponential smoothing state space model with Box-Cox transformation, ARMA errors, Trend and Seasonal components (BATS) and Trigonometric seasonality Box-Cox transformation ARMA errors Trend and Seasonal components (TBATS) model and a Nonlinear Autoregressive Neural Network (NARNN) and compared their performance in terms of percentage errors.

Keywords: Data Generating Process, Forecasting, Nonlinear models, NARNN.

1. Introduction

The future trend prediction of a phenomenon has always been crucial for scientific research, always worrying scholars of various fields. The forecasting models are based on the idea that the past affects the future. Therefore, it is assumed a continuity of the

activity's trend, the existence of a continuity in the data collected so far [1]. This is the reason why having accurate prediction remains, even today, a difficult and challenging issue. Recently, thanks to the development of automatic methods in various fields, time series are being modeled using artificial intelligence methods. New techniques based on Artificial Intelligence such as Artificial Neural Networks, Decision Trees, Support Vector Machines or Genetic Algorithms are some of the Machine Learning models used for modeling and prediction of time series [2]. Traditional statistical methods are the basis on which modern computational techniques are integrated for data analysis. Artificial Neural Networks (ANN) are one of the most used models in the field of time series forecasting. They are nonlinear techniques, which makes them more suitable in modeling complex data patterns [3]. They are function approximation techniques that learn the relationship between inputs and outputs, and make no assumptions or conjectures about the statistical distribution, or properties of the data.

When considering real data, forecasters usually face multi-step-ahead forecasting problems, with short-, medium- or long-term horizons. It consists in predicting several future values considering a given sequence of historical observations of a univariate time series.

2. Tools and methodology

We have differentiated our data considering the number of the series, their length and amount and heterogeneity of the data. The data generating processes we have simulated are very close to practical scenarios. We have initially considered linear processes and then increased the complexity of the series by introducing nonlinear data generating processes, such as the threshold autoregressive model and the logistic map. For each of them, we have furtherly considered:

a. Single and multiple series scenarios: for every single time series, we have split it into multiple shorter equal length series, in order to quantitatively evaluate whether it makes any difference for the model's performance to learn from data on one long series or through multiple ones;

b. Homogeneous and heterogeneous scenarios: for multiple series, we have simulated both homogeneous and heterogeneous scenarios, by combining different data generating processes in a dataset, in order to compare the models' performance in combined linear and nonlinear time series.

For every scenario, we generate up to 10 time series, whose length varies from a minimum length of 20 observations for the SAR data generating process, up to a

maximum length of 6000 observations for the logistic map, with a daily frequency. The following table presents the characteristics of datasets for all data generating processes:

Table 1: Characteristics of datasets for all the chosen data generating process

DGP	Scenario	Nr. DGP	Min Length	Max length	Forecast horizon
AR	SS*	1	50	1000	30
	MS-Hom-Short**	1	50	50	30
	MS-Hom-Long***	1	50	100	30
	MS-Het****	10	50	100	30
SAR	SS	1	20	2000	30
	MS-Hom-Short	1	20	20	30
	MS-Hom-Long	1	20	200	30
	MS-Het	10	20	200	30
Logistic Map	SS	1	60	6000	30
	MS-Hom-Short	1	60	60	30
	MS-Hom-Long	1	60	600	30
	MS-Het	10	60	600	30
SETAR	SS	1	60	6000	30
	MS-Hom-Short	1	60	60	30
	MS-Hom-Long	1	60	600	30
	MS-Het	10	60	600	30

*Single series
**Many Series Homogeneous with Short Length
***Many Series Homogeneous with Long Length
****Many Series Heterogeneous

Linear Autoregressive models

Firstly, we have simulated an AR data generating process. AR models use a linear combination of the past time series values, an error term and a constant to predict future values. They can be expressed as:

$$y_t = \varphi_0 + \sum_{i=1}^{p} \varphi_i y_{t-i} + \varepsilon_t = \varphi_0 + \varphi_1 y_{t-1} + \varphi_2 y_{t-2} + \ldots + \varphi_p y_{t-p} + \varepsilon_t$$

We have chosen an AR (3) data generating process to simulate time series close to the real-world scenario and simulated it using the *arima.sim* function of the "stats" R package.

Seasonal Autoregressive models

A Seasonal Autoregressive Model uses seasonal lags of the time series to predict future values, allowing us to simulate scenarios very close to real-world time series that have seasonal components:

$$\Phi_P(B^S)\varphi(B)\nabla_S^D\nabla^d x_t = \Theta_Q(B^S)\theta(B)w_t$$

We have chosen a SAR (1) data generating process to simulate time series close to the real-world scenario and simulated it using the simulate function of the "forecast" package [4].

Logistic Map

The logistic map is a data generating process that generates nonlinear time series, firstly introduced by May (1976). It is a second-grade polynomial map, defined as:

$$y_t = ry_{t-1}(1 - y_{t-1}) + \epsilon_t$$

where r is a positive number between 0 and 4 that influences the system's nonlinear dynamic behavior.

Self-Exciting Threshold Autoregressive Models

This data generating process belongs to the TAR models family, firstly introduced by Tong (1978). They belong to the regime-switching model class. It involves k-1 threshold values that separate the space into k regimes each of whom is modelled by a different AR process. TAR models generate nonlinear time series through a regime-switching technique that changes the coefficients when a determined value of threshold is met. The TAR model where the threshold variable (zt) is a lagged value of the series, the model is known as a SETAR model. A SETAR model of k regimes and a threshold value y_{t-d} is defined as:

$$y_t = \begin{cases} \phi_0^1 + \phi_1^1 y_{t-1} + \cdots + \phi_{p1}^1 y_{t-p_1} + \epsilon_t^1 \;\; if \;\; z_t \leq r_2 \\ \phi_0^j + \phi_1^j y_{t-1} + \cdots + \phi_{pj}^j y_{t-p_j} + \epsilon_t^j \;\; if \;\; r_1 \leq z_t \leq r_2 \\ \cdots \\ \phi_0^k + \phi_1^k y_{t-1} + \cdots + \phi_{pk}^k y_{t-p_k} + \epsilon_t^k \;\; if \;\; r_{k-1} \leq z_t \end{cases}$$

We have chosen a SETAR model to simulate time series close to the real-world scenario and implemented it using the setar.sim function of the "tsDyn" package.

2.1. **Forecasting models**

Considering both the linear and nonlinear forecasting models, the considered data set was divided into three parts, which were used for the identification of the model, the performance evaluation and its ability to generalize. The data were divided into a training set, validation set and test set.

The training set contains data that are used for the identification of the model, by uncovering the traits of the data generating process on the inputs and exploring the relationship between inputs and the outputs, through a supervised learning technique [5]. For the linear models, the training set helps estimate the model's parameters, while for the nonlinear forecasting models it helps train the network, that includes the determination of the weights between the nodes. Usually, the training set, which is the largest set, contains the major part of the time series data (55% - 85%).

The validation set is used to test the forecasting model's ability of generalizing on unknown data. It follows an unsupervised learning logic, as the inputs are fed to the model, while the correspondent outputs are unknown to it. It is its task to associate the right outputs to the given input values, relying on the learning procedure the model faced during the training phase [6], It contains from 10 to 30 % of the training set amount of data. Usually, the most recent time series observations are considered to be part of the validation set for the evaluation of the generalization abilities of the model and, consequently, comparing the forecasting performances of each considered model. A very common and most used parameter for the comparison of the forecasting models' predicting abilities, among the mean and percentage errors, is the Mean Absolute Percentage Error (MAPE) [4]. Thus, the validation set lets us identify the model (number of nodes, parameters) that is the most capable of correctly generalizing on unseen data.

The test set is used for applying the forecasting model to produce forecasts for a one-step-ahead or multi-step-ahead period [7]. If the considered model is able of learning the features of the data set through the training procedure, but is not able to produce correct results when applying the model to the test set (shows a high error value for the validation set), it presents overfitting problems. The overfitting refers to the ability of the model to correctly capture and identify the

underlying pattern of the data and associate the right output to the given input data, and its inability of applying the learned rule to the unknown input data, being unable to associate the correct outputs to the correspondent input data.

We have allocated 60% of data to the training set for the model identification, the parameter choice and the determination of the coefficients and, for the nonlinear forecasting models for the network learning procedure and the determination of the weights between the nodes. 25% of data were allocated to the validation set for the evaluation of the models' accuracy and its generalizing capability. The validation data were chosen between the most recent data and are different from the ones used for the training procedure. The results produced by the training will be the choosing parameter between the models, preferring the one with the lowest validation error value. The remaining 15% of time series data were chosen for the test set for a step ahead forecasting over unused data before. We have used an Autoregressive Integrated Moving Average (ARIMA) model, a Linear Exponential Smoothing model, an Exponential smoothing state space model with Box-Cox transformation, ARMA errors, Trend and Seasonal components (BATS) and Trigonometric seasonality Box-Cox transformation ARMA errors Trend and Seasonal components (TBATS) model, and a Feed-Forward Neural Network (FFNN) and compared their performance in terms of percentage errors.

3. Results

Selection and accuracy measures for the forecasting models are reported in Table 1. We chose the best forecasting model according to the validation set MAPE value, as it is recommended as an accuracy comparing unit when using different methods on a time series, considering as the most accurate model the one with the lowest MAPE value.

Table 2: MAPE values for the validation set

Model	SS	MS-Hom-Short	MS-Hom-Long	MS-Het
AR(3)				
ARIMA	14.11	43.65	22.06	16.42
NARNN	15.84	45.81	25.89	13.05
BATS	14.93	43.18	24.85	18.71
TBATS	14.77	40.04	24.71	19.16
Holt's	14.91	43.16	24.72	18.85
SAR(1)				

SARIMA	16.21	21.70	35.48	20.52
NARNN	17.54	23.64	34.15	18.66
BATS	16.32	22.36	39.46	19.30
TBATS	16.28	21.94	38.92	19.45
Holt's	16.98	22.27	37.15	20.17
Logistic Map				
ARIMA	38.32	36.39	29.34	25.79
NARNN	26.60	34.25	24.53	21.67
BATS	37.96	36.02	30.16	22.81
TBATS	37.54	37.18	31.34	22.60
Holt's	37.52	37.23	29.47	24.55
SETAR				
ARIMA	28.15	31.47	26.42	29.49
NARNN	15.33	21.35	17.30	15.42
BATS	24.38	27.68	29.16	32.74
TBATS	25.02	29.33	29.05	32.58
Holt's	29.44	28.42	27.15	34.92

Considering the AR (3) data generating process, in the single series case, the ARIMA model outperforms in terms of MAPE, since the time series generating process is an autoregressive model, followed by the other linear forecasting models, which almost share the same MAPE value. ARIMA's predictive capabilities become worse as the length of the time series gets shorter (MS-Hom-Short scenario). However, MAPE values remain lower for the linear models in comparison to the NARNN model, which seems to be the worst model for forecasting autoregressive generating process time series, for both single series and many homogeneous short-length series. When considering the heterogeneous series (MS-Het), the NARNN's MAPE decreases and becomes lower than the other linear models. It seems that the neural network has better capabilities in capturing and analyzing the underlying pattern of heterogeneous times series, considering the complex structure of these series and the model's capability of learning across the data. Its MAPE values are slightly lower than the linear models' for the single and homogeneous time series scenarios, and the difference between the nonlinear model's MAPE and the linear model' MAPE increases in the heterogeneous time series simulated scenario. We can notice that the forecasting accuracy of each model improves as the length of the series increases.

For the SAR (1) data generating process, SARIMA is the better performing linear model for the single and many homogeneous short-length time series scenarios, as it is the closest model to the data generating process. The NARNN outperforms the SARIMA model in the heterogeneous and homogeneous series of longer length, thanks to the ability of nonlinear models to learn across such series. The other linear models follow SARIMA, although with slightly higher values. Once again, we can observe the higher abilities of nonlinear models of generalizing the rule learned during the training procedure, thanks to the presence of the nonlinear component. They present a slightly higher MAPE value for the single series and the short homogeneous data generating process scenario in comparison to the SARIMA model, but the neural net's generalizing abilities result higher when considering the long homogeneous and the heterogeneous time series data generating process scenario. Once again, all the models' forecasting values become more accurate as the size of the dataset increases.

In the Logistic Map data generating process, the nonlinear patterns of the time series are better captured by the nonlinear models, that outperform the linear models in all the different scenarios. The results of the validation set errors confirm the higher ability of nonlinear models, especially the neural network, of generalizing the rule learned during the training phase.

For the single series case, the neural network model has the best capability of capturing the nonlinear traits of the data generating process that are not captured by the linear models. Its MAPE slightly increases when considering many short-length homogeneous series, as it becomes more difficult for these models to learn from smaller datasets. In the homogeneous long series, although the neural network model remains the best forecasting model, the length of the individual series is sufficient for the ARIMA model to learn, as the decrease of its MAPE value is notable (from 38.32 in the SS, to 29.84 in the MS-Hom-Short). Lastly, in the Logistic Map, as in previous data generating processes scenarios, it is notable that the models improve with increased amount of data in the dataset.

Considering the SETAR data generating process, the neural network predicts the validation set output values quite accurately. So, following a supervised learning logic, it is able to associate to inputs, output values that are very close to the actual time series data. The best predictive model under the short series scenario is the neural network model, which has a lower MAPE value with respect to the other linear and nonlinear predicting model. The complexity of the data generating process is more visible by it in the many homogeneous long series scenario, while it slightly increases in the short series scenario, due to the

fact that these models perform better in larger datasets scenarios, since more data is used for the training.

4. Conclusions and recommendations

After simulating various data generating process time series scenarios, we provided an analysis on the possible factors that affect the predictive performance of each model.

The forecasting performance of all these models were evaluated using the mean absolute percentage error (MAPE), while the model fits were evaluated using AIC (Akaike Information Criterion).

Comparing the training set MAPE values for all the implemented forecasting models, we can notice that the linear models present lower values for the linear scenarios, while the MAPE values get higher when considering the nonlinear simulated models. This because during the learning procedure they are not capable of detecting and uncovering the nonlinear traits of the relationship between inputs and outputs for the nonlinear scenarios. This brings difficulties when applying them to the SETAR model or the logistic map. Their learning abilities improve when considering the linear data generating processes (AR and SAR models) as they perfectly identify and model the linear features of the relationships between input and output values.

The low rate of training set errors for the simulated scenarios for the nonlinear models indicates that they have higher and more accurate prediction capabilities as they can learn through data and generate good forecasting results.

Analogically, we can notice a more improved learning ability of the nonlinear forecasting models when trained with the linear data generating processes' data. Their abilities of discovering linear traits between linear data generating processes' data are higher compared to the ability of the linear forecasting models of detecting nonlinear traits in nonlinear data generating processes' data, as the MAPE value they present is lower in comparison with the linear models'. When considering the learning abilities of the nonlinear forecasting models for the nonlinear scenarios, we notice, as expected, lower MAPE values, which indicates their great abilities of modelling nonlinear relationship between data for the nonlinear data generating processes.

As expected, ARIMA shows better forecasting abilities and more accurate forecasts for linear data generating process time series, while the NARNN model gives more accurate results for nonlinear data generating process time series. NARNN forecasting model is particularly competitive in long-length

time series and heterogeneous datasets, thanks to its abilities of detecting both linear and nonlinear features between input and output data in a very effective way. Thus, we can state that these models are particularly promising for forecasting under uncertainty conditions, without knowing a priori the traits of the series.

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THE IMPACT OF THE 4.0 REVOLUTION ON EXTERNAL POLITICS OF STATES

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Abstract

Innovation and Industry 4.0 seems to be nowadays issues almost for all countries facing a digital transformation. The challenge is to emphasize the reality and actual issues, among videos or photos shared via social media. This becomes even more a challenge if societies and countries are in a war time.

This paper focus is the war between Ukraine and Russia, a so-call 'an accessible' war due to the information's shared via social media and internet services. The analysis is followed by the questions; - Can internet be a tool to avoid the war?; - Do the online connection is helping the Ukrainian prime maltster Volodymyr Zelenskyy seeking for help and support from other global lieders?

The paper will follow three main paths based on digital communication: -firstly, the support and help for Ukraine through the innovation and technology; -secondly, involving the actual war within digital clap, transforming the war a unique one; - thirdly, the accessibility of data related to the war crime.

Keywords: Innovation, Diplomacy, War, Online media

1. Introduction

Innovation is the process of creating something new, original, and valuable. This process can occur in many areas of human life such as technology, sciences, culture, arts, and more. Industry 4.0 is a concept that relates to transformative changes in the manufacturing industry by using information technologies and automation of production processes. The goal of Industry 4.0 is to increase productivity, quality, and flexibility in production by using the latest technologies such as robotics, artificial intelligence, internet, and data analysis.

Innovation and Industry 4.0 are two aspects that intertwine closely, as Industry 4.0 aims to bring innovations and new solutions in production, based on the latest technologies and advanced methods. This has the potential to radically change many aspects of our lives, bringing progress and great benefits to the economy and society overall.

Industry 4.0 and innovation are two essential elements of technological and economic development in the modern era. These two concepts have an extraordinary potential to change the way products are produced, used, and consumed, and they are critically important to ensure that our society is better equipped to face the challenges of today and tomorrow's technological development.

Due to their stability, these digital trends continue to grow and influence the way we use technology. Artificial Intelligence has changed the way we do business and how we integrate with our electronic devices. The Internet of Things (IoT) allows us to control and monitor our devices from a distance and optimize our work processes. The development of blockchain technology offers a more secure way to conduct transactions and exchange various data. Cloud computing enables easier and cheaper access to computer resources from anywhere in the world. Information and personal data security have become more important than ever before, leading to significant change s in policies and laws related to data and privacy on the internet. These trends will continue to impact the development of technology and the way we live and work in the digital world for years to come.

Innovation and Industry 4.0 have an important impact on the foreign policy of states and international organizations, and can serve as a tool to strengthen international cooperation in various fields. In diplomacy, innovation and advanced industries can help solve global challenges such as security, climate, and technology, by promoting international dialogue and cooperation for the development of common projects. In trade policy, innovation and Industry 4.0 are important factors for increasing production and restructuring economies. States and international organizations can use these technologies to increase their exports to other markets and create business opportunities. This can help promote free and open trade, contributing to the growth of welfare and economic development in different states and regions around the world.

Innovation and Industry 4.0 have impacted foreign policy in many ways, bringing new challenges and opportunities for states and international organizations. Strong competition among countries for technology and innovation is one of the key challenges that has spurred foreign policy focus on education and talent development, as well as maintaining close contacts with businesses and academics. Additionally, innovation and Industry 4.0 have brought new opportunities for international cooperation and strategic alliances. Multinational technology companies are increasingly interested in working with different states in developing new technologies and solving social problems. In this context, states are undertaking new policies and initiatives to encourage

innovation and Industry 4.0, as well as to promote international cooperation in these areas. This includes the creation of platforms and international organizations aimed at enabling collaboration and exchange of knowledge and new technologies at a global level, contributing to the growth of welfare and economic development in different states and regions around the world.

The Fourth Industrial Revolution is a term used to indicate the radical changes in technology, trade, and production that are occurring in the world. These changes have a significant impact on the foreign policy of states, particularly when it comes to conflicts such as the one in Ukraine

One of the most noticeable changes that come with the Fourth Industrial Revolution is the increasing importance of technology in foreign policy. States are using technology more and more to develop new military and diplomatic strategies. In the case of the conflict in Ukraine, Russia has used technology to assist in carrying out cyber-attacks and to interfere in foreign elections.

Another important change in foreign policy is related to the growing importance of the digital economy. The conflict in Ukraine has had a significant impact on the country's economy, as well as those of neighboring and international countries. The energy market is one of the fields most affected by this conflict, as the majority of gas and oil used in Europe comes from Russia and Ukraine.

The Fourth Industrial Revolution also has an impact on the form of international cooperation in foreign policy. States are making more and more efforts to develop new relationships and work together to address global challenges. This makes them better able to prevent conflicts and promote peace and stability in the world.

Ultimately, the Fourth Industrial Revolution has changed the course of foreign policy in different ways in the case of the conflict in Ukraine. While technology can be a powerful weapon in the hands of different states, it can also be used as a tool to help resolve conflicts and to encourage international cooperation.

The conflict between Ukraine and Russia is a difficult and complex conflict that has had profound impacts on the Eastern European region and global consequences. There are many factors that have made this conflict more viral on social media and accessible on the internet than other conflicts.

One of the key factors is the importance and influence of information and communication technology in modern society. Today, social media and online

platforms are an important tool for people to share information and express their opinions. In the context of a conflict like that between Ukraine and Russia, social media can be a powerful tool for propaganda and disseminating different narratives.

At the same time, the accessibility of the internet and various diplomatic relationships between Russia and other countries have made the information and opinions shared on social networks broad and reaching a large audience.

However, the assessment of the conflict as "the most internet-accessible war in history" and the "most viral" social media war is subjective and debatable. Any conflict can be influenced by different factors in one way or another, and the distribution of information on social media is a dynamic process that changes over time.

One broad use of innovation in the military field is that of drones. Ukraine has worked on developing and producing drones for various military missions, including surveillance of conflict zones.

Another area of innovation in the Ukrainian conflict is cybersecurity. Ukraine is one of the first countries in the world to have faced attacks by foreign hackers and has advanced in developing sophisticated tools to prevent and combat this problem.

Innovation also plays a crucial role in the development of communication and information systems, which have facilitated coordination between military forces and provided a strategic advantage in different military situations.

2. The importance of the internet in times of war

The internet can be used as a tool to reduce tensions and promote dialogue between parties in different conflicts. In the case of the conflict between Ukraine and Russia, the internet can be used to facilitate communication between citizens of both countries and help build bridges between them. For example, different types of social and online communication platforms can be used to bring people together and encourage open and honest discussions. At the same time, it is important to emphasize that the internet is not the ultimate solution for all wars and conflicts. However, it can be a tool that can contribute to changing perceptions and building bridges for an open and honest conversation between conflicting parties.

Regarding the online connections of the President of Ukraine with other heads of state during the war with Russia, they have had a significant impact on the

development of the conflict. The President of Ukraine, Volodymyr Zelensky, has made continuous efforts to secure the support of the international community and has used social media and online platforms to communicate with other heads of state and to raise public awareness about the situation in Ukraine.

In 2022, Zelensky organized a virtual meeting with the President of the United States, Joe Biden, in which they discussed the current challenges facing Ukraine and the role of the US in defending the country's sovereignty. He has also made similar efforts to communicate with the Prime Minister of the United Kingdom, Boris Johnson, and the President of the European Council, Charles Michel.

Meanwhile, social media platforms like Twitter and Facebook have served as platforms to raise public awareness about the conflict and to inform the public about humanitarian aid for Ukraine. For example, the hashtag #SaveUkraine trended on Twitter, showing a widespread response from the international community.

For these reasons, it can be said that the online connections of the President of Ukraine with other heads of state have played an important role in raising public awareness and securing international support in defending the country's sovereignty during the conflict with Russia. In these online conversations, President Zelensky has discussed the current challenges facing the country and has sought support from other heads of state in the fight to defend Ukraine's sovereignty.

In some cases, online meetings have resulted in reaching an agreement between parties, such as the case with the Minsk Protocol in 2015, which was an agreement between Ukraine and pro-Russian separatists in Eastern Ukraine, and was an important step towards easing tensions and stopping the fighting.

However, these conversations have not had a formal character and have not included specific and detailed negotiations for resolving the conflict.

But what assistance has technological innovation provided to Ukraine to increase the participation of ordinary citizens in the war?

We can say that technological innovation has helped Ukraine to increase the participation of ordinary citizens in the war, becoming a useful tool to coordinate and mobilize people in conflict zones.

One of the most important innovations is that of social networking and mobile applications. The use of these tools has facilitated communication between

people in conflict zones and has enabled the effective dissemination of information. One such application is "Ukrainian Defense," which provides real-time information on military developments and allows citizens to report incidents or suspicious activities in conflict zones.

Innovation has also helped to increase the capacity of military forces on the ground. The use of military drones has facilitated surveillance of conflict zones and has helped identify enemy positions.

Another innovation that has helped increase citizen participation in the war is online platforms for recruiting volunteers. These platforms allow people to register and be ready to help military forces in conflict zones.

In summary, technological innovation has offered a range of tools and solutions to increase citizen participation in the war in Ukraine. These tools have facilitated communication, coordination, and mobilization of people in conflict zones and have helped increase military capabilities on the ground.

Despite the ease that may have occurred, we can say that a large amount of data on war crimes in Ukraine committed by Russia has been generated through online media. They have published a large amount of data on war crimes that have occurred in Ukraine. Some of the sources are known as Human Rights Watch, Amnesty International, Reporters Without Borders, etc., which have made detailed reports on the murders, torture, and human rights violations that have occurred in conflict zones.

The generation of a large amount of data on war crimes has been done using information technology and network systems. Online media has used extraordinary techniques for searching information to ensure accurate and verifiable data on war crimes.

In some cases, online media has also used data analysis technologies to identify patterns and general data related to war crimes. These technologies can help identify major trends in such crimes, becoming an important source for analysts and people interested in monitoring developments in conflicts.

Additionally, online media has used social network technologies to share information with their audience. These platforms have been useful for gathering information from various sources and sharing information with a wide audience.

The large amount of data generated by online media on war crimes in Ukraine shows that information is an important source in times of conflict. The use of information technology and network systems has helped in processing this data and generating necessary information to help solve the crisis.

3. Conclusions

The conflict in Ukraine is a highly complex challenge, and achieving peace and stability in the region requires innovation and diplomacy. Online media can play an important role in changing narratives and promoting international dialogue, while technology can be used to assist in humanitarian intervention and prevent further destruction of infrastructure and human lives in conflict zones.

Diplomacy is also crucial in resolving crises and conflicts. Cooperation between countries at the diplomatic level can help find peaceful solutions and prevent the escalation of conflicts. It is important to focus efforts on peaceful negotiations and promoting international cooperation to address common issues.

Online media can help promote dialogue and change narratives regarding the conflict in Ukraine, through the use of social media to share information and encourage open discussions. Technological innovation has helped increase the participation of ordinary citizens, such as with the development of mobile phone applications that provide important safety information, the use of drones for monitoring difficult areas and identifying military targets, and the use of social media for raising awareness and sharing information.

In this way, technology can serve as the perfect assistant for resolving such crises, developing even further to offer innovative solutions to the challenges that arise in the future.

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CHALLENGES OF DIGITAL TRANSFORMATION AND BIG DATA IN INDUSTRY 4.0: THE CASE OF COMPANIES IN REPUBLIC OF NORTH MACEDONIA

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Abstract

Digital technology has transformed the industrial and manufacturing world. As the adoption of digital technologies continues to move at a rapid pace, organizations are also struggling to transform rapidly. Furthermore, a new economic trend is emerging where incumbent manufacturers must deal with large digital organizations and innovative start-ups, both determined to build new revenue models. Industry 4.0 applies not only to technology, but also to new ways of working and the role of people in industry. The increase in the level of computerization, communication and integration of artificial intelligence leads to significant improvement of safety and efficiency at work. To keep pace with the rapidly growing technological improvements that accompany Industry 4.0, there is a great need to evolve and change the way we work. Companies are facing a new era, where machines acquire human characteristic s, including cognitive abilities. Therefore, the question is-Are we ready for Industry 4.0? In addition, what are the challenges that RNM companies will face in the near future?

Keywords: Industry 4.0, artificial intelligence, digital transformation, big data

1. Introduction

Digital transformation is reshaping industries worldwide, and North Macedonia is no exception. In the era of Industry 4.0, the country is embracing digital technologies to drive innovation, enhance competitiveness, and unlock new opportunities across various sectors.

North Macedonia recognizes the potential of digital transformation as a catalyst for economic growth and sustainable development. The government, businesses, and educational institutions are actively working together to harness the power of advanced technologies, such as the Internet of Things (IoT), artificial intelligence (AI), data analytics, and automation.

Industry 4.0 represents the fourth industrial revolution, characterized by the fusion of digital technologies with traditional manufacturing processes, leading to enhanced productivity, efficiency, and competitiveness. In North Macedonia, digital transformation is gaining momentum across various industries, including manufacturing, logistics, energy, and services. The country recognizes the transformative potential of advanced technologies, such as the Internet of Things (IoT), artificial intelligence (AI), big data analytics, and automation, to revolutionize traditional business models and operational practices.

The adoption of digital technologies in North Macedonia's industries is driven by the pursuit of increased productivity, improved product quality, optimized resource utilization, and enhanced customer experiences. By integrating digital solutions into their operations, businesses in North Macedonia are striving to stay ahead in a globally competitive market and to meet the evolving demands of customers.

Furthermore, digital transformation in North Macedonia aims to foster innovation, stimulate economic growth, and attract foreign investment. The government, industry associations, and academic institutions are collaborating to create an ecosystem that supports digitalization initiatives, provides training and skill development programs, and promotes research and development in emerging technologies.

While challenges and opportunities lie ahead, North Macedonia is on a path of embracing digital transformation in Industry 4.0 to unlock its full potential. The integration of digital technologies promises to revolutionize the country's industries, drive economic development, and create new opportunities for businesses, workers, and society as a whole.

2. Industry 4.0

Industry 4.0, also known as the fourth industrial revolution, represents a paradigm shift in the manufacturing and industrial sectors. It encompasses the integration of advanced digital technologies, automation, and data exchange to create a smart and interconnected ecosystem.

Industry 4.0 builds upon the advancements of previous industrial revolutions, combining them with cutting-edge technologies such as the Internet of Things (IoT), artificial intelligence (AI), big data analytics, cloud computing, robotics, and augmented reality (AR). These technologies enable machines, systems, and people to communicate and collaborate seamlessly, leading to significant transformations in the way businesses operate.

The core principles of Industry 4.0 focus on connectivity, automation, and data-driven decision-making. Through the deployment of IoT sensors, devices, and networks, machines and systems can collect and share real-time data, facilitating improved monitoring, control, and optimization of processes. AI and machine learning algorithms enable the analysis of vast amounts of data, uncovering valuable insights and supporting predictive and prescriptive analytics.

Automation plays a crucial role in Industry 4.0, with the integration of robotics and autonomous systems streamlining production processes, enhancing efficiency, and reducing human error. Smart factories and cyber-physical systems enable the synchronization and coordination of various manufacturing components, resulting in agile, flexible, and customized production. The benefits of Industry 4.0 are far-reaching. It enables increased productivity, reduced operational costs, improved product quality, enhanced safety, and better resource utilization. The adoption of digital technologies also opens avenues for new business models, innovative products and services, and improved customer experiences.

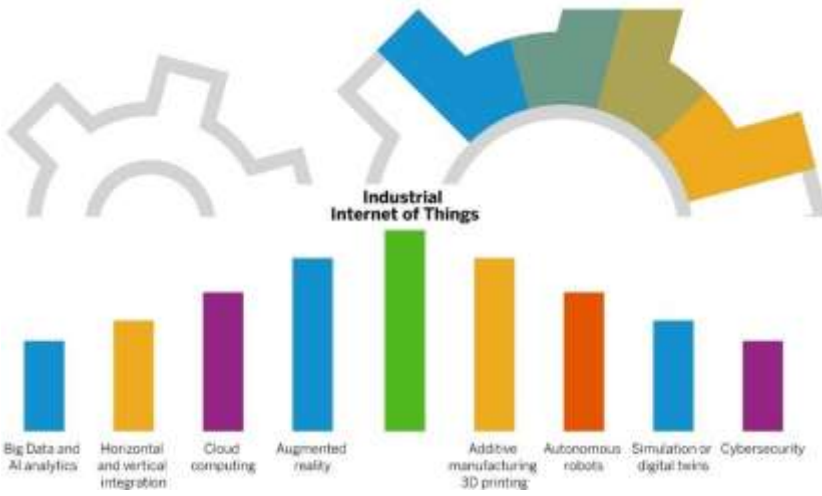

Figure 1: Industry 4.0 technologies

Industry 4.0 is built on nine technology pillars (*big data and analytics, horizontal and vertical integration, cloud computing, augmented reality, industrial internet of things, additive manufacturing, autonomous robots, simulation of digital twins and cybersecurity*). These innovations bridge the physical and digital worlds and make smart and autonomous systems possible.

Businesses and supply chains already use some of these advanced technologies, but the full potential of Industry 4.0 comes to life when they're used together.

3. Big data in industry 4.0

Big data plays a crucial role in Industry 4.0, the fourth industrial revolution characterized by the integration of digital technologies, automation, and data-driven decision-making. In Industry 4.0, big data refers to the massive volume, velocity, and variety of structured and unstructured data generated from various sources, including sensors, machines, social media, and other digital platforms. Industry 4.0 technologies, such as Internet of Things (IoT) devices, sensors, and connected machines, generate vast amounts of data. This data includes real-time operational data, customer behavior data, supply chain data, and more. The continuous data generation allows companies to gain valuable insights and make data-driven decisions.

Big data in Industry 4.0 involves the integration of data from multiple sources, both within and outside the organization. By aggregating and correlating data from various systems, companies can gain a holistic view of their operations, supply chain, and customer interactions. This integration enables enhanced decision-making and the discovery of valuable patterns and correlations. The velocity of big data is a crucial aspect of Industry 4.0. Real-time analytics enables companies to process and analyze data as it is generated, allowing for immediate insights and timely decision-making. Real-time monitoring of operational processes, predictive maintenance, and dynamic demand forecasting are just a few examples of how real-time analytics can optimize operations in Industry 4.0.

Big data analytics in Industry 4.0 goes beyond descriptive analytics by utilizing predictive and prescriptive analytics techniques. Predictive analytics leverages historical and real-time data to identify patterns and trends, enabling companies to anticipate future events and make proactive decisions. Prescriptive analytics takes it a step further by providing recommendations and suggesting optimal actions based on data analysis. Big data fuels the development of intelligent automation in Industry 4.0. With the integration of artificial intelligence (AI) and machine learning (ML) algorithms, companies can automate decision-making processes and optimize operations. By analyzing big data, AI-powered systems can autonomously adjust production processes, optimize inventory management, and streamline supply chain operations.

In Industry 4.0, big data serves as a catalyst for innovation. By analyzing large datasets, companies can uncover new market trends, customer preferences, and product opportunities. Data-driven innovation involves utilizing big data to develop new products, services, and business models that meet the evolving needs of customers and create a competitive advantage.

The vast amount of data generated in Industry 4.0 raises concerns regarding data security and privacy. Protecting sensitive data from unauthorized access and ensuring compliance with data protection regulations, such as GDPR, is crucial. Companies must implement robust cybersecurity measures and adopt ethical practices for data collection, storage, and usage.

4. Current State of Industry 4.0 in North Macedonia

The current state of Industry 4.0 in North Macedonia is characterized by ongoing efforts to embrace digital transformation and adopt advanced technologies in various sectors. While the country is still in the early stages of Industry 4.0 implementation, there are notable developments and initiatives that indicate progress. Here is an overview of the current state of Industry 4.0 in North Macedonia:

- Digital Infrastructure and Connectivity: North Macedonia has been investing in improving its digital infrastructure, including broadband connectivity and internet access. Efforts have been made to expand the reach of high-speed internet to support the digitalization of industries and enable the integration of advanced technologies.
- Industry Adoption: Various industries in North Macedonia are gradually adopting Industry 4.0 technologies and practices. Sectors such as manufacturing, automotive, agriculture, energy, and logistics are beginning to explore the integration of automation, data analytics, robotics, and IoT devices into their operations. These initiatives aim to enhance productivity, efficiency, and competitiveness.
- Government Initiatives: The government of North Macedonia has recognized the importance of Industry 4.0 and has initiated programs to promote its adoption. For example, the country's Innovation Strategy for Smart Specialization focuses on key areas such as information and communication technologies, advanced manufacturing, and sustainable energy. The government has also provided financial incentives and support for research and development activities related to Industry 4.0.

- Collaboration and Partnerships: Collaboration between industry players, academia, and research institutions is growing in North Macedonia. Partnerships are being formed to foster knowledge exchange, skill development, and innovation in Industry 4.0. This collaborative approach aims to bridge the skills gap and facilitate the implementation of advanced technologies.
- Workforce Skills Development: Efforts are being made to enhance the digital skills of the local workforce. Educational institutions and training centers are offering programs and courses focused on emerging technologies and Industry 4.0 concepts. These initiatives aim to equip individuals with the necessary skills to meet the demands of the digital era.

5. Challenges of Industry 4.0 in Republic of North Macedonia

While Industry 4.0 offers numerous opportunities, it also presents several challenges that need to be addressed for successful implementation. Digital transformation and the utilization of big data pose several challenges for companies in the context of Industry 4.0, including those in the Republic of North Macedonia. Here are some key challenges faced by companies in this region:

2. *Limited Infrastructure:* The Republic of North Macedonia may face infrastructure limitations, such as inadequate internet connectivity, outdated technology, and insufficient IT resources. These limitations can hinder the effective implementation of digital transformation initiatives and the handling of big data.
3. *Skills and Talent Gap:* The successful implementation of Industry 4.0 technologies requires a skilled workforce proficient in digital technologies and data analytics. However, there may be a shortage of professionals with relevant expertise in the Republic of North Macedonia. Upskilling and reskilling programs need to be established to bridge this skills gap.
4. *Data Privacy and Security:* With the increasing reliance on digital technologies and the collection of large volumes of data, ensuring data privacy and security becomes critical. Companies need to develop robust cybersecurity measures and comply with relevant data protection

regulations, such as the General Data Protection Regulation (GDPR) in the European Union.

5. *Change Management and Organizational Culture:* Implementing Industry 4.0 requires a cultural shift within organizations. Digital transformation often requires significant changes in the organizational culture and processes. Resistance to change, lack of awareness, and inadequate change management strategies can hinder successful adoption. Organizations need to foster a culture of innovation, encourage collaboration, and provide adequate training and support to employees throughout the transformation process. Companies need to invest in change management strategies and promote a culture of innovation and adaptability.
6. *Data Quality and Integration:* Big data can be obtained from various sources and in different formats. Ensuring the quality and consistency of data across systems and integrating disparate data sources can be a significant challenge. Companies need robust data governance frameworks and data integration strategies to address these challenges and derive meaningful insights from big data.
7. *Cost and Return on Investment:* Implementing digital transformation initiatives and managing big data can involve significant costs, including investments in technology infrastructure, talent acquisition, and ongoing maintenance. Companies need to carefully assess the return on investment (ROI) and develop clear business cases to justify the expenses associated with digital transformation and big data analytics.
8. *Regulatory and Legal Challenges:* The Republic of North Macedonia, like any other country, has its own set of regulatory and legal frameworks that companies must comply with. Digital transformation initiatives and the utilization of big data should align with these regulations. Staying updated with evolving regulatory requirements can be a challenge, requiring companies to closely monitor and adapt their practices accordingly.
9. *Cybersecurity Risks:* With increased connectivity and data exchange, the risk of cyber threats and data breaches also grows. Protecting sensitive information, intellectual property, and critical infrastructure from cyberattacks becomes crucial. Organizations must implement robust cybersecurity measures, including encryption, authentication protocols, and regular security audits to mitigate risks.

6. Conclusion

The challenges of digital transformation and big data in the context of Industry 4.0 pose significant hurdles for companies in the Republic of North Macedonia. This paper has shed light on the key challenges faced by these companies and provided insights into the unique circumstances of the region.

Limited infrastructure, including inadequate internet connectivity and outdated technology, has hindered the effective implementation of digital transformation initiatives. Additionally, a skills and talent gap exist, requiring investment in upskilling and reskilling programs to equip the workforce with the necessary digital and analytical skills. Data privacy and security have emerged as critical concerns due to the increasing reliance on digital technologies and the collection of large volumes of data. Companies must navigate regulatory frameworks, such as GDPR, while implementing robust cybersecurity measures to protect sensitive data. Cultural and organizational resistance to change has impeded the adoption of new technologies and hindered the effective utilization of big data. Overcoming this challenge requires investment in change management strategies and fostering a culture of innovation and adaptability within organizations. Data quality and integration remain significant challenges, given the diverse sources and formats of big data. Companies must establish robust data governance frameworks and implement data integration strategies to ensure consistency and derive meaningful insights. The cost and return on investment associated with digital transformation and big data initiatives cannot be overlooked. Companies must carefully assess the ROI and develop clear business cases to justify expenses. Moreover, regulatory and legal challenges necessitate compliance with evolving regulations and frameworks.

To address these challenges, a comprehensive approach is required. Collaboration between industry, government, and educational institutions can play a crucial role in overcoming these hurdles. Strategic planning, investment in technology and infrastructure, talent development, change management, and compliance with regulations are all necessary components of a successful digital transformation journey.

Despite the challenges, the Republic of North Macedonia has the opportunity to leverage digital transformation and big data to enhance its competitiveness in the global economy. By addressing these challenges head-on and implementing effective strategies, companies in the Republic of North Macedonia can position themselves as leaders in Industry 4.0, driving innovation, efficiency, and sustainable growth in the digital era.

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DIGITALIZATION AS A SIGNIFICANT FACTOR IN THE ECONOMIC DEVELOPMENT OF ALBANIA

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Abstract

Digitalization is considered a determinant of shaping economic growth by promoting industrial empowerment. As a process of transforming and improving the overall operations of markets and organizations, it affects the business culture, workflow, behavior, efficiency, and profitability of firms. As new technologies are introduced rapidly in the market, businesses and institutions are focusing on keeping up with the most recent trends and integrating this industrial revolution. It is therefore essential to examine the correlative relationship and level of significance between digitalization, innovation, and economic growth. The study investigates the impact of digital systems on the overall performance of the Albanian economy. An analytical survey is derived from secondary data, which scrutinizes the positive outcomes that digitalization has brought about in the everyday operation of firms and institutions. Simultaneously, it depicts its threats and the inability of Albanian organizations to fulfill the EU directives for digitalization and innovation. The study concludes that technological improvements positively influence green economic development. There is enough evidence that digitalization influences the performance of organizations, and its promotion is a necessity to embrace a higher level of development and to achieve long-term growth and sustainability in Albania.

Keywords: Digitalization, efficiency, technological innovation, economic development, sustainability

1. Introduction

Digital transformation is anticipated to be the top strategic objective for businesses in almost all industries over the coming few years. It has become crucial for organizations to survive and prosper in the current competitive environment, and it utilizes digital technologies to change a business model, produce new revenue streams, and increase chances to add value. This entails incorporating digital tools and systems into a variety of corporate processes, including management, communication, production, and customer service. Digitalization is the practice of making workflows and processes simpler and more effective using digitized information. It is essential to develop a digital culture to survive and flourish, especially in today's tech-driven environment.

This complex transformation brings about several opportunities in the future and simultaneously bears the risks of numerous challenges that appears while taking steps into digitalization. Businesses today face enormous difficulties with digital transformation. Companies confront with a completely new set of challenges as a result of the transition to a more technologically and socially linked environment. The path to digital transformation can appear difficult since it involves managing client expectations, data privacy, and keeping up with the most recent developments. However, with the correct plan and an innovative mindset, firms may get over these obstacles and prosper in the digital age. (European Central Bank, 2018)

Digitalization fosters green economy, while using the proper tools to provide sustainable development in the market and to reduce the negative outcomes of firms' operations. As two main topics in the financial and economic performance of all nations, their harmonization would provide higher development in macroeconomic level and higher profitability in businesses embracing industrial transformation based on digital improvement and sustainability development. Digitalization can support green economic growth by promoting industrial empowerment. Green technological advancement constitutes one of the fundamental engines of green economic growth. (Broccardo, Zicari, Jabeen, & Hbatti)

The paper is composed of five main chapters. The first chapter of introduction provide a general information on the process of digitalization and highlights the cruciality of this phenomenon worldwide in the overall economy and business performance. The following chapter depicts a coherent review of prior research on digitalization. The literature analysis the impact of digital transformation by proving a full set of benefits and challenges that firms and society are facing nowadays to meet the goal of digital improvement and sustainable development. The methodology is presented in the third part of the paper, and it illustrate the method used to come up with the findings in this study. In the fourth chapter, an analytical analysis based on secondary data takes place to scrutinize the impact in Albania. It shows government steps to provide digital services and fulfill the EU directives for innovation and technology. Further research based on previous studies indicate how this process has affected the performance and profitability of firms operating in Albania. Lastly, there are concluded all the findings from the survey, and it is demonstrated the importance of future research to provide more relevant data and information for digitalization in the future.

2. Literature

2.1 The cruciality of digital transformation

The process of utilizing digital technologies to enhance overall business operations, culture, services, and customer experiences is known as "digital transformation." Organizations are concentrating on keeping up with the most recent trends and integrating these innovations as new technologies are launched and improve quickly. Technology is being used by many organizations in practically all facets of their internal and external activities. Their procedures and operations are being considerably impacted by the technology integration, which is forcing organizational and structural adjustments. Modernizing operations, streamlining workflow, bolstering security, and boosting profitability are the major advantages of digital transformation for businesses. Adopting new business models is another component of the digital transformation, in addition to new technologies. This shows that businesses should fully grasp digital transformation and take all relevant factors into account, beginning with how staff will respond and how it will affect their customers. (Negreiro, 2021)

The boundaries of the digital revolution are being pushed by the most recent developments in artificial intelligence and associated technologies. The COVID-19 pandemic has accelerated the pace of digital transformation. Future is approaching more quickly than anticipated. Although the brilliance and strength of digital technologies' applications have astounded, they have not yet fully produced the anticipated payoff in increased productivity growth. Indeed, in many economies over the last two decades, growth in total productivity has slowed. As a result, economic growth has been trending downward. During this time, economic inequality and associated inequities have grown, especially in advanced nations, fueling social unrest and political agitation. The new prospects brought about by the digital transition are being embraced unevenly across economies. In all sectors of society, including the labor, businesses, and industries, many people are being left behind. Companies on the cutting edge of technology have separated themselves from the competition, taking control of marketplaces that are becoming more and more crowded, and profiting disproportionately from the new technologies. While productivity growth has been significant in these firms, it has slowed or stagnated in other firms, which has dampened overall productivity growth. Increased automation of low- to middle-skill work has caused a shift in the labor market away from lower-level skills, which has a negative impact on earnings and employment opportunities for unskilled employees. The distribution of both capital and labor income has tended to become increasingly uneven, and income has been shifting from labor

to capital as a result of the new technologies' preference for capital, winner-take-all business results, and higher-level abilities. (Shinkevich, et al., 2020)

The fact that policies and institutions have been slow to adapt to the developing transformations is a significant factor in these outcomes. Policies must also become smarter to fully utilize the potential of today's smart devices. To fully realize potential improvements in productivity and economic growth and address rising inequality as technological shocks generate winners and losers, they must be more adaptable. Policies must be put in place to guarantee that markets remain inclusive and enable broad access to new opportunities for businesses and people as technology reshapes markets and affects growth and distributional dynamics. The digital economy needs to be expanded to reach smaller businesses and larger sectors of the workforce with new technology and opportunities. (Dabbous, Barakat, & Sascha, 2023)

2.2 Challenges of Digitalization

It is common for organizations to face a variety of obstacles and challenges whenever they undergo significant changes. This also holds true for digital transformation, and if the changeover is not seamless, firms may encounter difficulties. One of the crucial challenges is the adaption of organizational management, which requires a structured strategy. Organizational change management emphasizes all an organization's components rather than just one. For instance, it entails adjustments to the entire business model and involves changes to culture, attitude, processes, and structures. Success depends on having a solid and efficient change management plan since it enhances the possibility that an organization will accomplish its transformation goals. Additionally, firms need to carefully budget and develop a strategy to properly and fully used all the tools and software they have invested in for the digital approach. Moreover, the lack of experience could jeopardize an organization's goal of digital transformation. Given the complexity of digital transformation plans, the appropriate skill and knowledge set are needed to put the required changes into place. Organizations struggle to find workers with the necessary expertise in application architecture, cybersecurity, digital transformation processes, and other related IT and non-IT disciplines.

As a result of changing technologies and advancements in customer service, customers' expectations and needs have increased, which presents a challenge for many firms. Customers' needs can alter over time even when businesses invest years in digital transformation since they are continually seeking better, more streamlined offerings. This indicates that additional work is required to

put new digital technologies into use so they can adapt to changing client needs. Further, one great issue facing companies nowadays while transforming digitally is the security threat. Firms should make sure they are operating safely online and provide assurance for their operation. Organizations are exposed to greater degrees of risk as they implement remote work, digital processes, and cloud-based technologies. As a result, to protect themselves from threats, they must put in place stronger security measures and enhance their cybersecurity. An organization runs a great risk of undesirable outcomes if data and other critical assets are not protected. (Gorensek & Kohont, 2019)

2.3 Further Steps in Digital Transformation

To increase access to new prospects, the digital infrastructure's base needs to be upgraded. Expanding digital connectivity for underprivileged groups and locations requires additional governmental investment as well as frameworks to attract more private investment. In developing economies, the digital divide is still notably vast. As a result of technological progress, these economies will need to move away from growth models based on low-skill, low-wage manufacturing. This will necessitate stronger digital infrastructure and literacy. The availability and standard of continuing education should be considerably increased considering the rapidly shifting skill demands and the expanding need for lifetime learning, upskilling, and reskilling. Technology-enabled solutions, like online learning resources, must be used to their fullest potential. Addressing persistent disparities in access to education and (re)training is necessary. While differences in fundamental talents between income groups have closed, disparities in higher-level abilities that are essential for success in the digital economy are growing.

A new approach to competition law is required in the digital era. Antitrust regulations must be reinforced, as must their enforcement. Policymakers must guarantee that financial markets are adequately competitive and address regulatory issues related to the emerging world of digital financial products, platforms, and algorithms, just as they do in product markets. Social safety programs and labor market regulations need to change to reflect the evolving workplace and economy. Plans for unemployment insurance should do a better job of assisting employees with change management, retraining, and job transitions. The emphasis on skills that work with the new technology should be increased through more investment in education and training programs. This will acquire innovation in these programs' finance, delivery, and content, including fresh forms of public-private partnerships. (Ritter & Pedersen, 2020)

Stronger and more equitable economic growth can be achieved by enabling more engagement of businesses in the innovation economy, accelerating the adoption of new technologies, and developing complementary labor skills. Reforms in these sectors have a greater impact than fiscal redistribution alone in reducing inequality and economic insecurity. The growth and inclusion agendas are one and the same when it comes to realizing the full potential of digital transformation. (Bansod, Rahod, Mahalle, & Seth, 2021)

3. Methodology

The research provides a full framework of digital transformation based on prior literature and research. It contributes with an analytical analysis drawn from previous findings on the significance of digitalization and describes the opportunities and challenges facing businesses nowadays to meet certain criteria to successfully continue their operation in this dynamic economy. Moreover, the paper represents a forecast for the continuation of the industrial revolution, which is based on digital evolution. Crucial hypotheses and assumptions from institutions and organizations from the respective area take place to create a comprehensible picture of the future environment. The study scrutinizes the impact of digitalization on the overall economy and business performance in Albania. The analysis is based on secondary data derived from regional and international research on the public and private entities that operate locally. Firstly, it depicts the government's participation in the transformation of some of the digital services and then it represents how firms are engaged in digitalization. The paper shows a comparison of opportunities and challenges within firms facing digital transformation. There is a limitation of information in measurable outcomes of in the management and financial performance of businesses operating in Albania.

4. Digitalization in Albania

It is necessary to examine the various facets of digital development in various nations as ICTs become more crucial for achieving the Sustainable Development Goals by 2030. (Sustainability Development, 2022) As the situation is evolving into a new normal where "digital" is not only a solution to an emergency but also a long-term investment against risk. With a population of 2,868,695 million and a GDP per capita of $6,492 USD in 2021, Albania has the fourth-largest economy in the Western Balkans. Digital trade is already expanding quickly in Albania. The county of Albania is ranked 75th in the e-

commerce ranking by United Nations in 2019. (United Nations, 2020) Only 13.3% of Albanian companies recorded e-commerce sales in 2021. But Albania still falls short of its rivals in some important areas. By contrast to regional counterparts like Croatia (61.8%), just 38.4% of Albanian customers are predicted to use e-commerce as of 2022. (Ungerer, Chrisoph; Portugal-Perez, Alberto; Haddad, Marolla, 2022)

In terms of value added and employment, the services and industries sectors are the most significant in the Albanian economy. The talented and inexpensive labor force in Albania has strong English proficiency and ICT-related education. It also has a good infrastructure and cheap corporate taxation. The industry is always expanding and exports skilled IT workers to other nations. IT technology is the economy's fastest-growing industry, with hardware accounting for the highest share (55%), ICT markets in Albania for the second-largest share (30%), and software accounting for 15%. According to INSTAT's overall data, over 99% of commercial firms used computers and the internet in 2022. (INSTAT, 2023) The financial sector in the Albanian economy is one of the most digitalized, according to the research. In the poll, 57% of participants were from microfinance and financial services firms, compared to 43% from commercial banks. (Swiss Agency for Development and Cooperation SDC, 2021)

The Global Innovation Index (GII) assigns a ranking to the world's economies based on how innovative they are. The GII, which consists of about 80 indicators divided into innovation inputs and outputs, tries to capture the multifaceted aspects of innovation. Among the 132 economies included in the GII 2022, Albania is ranked 84th in the Global Initiative Index and Global Entrepreneurship Index. The World Intellectual Property Organization (WIPO), a specialized agency of the United Nations, publishes the Global Innovation Index (GII). Institutions, human capital and research, infrastructure, credit, investment, linkages, the production, absorption, and dissemination of knowledge, as well as creative outputs, are among the factors used to quantify innovation. (World Intellectual Property Organization, 2023)

Albanian Government is working on achieving the EU directives of innovation and technology. The government has started working on the creation of the essential infrastructure to provide electronic services in 2013. From a number of 14 online services, Albanian government provide 1,225, 95% of its total services in the platform of e-albania in 2022. "E-Albania" is Albania's special government portal. Due in part to the COVID-19 epidemic, it has become a key player in the nation's online public service delivery. Compared to the EU average of 59%, the population's use of e-government services varied from 9%

to 21%. (Jorgoni, 2022) Agribusiness, hospitality, and tourism are the industries that have a lower level of digitalization because they lack a formalized digital strategy. The digitalization of industries is directly impacted by laws, rules, and acts, with a particular emphasis on e-commerce, consumer protection, data protection, and digital transactions.

Albanian government has been eager to promote the digitalization of SMEs in response to the suggested policy by the Investment Council (IC), which receives funding from the EBRD. The policies are based on the evaluation of SME access to ICT and the development of an online platform that would include all SME financing and support programs in order to improve SME access to financing. SMEs are a crucial component of the Albanian economy, and research suggests that interest in ICT, digitalization, BI, and KM is expanding. Small and medium-sized businesses (SMEs) have increased their use of information and communications technology (ICT) as a result of the containment measures implemented worldwide during the Covid-19 crisis. However, innovation is still at a low level due to a lack of adequate human and financial resources. The primary obstacles that stop businesses from utilizing technological advances are financial constraints, a lack of technical expertise, and a lack of a digital strategy. SMEs are increasingly interested in and need to adopt novel and creative decision-making processes that will boost performance and competitiveness. The application of BI because of outside technology variables is equally important. The results of the analysis demonstrate that BI adoption and digitalization improve labor productivity. (Kalaj & Merko, 2021) The study demonstrates that, although different SMEs, owner-managers, and employees may have varied perspectives about digitalization, it is a significant factor in business performance. For the upcoming year, businesses plan to invest mostly on digital business models, e-commerce, data analysis, and digital marketing. These expenditures are anticipated to boost businesses' income and improve their ability to make data-driven decisions. The research represents that there is a beneficial influence of business digitization on SMEs' overall performance in Albania. (Regional Cooperation Council, 2021)

5. Conclusion

Digitalization is considered as a technological and supply shock that has an impact on the major economic aggregates, particularly through effects on competition, productivity, and employment, as well as through interactions with institutions and governance. Digital technologies are also altering how businesses conduct their operations and communicate with their clients and

suppliers. For the purpose of implementing financial and economic policies, it is therefore becoming more and more important to comprehend the digital revolution and the ways in which it affects the overall development. Businesses performing through digital tools are facing several challenges and have obstacles on the implementation of the digitalization. Albania is in its first stages of innovation and technology and is ranked under the EU countries. Businesses have increase their interest on digitalization, even though they face several issue. Firms have a necessity to embrace innovation and technology to expand their operation, to compete in the market, to meet client demand and expectations and to increase their profitability. Simultaneously they have facing difficulties in the adjustment of the organizational structure and policies, they have lack of expert employees in digital technology and have limited budged to adapt the proper technology suitable for their operation.

Digitalization is considered an important phenomenon that significantly contributes to growth and development of the firms and economy overall. Further studies are recommended to learn more about the performance, potential, and risks of the firms that are currently functioning or will soon begin operating under the umbrella of digital tools and services. A new industrial revolution is underway globally and more information in business intelligence would contribute on the economic expansion and sustainability reporting. Furthermore, there is a limitation of research in Albania to concretize the real outcomes of profitability of firms. More studies for future expectations on digitalization, its benefits and risks would be crucial for all the enterprises, government, and society to accelerate the path toward a more profitable and sustainable economy.

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NEW CHALLENGES OF ALBANIAN LANGUAGE IN THE DIGITAL ERA

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Abstract

Today, we live in a digital society and education or communication through technology has become a necessity. The rapid development of information technology in Albanian society has brought changes in every aspect of life and especially in our language. Along with the development of technology, the terminology was also developed. Therefore, it can be said that, today, due to the rapid development of globalization, almost all languages are probably facing more than ever the powerful phenomenon of borrowings and language changes. In this course of changes, it is quite natural that the Albanian language is also part of them. Thus, in the last decades, many foreign words, especially from English, began to enter and be used massively in the Albanian language. However, lexicographers faced various terminological difficulties, such as the issue of abbreviations, unification and standardization of terminology in the Albanian language, etc. Therefore, this paper aims to provide an overview of this phenomenon, presenting linguistic changes, mainly lexical ones, as well as showing the necessary efforts to preserve the Albanian language as clean as possible from the rapid development of globalization.

Key words: globalization, writing errors, language threats, borrowings, technology

7. Introduction

We live in a time when relations are close and intense with other peoples and cultures. Nowadays, the world we live in is presented to us differently in the sense that a "new world system" is emerging. This is seen in all relationships, such as: political, economic, cultural, etc. and has made the relations of interdependence between societies growing, so that the events in one part of the world, where more and where less, affect people and other societies. But all these new and close relationships that are emerging day by day are based on communication; therefore, globalism is primarily a communication

revolution. This is done through the media, publications, television, the Internet, that is, through the spoken and written language. The result that this type of communication has brought is obvious. Human communities that have been isolated for centuries, with distinct and pure linguistic and cultural characteristics, can no longer be found in the world, but we find more and more societies oriented towards the world, where languages and cultures interact between theirs.

English has been considered the world's dominant language for several decades. Its cultural influence has expanded and deepened far into the vast global space. Its dominant position has created many and multiple opportunities to influence the languages with which it is in contact, therefore even with Albanian, especially recently, the contact is quite close. It is already spoken as a mother tongue, as a learned language, or as a second language in many countries of the world. English, as an official or semi-official language, is spoken in almost a hundred countries, while its reach covers all continents. Its superior use can be seen in almost all areas of social, economic, scientific and cultural development, starting from international business, from electronic communication, the field of publications, journalism and journalism, international scientific and cultural conferences, generally in science, in technology and in medicine, sports and international competitions, film, music, fashion and advertising.

Like other languages, Albanian has not been excluded from the influence of the English language and this can be seen in the large number of anglicism already used by Albanian speakers. We find Anglicism even earlier in Albanian, but recently their number has increased, because they come from many directions and quickly. Today, Albanian knows a great penetration of words from other languages. In fact, the tendencies of Albanian throughout its history have shown that it easily accepts foreign elements, easily modifies them, and further develops word-forming nurseries on that basis. If the early borrowings of Albanian and the new ones, especially in the last two centuries, are those from Latin and Greek, and later those from Latin-based languages such as French, Italian, many of those considered internationalisms, recent borrowings they are mostly from the English source, but also from other sources, but in Albanian they come to us through English. Although Albanian is a separate group in the typology of Indo-European languages, just like Latin and Greek as classical languages, it easily accepts and modifies linguistic elements from these languages and this shows that it has a similar linguistic structure to them.

The enrichment of today's Albanian, in fact the expansion of means of expression, can be said to have progressed more or less along with social, economic, scientific, cultural, technical-technological and other developments. This process has proceeded naturally and unhindered. As it is the time of a general "expansion" of the development of technical-technological knowledge, of many of their sub-disciplines in very narrow and highly specialized fields, in sub-fields and in inter-fields, as well as it is the marking time of informatics, digitization, characterized by a very rapid flood of electronic media and computer networks, and on the other hand, being the time when the speed of increasing and deepening knowledge from all fields is visible, when information exchanges exceed very large spaces with amazing speed, Albania, indeed, is facing great challenges. Many scholars have dealt with these issues; with the "trouble" that Albanian language is going through, including the famous linguists Gjovalin Shkurtaj, Xhevat Lloshi, Valter Memisha, and others, and all of them have raised their voices to make the Albanian speakers aware of the preservation of the treasure they possess, and to keep their language as much purified as they can. For the enrichment and preservation of the Albanian language, the renowed scholar, Shefkije Islamaj has been writing all the time. She considers miserable what we are doing to our language, to ourselves with our own hands. Before becoming a standard language, the language itself was dialectical and the best from it was taken for its standardization (Islamaj, 2017).

8. The Albanian language facing the globalization after the 90s

The period after 1990 until today marks the immediate, rapid and continuous entry of the largest amount of anglicisms, which are alive today in the Albanian language in all its levels. The ideological, economic and cultural factors in Albania after 1990, such as the direct transition to the market economy, etc., strongly influenced in the opposite direction to the hindering factors before 1990. Even the new economic, social and cultural context in the entire Albanian space was led to this condition. Extra-linguistic influencing factors, after 1990, led to the flood of anglicisms for numerous literal objective causes, but also subjective ones, which sometimes arose as objective causes. Some of the most important causes that led to the rapid entry of anglicisms into the Albanian language are related to a series of peculiarities of the linguistic terrain, in which the anglicisms entered. Entering immediately, they found the language unprepared and a part was even used replacing their well-known equivalents in Albanian such as: (draft for project or idea project, impact for

impact, resource for source, shopping for market or shopping). Some anglicisms, because they marked new concepts in different fields, almost from all levels of language, even in everyday speech, were introduced together with things, concepts and the new way of life, but even though they approached from meaning in Albanian words, they remained more specific as: (pub, disco, bodyguard, and okay). While, some other anglicism found the empty place and immediately came into use as: (*computer, hard disk, mouse, monitor, laptop, desk-top*). In this period, the fields of social activity (political, economic, scientific, cultural, etc.) compared to the period before 1990, expanded significantly and Anglicism entered rapidly, where more and where less, in almost every field. The field that was most affected by the introduction of anglicism was informatics, where some of the anglicism of these fields were also included in the Dictionary of the Albanian language (2006) and they are: computer/ computerize / computerization, compact disk, mouse, table, screen etc.

Here it is worth mentioning words embedded before 1990 and some of which with "specific" values, which have found wide use in politics: *leader, leadership, lob/ lobby/ lobbying; in economy, trade, justice: pay, audit, benefit, business, check, check, design, draft, informal, cash, logo, market, marketing, monitor, manager, manage , sponsor/ sponsor/ sponsorship, tender/ tender/ tendering, resource, resource*; in the means of communication: a part as formations within Albanian: *underground, background, feasibility, impact, involve, speaker, risk/risk/risk, recruit, summit*; in the field of art, spectacle*: disco, DJ, Miss, mystery, star, single, superstar, show, top story, show girl, showman, trend, twist, jazz, denim*; in the field of sports*: fitness, hockey, golf, cricket, minigolf, relax/relax, surf, rugby, cricket, croquet*, etc. Most of the borrowings from English belong to the field of informatics, where most of the words are embedded in Albanian and are used in everyday language. Some of these words have their substitute and can be used instead of the foreign term. We are mentioning some of the most popular terms in this field, giving in parentheses the substitute in Albanian*: output, access, database, display, input , click, click, format, interface, CD, computer, computerize, online, select, save*, etc. Anglicism, like foreign words from other languages, do not always remain with their initial meaning, but develop further in terms of meaning, acquiring mainly figurative meanings, as well as being introduced into the word form system of Albanian, creating units of new with its word-forming tools. Furthermore, anglicism, which is included in the word-forming system of Albanian, creating new naming units, since the root element is foreign, while the word-forming tools are Albanian, can be seen as formations within Alb

9. Foreign words used in Albanian

When we refer to the language of the internet, we imply: the use of global language such as English instead of one's' mother tongue even when not appropriate, the language of icons, which has been replacing real language words and the deterioration of standard Albanian by writing it inappropriately and with many errors, because everyone is given the opportunity to write and comment publicly without filtering these messages by any means. These are some of the most worrying issues related to the future of the Albanian language. English has already been confirmed as the global lingua franca. It is spoken and heard in almost every home, especially by the younger generations, who speak it in parallel with their mother tongue. We are also exposed to this language through technological means which include the names of those means too. The Albanian language must accept and use words and objects as they come after penetrating through different ways. Linguists and researchers in the field of informatics have been trying to find some Albanian equivalent words by adapting it to the tool, but this has remained only an effort as we rarely or hardly ever use these notions in the Albanian language.

Today, it seems to have been removed the previous barriers used to stop the adoption of foreign language words, which appear to have flowed into the Albanian lexicon. Nobody seems to make any serious efforts to cope with the problem of the influence of the foreign borrowings, apart from some individual efforts in some rare articles published in the newspapers. During this period, the adoption of the foreign words into the Present Albanian language has been very vigorous and it seems as if the defenders of the Albanian language are not able to handle the large inflow of them. Today's life development has made everything more dynamic while we are used to slowly tackle such problems. In the face of such dynamism, we have been unprepared and confused to deter this phenomenon and to properly resolve problems arising from it. In the past, a foreign word used to be spoken and written for many years in the Albanian language until it eventually could be part of it, going through the processes of adaptation, assimilation and integration. But today, due to the global openness to the world of our country's policy, economy and culture, there is a strong and dynamic penetration of clusters of foreign words into the Albanian language due to the strong influence of the information technology and the technology, in general. Our predisposition to react to any foreign language elements directly and needlessly introduced to our language, has proved to be unsuccessful.

Below we have provided some foreign words that are used in Albanian, especially by pupils, students, and teachers at all levels of our educational system

We should emphasize that for several words we have been unable to come up with an Albanian equivalent; however, even if there are several such words in Albanian, they are rarely or hardly ever used as such. These are the words we have selected in our case: Hardware (harduer), Software (softuer), Hard Disc (hard disk), Monitor (monitor), Laptop (laptop), Mouse (maus), Keyboard (tastier), Hard Drive (hard draiv), USB (ju-es-bi), Motherboard (madhërbord), Powerpoint (pauerpoint), Microsoft Word (uord), Windows (uindous), Microsoft Excel (eksell), Trash (trash), Inbox (inboks), Spam (spam), link (link), File (fail), Account (akaunt), Password (pasvord), CPU, Memory (memori), Printer (printer), CD (cd), Virus (virus), My Computer (kompjuteri im), Enter (enter), Space (spejs), My Documents (dokumente), Desktop (desktop), Settings (setings), Zoom (zum), Microsoft Teams (tims), Google Classroom (gugl klasrum), Chat (çet), Send (send), Draft (draft), Updates (përditësime), Compose (kompouz), Search (sërç), GPS, etj. These are just some of the many foreign words used in the Albanian language (in parentheses we have provided their pronunciation in our everyday use).

Such a number of words certainly endanger the Albanian language, and it basically comes from its ruthless users/speakers, who replace it with another language. Below we will list some of the words that can be used in the Albanian language, such as: chat - bisedoj (online chat); check-kontroll/kontrolloj; check for errors-kontrolloj për gabime; class-klasë; clean- pastroj; data object-objekt i të dhënave; compose-ndërtoj/shkruaj; send-dërgoj; trash-kosh; files- skedar; upload-ngarkoj; search-kërkoj; download-shkarkoj; settings-rregullimet; email-postë elektronike; inbox-kuti porosish, print-shtyp, printing-shtyp, (Nebi Caka), etc. Of course, as we mentioned above, there are dictionaries in Albanian that clarify and translate translatable words.

10. Frequent spelling errors in written Albanian language

In this paper, we will present some of the spelling mistakes that we encounter most often in the electronic media when using the Albanian language and explanations on how they should be used correctly will be given, adhering to the rules of the Albanian grammar. The goal is, by identifying those errors, to avoid them and to write our language correctly and without mistakes.

According to Filipovic, a Croatian researcher, foreign words, during the transition from the receiving language to the transmitting language, undergo three stages:

5. If the foreign word is used in the receiving language completely unassimilated, that is, it has been transferred in a way directly into the second language and without any adaptation; it is considered a phase or phenomenon of direct transfer, whereas such a word is called a foreign word.
6. If the foreign word during adaptation in the receiving language begins to accept some features of the phonemic system of this language, the phenomenon of the matching of the two phonemic systems actually occurs, and this is called interference. The borrowed word at this stage of adaptation is called a foreign loan.
7. The foreign language material is used for a long time in the receiving language. During frequent and long-term use, it usually adapts to the receiving language so much that eventually it does not distinguish any phoneme or phoneme feature from the phonemic system of the receiving language. This stage of adaptation is called *integration or assimilation*, while the word in this stage is called borrowing.

The process of adaptation during the first and second stages does not last long, because the foreign word, as soon as it enters the receiving language, begins the process of adaptation, which continues until it reaches complete integration or assimilation. The first two stages, according to time, are inversely proportional to the frequency of use of foreign words, which means that the more often foreign words are used, the faster they adapt to the receiving language. In these first two stages, there are not many English words in the Albanian language and they constantly move towards the third stage - their complete integration.

Also, it can be said that the words in these two stages do not have the form of either the foreign language or the receiving language and that they have a semi-foreign status. This state of foreign words is called phonetic compromise. At the moment when English words are presented in Albanian, some phonetic information is noticed.

When English words appear for the first time in the Albanian language, it has been established that they come across in one of these forms:

- The word is written in the original English form. This case is more frequent in proper names of people and geographical names, but this phenomenon is also found in other words, e.g. love story, newsroom.

- The English word is written in the original form, while the form of its pronunciation in Albanian is given in brackets, such as: Wall Street (Woll Street).
- The English word is presented with the Albanian script inside the quotation marks, while in the brackets it is written in the original form, for example: "skajlab" (skylab).
- The original form is written, while its translation is given in brackets, eg: fiber glass.
- The English word is written in its original form, but inside quotation marks, eg: "boom".
- The English word is written in quotation marks, while its translation is given in brackets, for example: "miss" (beautiful).
- The English word is written in italics or other distinctive graphics.

According to Filipović and his adaptation theory, during the process of accepting English loanwords into Albanian, they appear in three degrees of adaptation:

1) The English word is used completely unassimilated and inappropriate, that is, it passes directly into the Albanian language, respectively, into the second language. This phenomenon is called transference.
2) If the borrowing reaches such a degree that the matching of the two languages occurs, the word changes its form, but the process does not end there. This process of language adaptation is called interference.
3) The linguistic material of the source language, namely English, is used in the receiving language, namely the Albanian language. This degree of language adaptation is called integration.

Thus, during the adaptation of English words to the Albanian language, as in any language, the replacement of English phonemes with Albanian phonemes is definitely done. Seen from this point of view, it is noticed that almost every phoneme of English is replaced with the corresponding or closest phoneme of the Albanian language. The features of each phoneme of the source language, as much as they may be similar to those of the phonemes of the receiving language, specifically English and Albanian, they do not completely coincide between them. We often consider similar phonemes between two languages to be identical, although they are not completely so. For

example, the English phoneme /d/ is not completely identical to the Albanian phoneme /d/, because the first is a dental occlusive, while the second does not recognize the phonetic phenomenon of aspiration. However, there is no Albanian phoneme that could come closer than this, not even this /d/, to the English phoneme /d/. So, there is no other practical choice, except to say that the phoneme /d/ of English should be replaced with the phoneme /d/ of Albanian.

In a comparative study by Vesel Nuhi, which presents the differences and similarities of the two phonemic systems of the English and Albanian languages, it is of great importance to see what happens with English borrowings in the Albanian language, namely how they are adapted from the phonemic and phonetic point of view, as well as where there is the possibility of the phenomenon of trans-phonemization, replacement and importation of phonemes.

5. Conclusion

Since a long time, the Albanian language has experienced the linguistic phenomenon of borrowings, just like every other language. Actually, it can be talked about historical borrowings. They have been adopted in the Albanian language from the Turkish one for a period of nearly 500 years; from the Italian and Greek languages due to the geographic proximity with them and from the Present English language in the form of cultural-international borrowings. On the one hand, the phenomenon of the borrowings has brought the growth of the Albanian lexicon and their adaptation according to the Albanian –phonetic and grammatical rules, but on the other hand there has been an institutional uncontrolled use of them, especially after 90s, with the openness of Albania to other foreign countries, other cultures and languages. Apparently, the inflow of borrowings has triggered problems, which the Albanian language is encountering today in the face of such a rushing globalization. It is obvious that languages give and take among them for their needs of communication, however every language is a special treasure of the human culture and each of them needs to preserve as much as possible its own identity and authenticity. Therefore, besides being open to the necessary international borrowings, the Albanian language must safeguard itself from any unnecessary and redundant foreign words, that attempts to become part of the Albanian lexicon, by trying to preserve its beauty and its special linguistic originality.

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DIGITALIZATION AS A TREND OF HIGHER EDUCATION IN ALBANIA TOWARDS INTEGRATION IN THE EUROPEAN UNION

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Abstract

The EU has prioritized digitalization as a means of modernizing and improving education system. As Albania works towards EU integration, digitalization is a key area that requires attention, as it is an essential aspect of modernizing higher education and ensuring that Albanian institutions remain competitive on the international stage.

In this paper, we will examine Albania's higher education's adoption of digitization and argue how crucial it is to the country's goal of EU integration.

Adopting a digitization strategy that aligns with EU standards and guidelines, investing in digital infrastructure, promoting collaboration and exchange, providing training and support, fostering digital literacy, and regularly evaluating and assessing initiatives are all critical components of digitization mainstreaming in Albania. The country has the potential to revolutionize higher education system by providing to learners new opportunities to engage with educational content and help to make learning more accessible, engaging, personalized, efficient, and future-ready.

Achieving EU integration requires a robust approach to digitalization, and Albania must prioritize digitization mainstreaming to ensure that its education system meets EU standards and requirements.

Keywords: higher education; EU integration; digitalization; digital literacy; international stage

1. Introduction

The growing impact of social and economic change brought about by digital technology on day-to-day living has revealed the necessity for institutions' education and training systems to have higher degrees of digital capacity. Based on this new conception of education, the level of digitization in the Albanian educational system was increased, bringing it closer to the current trends in high-quality education on a worldwide scale.

The current tendency toward online and blended learning has been further driven by the COVID-19 pandemic. The pandemic made it possible for students and teachers to arrange their teaching and learning activities and engage in more flexible and personal online interaction. Parallel to this, challenges, and inequalities between those who have access to digital technologies and those who do not (including people from disadvantaged backgrounds) were revealed using digital technologies for education. These challenges included those relating to the digital capacities of educational and training institutions, teacher preparation, and general levels of digital skills and competences.

In order to solve the issues revealed by the COVID-19 epidemic, these adjustments required a significant and well-coordinated effort at the EU level. This effort also required the presentation of a long-term vision for the future of digital education in Europe. A substantial shift in habits about the usage of digital educational information is occurring concurrently with the ongoing digital transformation, affecting both "supply side" actors (business and the public sector) and "demand side" actors (teachers, students, and students). The shift to digital is bringing about a lot of changes. Digital education content is evolving to be more imaginative, interactive, and presented in a variety of formats as a result of recent technology advancements like artificial intelligence (AI). This demonstrates how the development of digital instructional content has increased exponentially as a result of digitization.

A newly revised European Union (EU) policy effort, the Digital Education Action Plan (2021–2027), lays out a shared vision for high-quality, inclusive, and accessible digital education in Europe and seeks to encourage the adaption of education and training. The COVID-19 pandemic presents challenges and opportunities for the education and training community (teachers, students), policy makers, academia, and researchers at national, EU, and international level. The Action Plan, adopted on September 30th 2020, calls for greater cooperation at European level in digital education.

In several European nations and regions, new learning technologies and platforms have been developed as part of the digitization of education and skills in order to enhance the digital experience in skills education through better continuing online service and resource delivery. The National Curricular Framework in Albania highlights the value of digital competence as a key component for opening up new career opportunities and describes it as being crucial for cooperation both in time and place. Successfully integrating technological tools into student-centered instruction transforms the parties into active forces rather than passive consumers of technology.

2. Opportunities and stages of digitalization in higher education in Albania

Digital tools and their utilization are becoming an increasingly significant component of education in Albania. Utilizing digital technologies can boost productivity across all economic sectors and provides prospects for growth in the developing ICT sector. The use of digital technologies includes a variety of activities, such as accessing the Internet, exchanging knowledge with teachers and students, using learning analytics to gather data and assess performance, and establishing collaborative learning networks to help students come up with creative solutions to problems. However, relying just on digital technology to produce results is ineffective (OECD, 2015[8]); qualified teachers must be added in addition to these instruments.

One of the biggest barriers to students' development of digital skills in vocational schools is the absence of devoted ICT teachers; 77% of teachers say they require training in using ICT for instruction. The National Employment and Skills Strategy and Action Plan 2014–2020 (NESS 2020) recognizes this need and calls for the development of basic skills for 700 instructors. However, further findings suggested that additional training was required and that it should be made a requirement of initial teacher education (ITE) (ETF, 2018[9]).

The long-term National Strategy for Higher Education and ICT (2021–2027) (Information and Communication Technology) strategy seeks to integrate ICT into every facet of Albania's higher education system. Using information and communication technology, this method seeks to improve the efficacy, efficiency, and quality of higher education.

The following are a few of this strategy's goals: The building and modernisation of the Internet network, the installation of cutting-edge computer hardware, the creation of data centers, and other activities that improve the ICT infrastructure in higher education institutions; Programs for higher education and degree work in subjects including computer science, software engineering, information and communication systems, multimedia, and others are being developed as part of the ICT education sector. These courses will be made available in Albanian universities and other higher education institutes; ICT capacity building for academic and administrative workers includes teaching and training in subjects like programming, graphic design, network administration, and other related topics. This goal intends to raise employee ICT knowledge and proficiency levels; Using information and communication technology in teaching and learning, as well as the provision of online courses and diverse online learning materials, are all examples of this. Using technology

to enhance the management of higher education institutions, such as curriculum management systems, student registration systems, and others, falls under the category of improving higher education administration.

These are only a few of the goals of Albania's National Strategy for Higher Education and ICT. This strategy's general goal is to use digitization to increase the efficacy and efficiency of higher education in Albania. Although digitization of higher education in Albania is a significant and fast evolving process, it allows students to access additional materials and possibilities to increase their knowledge. The stages of education digitalization in Albania include the ones listed below:

- Technological infrastructure: Higher education institutions are now developing and establishing the technological infrastructure required to support online learning and its administration. This covers the growth of the Internet and learning environments for information and communication technology (ICT).
- Online learning platforms: Many institutions of higher learning have developed online learning environments that let students access lessons whenever and wherever they like. These platforms offer resources for online instruction, conversations, tests, and the downloading of educational materials.
- Technology in teaching is being used by higher education institutions, including multimedia projectors and interactive software that can support learning.
- E-learning: One method of digitizing education in Albania is through e-learning. This kind of instruction can incorporate recorded lessons, in-person sessions, and a variety of learning resources that can improve students' learning efficiency and adaptability.
- Digitalization of libraries: Universities in Albania are digitizing their libraries to make a wider range of reading and research resources more readily available. This is a powerful strategy for advancing culture and knowledge among students and academic personnel.
- Online assessment: Using technology to assess students can assist make the process quicker and easier while also increasing accuracy and timeliness.

An essential component of Albania's education system's digitization is the management of information online. The administration of numerous services

and operations inside higher education institutions is aided by the development of information systems that are integrated with the Internet. Here are several examples: online registration - Institutions of higher learning have created online registration platforms that let students sign up for their study programs. These systems have application forms and an online submission option for the required paperwork. Online Scholarships - A lot of schools of higher learning have systems in place that let students apply for scholarships and monitor the progress of their applications online. Online payments are another component of the online information management used by Albanian higher education institutions. Students can track their payment history and make payments online.

Higher education institutions have created systems for managing curricula that let students access their class schedules, create curricula, and assign professors and students to each class. This promotes schedule consistency and ensures that there are enough resources for effective student learning. Higher education institutions can monitor student progress using curriculum management systems' assessment mode reports and numerous analyses. The administration of internet information by Albanian higher education institutions includes online communication heavily. Higher education institutions have online communication tools that make it simple and effective for students to get in touch with their lecturers, academic staff, and other students.

Systems for managing the curriculum also aid in coordination among the institution's various faculties and divisions.

3. Digitalization, national competencies, and the labor market

The labor market may be significantly impacted by the digitization of higher education. Students in higher education in Albania can become more competitive in the job market if they receive a digitized and relevant education using information and communication technologies. For instance, using information and communication technology is a fundamental ability for professionals in many sectors. Students in higher education in Albania can acquire these skills and be better prepared to adapt to the needs of the labor market with a digitized and relevant education using information and communication technologies.

Additionally, the development of new career prospects may be impacted by the digitization of higher education. The development of diverse applications and software, which can lead to job and commercial prospects across a range of

industries, can be facilitated using information and communication technology in the teaching and learning process. Platforms and applications for information and communication technology are increasingly being utilized to hire new employees. Students may be able to discover work prospects in a variety of industries if they are adept at using these platforms and applications. Students can create online portfolios of their work and participate in professional social networks with the use of information and communication technologies. This could broaden their professional network or open new job prospects.

Albania should use digitization to boost participation in training and lifelong learning, particularly by enhancing the rewards for doing so. Compared to 43.7% of individuals in the EU-28, just 9.9% of Albanian adults aged 25 to 64 participated in some type of formal or non-formal education in 2016. However, nearly half (44.7%) of this age group in 2019 had poor educational attainment, which is double the average for the EU-27 (21.6%) (European Commission, 2020 [25]). Increasing the engagement of adults in training would be especially crucial given that long-term unemployment in Albania was approximately 64.3% in 2019 (World Bank/II, 2021[30]). A framework for developing incentives for adult training participation based on labor market needs can be developed through broad-based cooperation between key actors, including the commercial sector, trade unions, training facilities, and international partners.

Albania can develop its domestic competencies. More than half of Albania's population, or up to 1.6 million people, are thought to reside outside of their country (ETF, 2021[34]). According to the OECD DIOC database (OECD, 2016[35]), of the 505,400 or so Albanians who were born abroad and now reside and work in OECD nations, 61.7% hold medium or high-level jobs as operators, plant and machinery assemblers, technicians and related professionals, professionals, service and sales staff, and craft and allied workers.

4. Conclusions and Recommendations

Higher education in Albania has recently begun to be digitalized, and this process is moving very quickly. This is a significant development since digitalization has the potential to alter many elements of higher education, such as instructional strategies, evaluation procedures, and administrative processes. The national higher education and ICT strategy for Albania encourages digitization of higher education and seeks to change the culture of teaching and learning in the nation's higher education institutions by utilizing ICT tools to raise the standard and effectiveness of higher education in Albania.

The digitization of higher education can lead to beneficial improvements in Albania's labor market by providing students with the skills and knowledge they need to meet market needs and new chances for company growth. The information and communication technology industry are growing quickly and provides job opportunities across a wide range of industries. Students can prepare for employment in this industry and use their skills and knowledge to establish careers in this field by receiving the proper education in information and communication technology.

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IMPLEMENTING DIGITAL TRANSFORMATION STRATEGY- ALBANIAN CASE

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Abstract

Nowadays, digital transformation has become a necessity on every business, small or large, with the intention to growth, expansion, quality and sustainability. Most of all digital transformation is implementing in business sector, but it should be integrated into all sectors to increase quality and performance, but also to decrease costs in long term.

In this study, I will identify the challenges and opportunities of implementing digital transformation in Albania. I will analyze, how the world faces this transformation and how will we be compatible using development of technology and Artificial Intelligence, to perform better on this worldwide trade.

A digital transformation strategy is a concise design on how your business /company/institution will address critical challenges of the past years, facing this fast transformation. This strategy consists on a business intelligence summary of AI trends and challenges of interest to institutions/business with an emphasis in design and manufacturing technology.

A digital strategy provides to Institution and business, the framework they need to effectively use their digital tools. This way of thinking opens organizations and institutions up to new opportunities and areas of competitive advantage.

Keywords: Digital Transformation, Technology, Artificial Intelligence, Digital Strategy, Digital risk etc.

1. Introduction

Digital transformation serves as a catalyst for economic growth, stimulating innovation, attracting capital investments, and generating employment opportunities within the burgeoning digital sector. By facilitating ubiquitous access to information, services, and opportunities, digital transformation empowers citizens, enabling them to actively participate in societal development and harness the full potential of the digital age.

The implementation of a digital transformation strategy is not without its challenges, as organizations and institutions navigate various hurdles on their path to digital maturity. However, organizations can effectively mitigate these

challenges through the adoption of specific measures and approaches. The best practices and examples of successful digital transformation around the world, across different industries are Amazon, Starbucks, Netflix etc.

Albania has acknowledged the crucial role of digital transformation and is actively pursuing the formulation and execution of a comprehensive strategy to leverage the capabilities of technology. This research paper aims to delve into the present-day panorama of digital transformation strategy, elucidating its profound significance and shedding light on the pivotal factors that underpin the development and implementation of effective digital transformation strategies within the dynamic and ever-evolving realm of the business or non-business environment.

It delves into the significance of implementing a digital transformation strategy in Albania, elucidating the potential advantages it holds, and highlighting the key factors essential for achieving successful implementation.

The ongoing digital revolution has revolutionized conventional business models and practices, prompting organizations to reconceptualize their operational strategies, customer interactions, and value offerings. In the present era, characterized by ubiquitous connectivity, copious data availability, and dynamic customer preferences, digital transformation has evolved into a vital strategic endeavor for businesses across industries.

In Albania's pursuit to fully embrace digital transformation, the implementation of a comprehensive strategy assumes paramount significance. By acknowledging the inherent value of digital transformation and comprehending its potential advantages, Albania can position itself as a vanguard of digital progress within the region. Through strategic investments in digital infrastructure, the enhancement of public services, the cultivation of an innovative environment, and a concerted focus on the development of digital skills, Albania can unlock the transformative potential embedded within technology. A successful execution of the digital transformation strategy will empower Albania to attain sustainable economic growth, elevate governance practices, and empower its citizens to thrive within the dynamic landscape of the digital age.

2. The Outline of the Digital Transformation Strategy

A digital transformation strategy helps as a concise plan outlining how a company intends to tackle critical challenges by integrating the realms of human expertise, physical resources, and digital technologies. It represents a

comprehensive business approach with wide-ranging implications. The focal point lies in formulating a roadmap that encompasses short- and long-term objectives for digital transformation, with a strong emphasis on achieving desired business outcomes. Based on a Wipro Digital survey of business leaders in the United States, more than half of the executives acknowledge that the absence of a clear digital business transformation strategy significantly impedes the realization of an organization's full digital potential.

Digital transformation should be viewed as an ongoing journey rather than a fixed destination, and it is crucial to identify the initial step to establish a remarkable digital transformation strategy. This first step sets the momentum for future initiatives and progress. It's important to remember that true transformation takes time, consistency, and dedication to achieve the desired outcomes, but it is unrealistic to expect immediate and drastic changes in everything.

A Digital Transformation Strategy encompasses a strategic roadmap that delineates the measures an organization will undertake to effectively harness emerging technologies. This strategy entails a comprehensive approach that may involve reconfiguring business models, introducing innovative products and services, and establishing novel value chains to cater to evolving customer demands. The compelling advantages associated with digital transformation are motivating businesses worldwide to embrace and implement digital transformation strategies. By doing so, organizations aspire to optimize their business processes, cultivate new business models, foster innovative capabilities, and ultimately attain desired outcomes and objectives.

In an era of constant economic evolution, industries are undergoing profound transformations, and the ability to harness actionable intelligence and devise effective digital transformation strategies has become invaluable. In the information age, information and data have emerged as primary sources of revenue, critical business assets, and key drivers of success. To capitalize on the opportunities presented by digital technologies, companies, organizations and institutions must formulate comprehensive digital transformation strategies that encompass areas such as data, processes, information, technology, and human aspects, among others. The concept of the 4 Waves of Industrial Revolution provides a compelling visual representation of the entire trajectory of human civilization, highlighting the interplay of cultural, technological, and organizational advancements. By exploring disruptive innovation examples, businesses can gain a deeper understanding of the concept of creative destruction and how it can be leveraged to drive their own success.

2.1 Advantages of a Digital Transformation Strategy

A meticulously planned and adeptly executed digital transformation strategy can yield manifold benefits for Albania. To begin with, it empowers the nation to construct a resilient digital infrastructure encompassing cutting-edge elements like high-speed internet connectivity, data centers, and fortified cybersecurity systems. This infrastructure forms the bedrock for the expansion of digital services and industries, magnetizing both domestic and foreign investments that pave the way for employment generation and economic prosperity. Moreover, a well-structured digital transformation strategy enhances the delivery of public services, rendering them more accessible, transparent, and citizen-centric. By curtailing bureaucratic complexities, mitigating the risks of corruption, and amplifying operational efficiency, it fosters a sense of trust and confidence among the populace towards the government's capabilities. Lastly, digital transformation nurtures an environment conducive to innovation and entrepreneurial endeavors. By nurturing a thriving digital ecosystem, it nurtures the emergence of startups and technology-driven enterprises, driving forward the frontiers of progress and propelling Albania towards sustained growth and advancement [1].

2.2 Important Considerations for Achieving Successful Implementation

Achieving success in the implementation of a digital transformation strategy necessitates Albania's careful attention to various pivotal aspects.

- Firstly, the establishment of a robust legal framework becomes imperative to safeguard digital rights, privacy, and data security, fostering an environment of trust within the digital ecosystem.
- Secondly, prioritizing investments in digital infrastructure becomes essential to bridge the urban-rural divide, ensuring equitable access to digital services and opportunities for all citizens.
- Thirdly, fostering collaboration between the public and private sectors emerges as a vital catalyst, enabling partnerships that drive innovation, facilitate knowledge transfer, and expedite technology adoption.

Additionally, investing in the development of digital skills through comprehensive education and training programs assumes critical significance, equipping the workforce with the necessary competencies demanded by the digital economy. Lastly, effective change management holds the key to a

seamless transition, as digital transformation inherently involves a substantial shift in mindset, culture, and operational processes. Encouraging stakeholder engagement, facilitating transparent communication channels, and promoting continuous learning and adaptation foster an environment conducive to successful digital transformation endeavors [3].

To forge an effective digital transformation strategy, organizations must adopt a comprehensive and multifaceted approach. The following key components deserve careful consideration:

1. Vision and Leadership: A clear vision of the desired digital future and strong leadership are essential to guide the transformation journey. Leaders must champion the digital agenda, inspire change, and align stakeholders towards a common goal.
2. Customer-Centricity: Placing customers at the heart of the strategy is crucial. Organizations need to deeply understand customer needs, preferences, and behaviors, leveraging digital technologies to deliver personalized and seamless experiences across multiple touchpoints.
3. Agile Culture and Talent: Cultivating an agile and innovative culture is pivotal for driving digital transformation. This involves fostering a mindset of continuous learning, experimentation, and adaptability. Equipping employees with the necessary digital skills and attracting top digital talents are also critical.
4. Data-Driven Insights: Leveraging data as a strategic asset is paramount. Organizations should invest in robust data collection, analysis, and interpretation capabilities to derive actionable insights. Data-driven decision-making can drive operational efficiency, optimize processes, and uncover new growth opportunities.
5. Technology Enablement: Selecting and implementing the right digital technologies is essential. This includes cloud computing, artificial intelligence, internet of things, and other relevant tools that align with the organization's objectives. Seamless integration and scalability of technologies are vital considerations.
6. Collaborative Ecosystem: Engaging in partnerships, alliances, and collaborations with external stakeholders such as customers, suppliers, startups, and academia fosters innovation and accelerates digital transformation. Collaboration enables access to diverse expertise, resources, and market insights.

7. Change Management: Successful digital transformation requires a structured change management approach. This involves effective communication, stakeholder engagement, training programs, and support mechanisms to facilitate smooth transitions and mitigate resistance.
8. Continuous Monitoring and Adaptation: Monitoring key performance indicators, measuring progress, and regularly reassessing the strategy is necessary. Digital transformation is an ongoing process, and organizations should be prepared to adapt to evolving technologies, market dynamics, and customer expectations.

3. Challenges in Executing Initiatives

Execution of an initiative involves transforming plans, projects, technologies, or strategies into actionable tasks to achieve specific objectives. It encompasses the act of implementing, carrying out, and effectively bringing an initiative into effect, utilization, completion, and fulfillment. Within organizations, business and institutions implementation entails a series of interventions related to organizational structure, personnel actions, and governance to ensure performance aligns with desired outcomes (Noble, 1999). Scholars have approached the study of implementation using different conceptual lenses, focusing on specific segments of a broader continuum. Some view implementation as commencing with the initiation of a planned project, while others consider it incomplete until full integration and realization of the intended benefits. Cooper and Zmud (1990) propose a six-stage model for technology implementation: initiation, adoption, adaptation, acceptance, routinization, and diffusion. Similarly, Leonardi and Barley (2010) describe phases of technology implementation as perception, interpretation, appropriation, enactment, and alignment [5,6].

In scholarly research, the scope of examination in relation to implementation varies depending on the project or technology being studied. Our initial literature review uncovered numerous factors contributing to challenges in technology implementation within organizations. These challenges can be broadly classified into two categories: internal and external. The internal category pertains to the actions and methods employed by organizations, business and institutions to facilitate technology implementation. The external category relates to market dynamics or the overall organizational ecosystem. Upon further analysis of the internal challenges, we observed striking similarities to the constructs identified by Noble (1999) as influential in strategy

implementation. Therefore, we adopted the strategy implementation framework as our guiding theoretical framework to categorize the internal challenges.

3.1 Challenges to Implementing Digital Strategy

The structural perspectives focus on the alignment between the technology being implemented and the organization's business model, overall structure, or individual business units. Interestingly, the absence of strict control measures can sometimes have a positive impact during the implementation process. For instance, Arvidsson and Mønsted (2018) observed that the IT staff at a Norwegian hospital had the freedom to identify and pursue opportunities outside the formal structures, leading to the eventual success of a time planning and resource analytics system that initially faced failure [4].

On the other hand, the interpersonal perspectives delve into the wide range of social behaviors exhibited within organizations during technology implementation. These behaviors encompass strategic consensus, autonomous behavior, diffusion challenges, leadership, as well as communication and interaction patterns. Strategic consensus entails a shared understanding and commitment to a strategic direction among individuals or groups, and it is closely intertwined with an organization's identity and culture. For instance, Utesheva et al. (2016) demonstrate that the transformation of an organization's evolutionary trajectory in response to digital disruption can be attributed to the rate and nature of identity transformations among key actors. They highlight a case where a prominent newspaper and media company took 15 years to transition from a primarily print-focused strategy to a primarily digital one, despite the successful technical implementation of the company's online digital publishing system.

Autonomous behaviors can manifest in different forms, including passive compliance or deliberate intervention aimed at creating barriers to implementation. These behaviors often stem from resistance to technology implementation rooted in everyday work practices, which cannot be easily addressed by simply changing employee behavior. A study by Arvidsson et al. (2014) exemplifies this, where employees at a paper mill exhibited autonomous behaviors that strategically undermined the successful technical implementation of a production management system. [4] They refused to use the system as intended and instead adapted it to replicate existing practices.

Diffusion perspectives encompass the various ways in which the top management team, sponsors, adopters, firm-level factors, or other decision-

makers fail to effectively communicate the objectives of the new technology implementation, thereby weakening the organization's ability to adapt to technological disruptions. An illustrative example is Nokia's loss in the smartphone battle. Vuori and Huy (2015) describe how the failure of top managers to diffuse the objectives of their technology implementation strategy, coupled with middle managers' inability to communicate the challenges associated with their innovation efforts, contributed to the downfall of what was once a highly successful telecommunication company.

Leadership plays a crucial role in overcoming challenges associated with the implementation of disruptive technologies. Leaders, at various levels, establish an organizational climate that fosters successful implementation. However, leaders must also delve deeper into the values and beliefs ingrained within stakeholder groups' discursive structures, as these persist over time and shape actors' interpretations and actions (Heracleous and Barrett 2001).

In the first bank, the lack of effective connections between leadership and business and technology stakeholders led to the failure of their planned project. On the other hand, the second bank achieved success in implementing their enterprise architecture system because the leaders were able to foster support and commitment from stakeholders for the selected technology products and associated implementation programs [7].

The final perspective within the interpersonal views focuses on communication and interaction. This perspective encompasses vertical and lateral integration, seeking diverse inputs and participation, and dealing with defensive routines while finding workarounds. It also emphasizes the development of a culture that promotes collaboration and open communication, facilitating the implementation of new and complex systems.

A significant study by Edmondson et al. (2001) explored the implementation of minimally invasive cardiac surgery technology in 16 hospitals, highlighting the role of communication and interaction in achieving success. The authors demonstrated that successful implementers utilized strategies such as team motivation through enrollment, conducting preparatory practice sessions and early trials to establish psychological safety and encourage new behaviors, and fostering shared understanding and continuous improvement through reflective practices.

4. The Digital government in Albania

The Government of Albania recognizes the vital role of technology in meeting the needs of its citizens and businesses. It acknowledges the value of leveraging technology and data to gain insights into challenges, design effective policies, and measure the impact of its initiatives that hold significant importance for the well-being of its citizens. A key objective of the digital strategy is to ensure that citizens and an increasingly mobile workforce have secure access to high-quality data, information, and digital services anytime and anywhere.

Government agencies face the challenge of delivering more services to citizens with limited resources. By adopting an information-centric approach, the government aims to support institutions in building secure and interoperable systems, fostering openness, and modernizing their content publishing models to provide enhanced digital services. Furthermore, by enabling machine-readable connections with data and government services, government agencies, businesses, and independent innovators can directly access and utilize e-models to create new services or enhance existing ones, thereby improving their operations.

The transition from insecure legacy technologies to secure, modern, and cost-effective data platforms and hybrid cloud-based applications represents a significant challenge. However, undertaking such a migration can greatly contribute to the government's digital objectives, facilitating the realization of its vision for a digitally empowered nation.

Moreover, by implementing robust security and privacy measures for structured data and metadata, data holders can shift their focus towards ensuring secure distribution to citizens and businesses. Collaborating with trusted resources and data will enable government institutions and agencies to operate with heightened efficiency, streamline workflows, and overcome challenges in accessing and providing accurate and relevant information necessary for fulfilling their activities and missions.

4.1 Digital Government: Enabling digital policies

Albanian government institutions and agencies have placed great emphasis on establishing an effective communication framework with businesses and citizens, with the goal of promoting economic growth through streamlined processes and enhanced digital services. The government portal plays a crucial role as the central platform for delivering these services, serving as the primary

online gateway for citizens to access government services and obtain up-to-date information on public services at any time.

Recent data provided by INSTAT reveals a notable surge in online interactions between individuals and public authorities or services via the internet. This encompasses a wide range of activities, such as accessing information related to citizen responsibilities (e.g., filing tax returns or updating personal details), entitlements (e.g., social security benefits), official documentation (e.g., identity cards, birth certificates), public educational services (including access to libraries), and public healthcare services. The increase in digital engagement signifies the growing reliance and utilization of online channels to meet various civic needs and avail government-provided resources:

Currently, there exists a comprehensive legal framework that directly and indirectly regulates information and communication technologies and the information society. However, it is crucial to continuously update and enhance governance and legislation in the field of technology to keep up with its dynamic development.

In November 2020, the economies of the Western Balkans officially agreed in Tirana to collaborate through a memorandum of understanding, focusing on joint projects and actions that facilitate the secure exchange of shared data and documents. This initiative aligns with the Action Plan 2021-2024 of the Common Regional Market, which was adopted by the Western Balkans leaders at the Berlin Summit on November 10, 2020, in Sofia. The Action Plan aims to facilitate the integration of the Western Balkan economies into the pan-European market, with a transformative effect in four key areas. These areas include prioritizing the four freedoms (free movement of goods, services, capital, and people), attracting foreign investors to the region, establishing a pan-European digital area that encompasses the Western Balkans, and transforming the industrial base and information infrastructure. As part of the common regional market, the economies of the Western Balkans will implement measures for the mutual recognition of electronic signatures, as well as other forms of electronic identification and reliable services, following EU directives [8].

Some of the key areas of potential benefits from the technology are as follows:

- Open and transparent governance to the public: promotes the free flow of data from

- state institutions to citizens, thus promoting trust and greater transparency between the government and the citizens.
- Segmentation of citizens for classification of services: adaptation of government services to
- individuals can increase the effectiveness, efficiency and satisfaction of citizens by ensuring
- them the digital services they need through proactive means.
- Economic analysis: correlation of multiple data sources
- Tax administration: automated algorithms to analyze large groups of
- data will help them evaluate information in real time increasing effectiveness
- in catching various scams.
- Cyber security: collecting, analyzing and organizing large amounts of data from government computer networks in sensitive data or critical services will enable them technology experts to develop cyber security policies that enhance the security of data usage.

Over the past few years, the government has collected a large amount of data from e-transactions electronic services. In this new paradigm, the need to create a center is faced computer with high performance, to ensure the analysis and processing of this amount of big data.

This center is created in June 2023 to enable the government to use the application of modern technologies such as the analysis and processing of Big Data collected from sources of many where the computing environment is mixed and geographically distributed and enables the application of Machine Learning models. This computer center will help the government of improve situational awareness and transform its services by implementing artificial intelligence as a digital transformation tool, fueled by Big Data as an approach to data-driven models [8].

Expected objective:

2. Adaptation of the e-albania government platform and official websites to be accessed by persons with different abilities, 2025;
3. Productive use of public administration data through the creation of a Center High Performance Computing by 2026.

4. The transformation of all government institutions into "paperless" units with the aim of increasing productivity and improvement of internal operational and decision-making processes within the year 2023.
5. Implementation of blockchain technology in state databases by 2024

5. Conclusion

This research paper contributes to the ongoing academic discourse surrounding digital transformation. Building upon previous studies that have examined digital maturity and its dimensions, this paper takes a deeper dive into the process of digital transformation. The reviewed papers emphasize a multidimensional perspective of digital transformation, moving beyond a narrow focus on IT and aligning with our own strategic view that sees digital transformation as a comprehensive process of strategic transformation.

In order for businesses and organizations to thrive in the digital age, it is crucial to adopt and implement effective digital transformation strategies.

My aim in sharing this information is to provide you with a comprehensive understanding of digital transformation and how it can be leveraged to drive business growth and enhance productivity. In addition to this economic perspective on innovation, we have a range of groundbreaking tools and models available.

This paper provides several theoretical contributions. Firstly, we broaden the application of the strategy implementation framework beyond its original scope, which focused on documenting the diverse origins of the strategy implementation literature. Instead, we apply it to the realm of implementing disruptive technologies, thereby enabling a more comprehensive analysis of disruptive technology implementation in organizations. This expansion opens new avenues for exploration and understanding.

Furthermore, this research identifies external factors that can contribute to the failure of disruptive technology implementation. These external elements play a crucial role in shaping the outcome of implementation efforts and need to be recognized and addressed to ensure successful adoption and integration of disruptive technologies.

To lay the foundation for this study, an extensive literature review was conducted, encompassing scientific research and white papers. This review served as a basis for identifying the essential phases required to establish a generic framework for digital transformation. It also facilitated a constructive

critique and analysis of this process, with the overarching objective of supporting companies on their digital transformation journey.

Moreover, this paper seeks to reconcile the diverse approaches to digital transformation by reorganizing the categories and phases that constitute this transformative process. These efforts have led to the identification of three fundamental pillars that form the backbone of the digital transformation process: evaluation, strategy definition, and implementation. These pillars are considered essential and indispensable in driving successful digital transformation initiatives.

In summary, this study contributes to the existing body of knowledge by extending the strategy implementation framework, delineating the disparities between digital and non-digital technology implementation, and shedding light on external influences that impact the success or failure of disruptive technology implementation.

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MAN AND DIGITAL TECHNOLOGY, THE CHANGES THAT ARE TAKING PLACE

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Abstract

The dual character of man in the 21st century. Humanity and digitalization process, the hybrid human model. The role of technology in the course of time, from Antiquity to our Time. Technology as a means of "making and using objects." The four most profound aspects of this phenomenon. "Technology as an object," "technology as knowledge," "technology as an action or activity," "technology as a willpower challenge." Thinking through digital technology. The difference between engineering philosophy of technology and humanities philosophy of technology. Digital technology as a human mental ability to learn/teach knowledge, analyse knowledge, communicate knowledge, as well as to understand human emotions. The era of artificial intelligence (AI), which has outgrown its former merely instrumental role. How to move from physic nerve to thinking, emotions, and human behaviour. It looks like an inner, mysterious itinerary where science has discovered how the charged state of neurons leads to predictions and human decision-making. If we identify this mechanism within human beings and treat it as an interaction, we can also instrumentalize it digitally.

Key features of technology. Intelligent Decision Making; Purposefulness; Eligibility and Predictability. Human intuition and reference model. Artificial intuition, its systems and functions. Instrumentalization of human socialization. Digital communication, time and space. Philosophical enlightenment, knowledge and digital technology. A dialogue about the post-human between Michel Foucault and Bruno Latour. The Cyborg and his dual nature, man-machine.

Keywords: Hybrid man; digital technology; artificial intuition; post-humanity; cyborg.

1. Introduction

The dual nature of human beings in the 21st century is among the most peculiar, to the extent that not long ago, it was unimaginable how humans could duplicate themselves with sophisticated technological tools. Such an alter ego of a person with a device should not surprise us; we encounter it in the Old Testament, and we find it in mythology. Smart devices are a type of tool capable of communicating data with other systems, such as a mobile application or a software component. Often, smart devices provide information to other tools used for various processes to assist in their operations. Communication on smart

devices refers to establishing a connection with a network of any size. Sometimes the primary goal may be gaining access and presence on the Internet, while other times it may involve exchanging information with other devices on the network. Thus, human life, both familial and social, has entered an unprecedented phase. This technological revolution is completely different from all previous ones. The history of humanity is complex and intertwined with instrumental and technological changes, always viewing and utilizing them as tools or instruments that enhance performance, the pace of development, and societal changes, whether they are economic, political, social, or cultural. However, in all previous cases and stages, humans have had these changes in their hands as instruments and have maintained "control" without being duplicated or imitated by them. It's like the mind, feelings, emotions, psyche, reason, and decision-making of humans had not been transferred to the instrument. Let us now see what is happening. Humans possess physical and cognitive (knowledge-based) abilities.

MAN AND DIGITAL TECHNOLOGY, THE CHANGES THAT ARE TAKING PLACE

It is now widely acknowledged and proven that the development of tools, techniques, and technology has greatly substituted the physical functions of humans, assisting and expanding the market for professions and work. The role of technology is so significant that for several decades (even since ancient times as an idea), it has given rise to an interesting branch of thought known as the philosophy of technology. It is interesting to delve into some ideas of a prominent figure who has worked on the comprehensive relationships between technology, philosophy, ethics, the humanities, and beyond, Carl Mitcham.[111] In

[111] Carl Mitcham (born in 1941) is a philosopher of engineering and technology. If philosophy is the attempt "to understand how things in the broadest possible sense of the term hang together in the broadest possible sense of the term," as Sellars (1962) puts it, philosophy should not ignore technology. It is primarily technology that contemporary society depends on. It is extremely important not only as an economic force but also as a cultural force. In fact, over the past two centuries, as it gradually emerged as a discipline, the philosophy of technology has been concerned primarily with the meaning of technology and its influence on society and culture rather than the technology itself. Mitcham (1994) calls this kind of philosophy of technology "humanistic philosophy of technology" because it acknowledges the "primacy of the human sciences over technologies" and is consistent with the general perspective of the human sciences (and some social sciences). Only recently has a branch of the philosophy of technology developed that deals with technology itself and seeks to understand the practice of designing and creating artifacts (broadly understood to include artificial processes and systems) and the nature of things created in this way. This latter branch of the philosophy of technology seeks continuity with the philosophy of science and some other fields in the analytic tradition of

one of his interviews, when asked about his understanding of technology, this scholar responded: “In the broadest sense, technology is the ‘making and using of objects,’ but we need to consider four deeper aspects of this phenomenon. Firstly, this making and using can be analysed in terms of the objects we make and use, such as machines and tools. This is ‘technology as an object.’ Secondly, if we focus on the knowledge and skills involved in this creative and utilitarian activity, it is ‘technology as knowledge.’ Thirdly, there is the activity in which technical knowledge produces artefacts and the corresponding action of their use; this constitutes ‘technology as action or activity.’ Our lives are more than just our financial successes. Fourthly, there is another often overlooked dimension of ‘technology as will—the will that brings knowledge into the physical world to shape products, processes, and systems. This technological will, through its manifestations, influences cultural formation while simultaneously extending itself. Thus, there are four different ways or dimensions of technological creation and use: object, knowledge, activity, and will.” Another highly significant question posed to Professor Matcham is: “In thinking through technology, do you distinguish between the engineering philosophy of technology and the philosophy of technology in the humanities? What is the difference?” Here is how this renowned researcher responds: “There is a distinction between two different ways of thinking about technology and its connection to human life in general. Of course, these are ‘ideal types,’ and neither exists in pure form. The engineering approach, in general, sees technology as the essence of what it means to be human and, for this reason, sees no problem with technology expanding into all areas of life. On the other hand, the philosophy of technology in the humanities grants technology full legitimacy but states that ‘not everything is technology.’ There are other legitimate forms of knowledge, action, and existence in the world than technological ones. The risk of contemporary life is that technology obscures or hinders these other ways of being in the world. In the final section of Thinking through Technology, I provide a broad historical-philosophical overview of how, in Western history, there has been a movement from a sceptical boundary of technological ways of thinking to our contemporary affirmation of technology as the primary way of being in the world, highlighting the existence of critical marginal traditions in art, literature, and religion. My aim is to invite us to approach technology more thoughtfully, to consider that there may be more to life than the promotion of techno-scientific progress.” After this necessary introduction, we need to highlight what technology represents today

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modern philosophy, such as the philosophy of action and decision-making, rather than with the human and social sciences.

and what its relationship is with humans. Digital technology is now replacing even the cognitive abilities of humans, such as learning (acquiring knowledge), analytical reasoning, knowledge communication, and even understanding human emotions. We are now in the era of artificial intelligence (AI), which has surpassed its former purely instrumental role.[112] AI is fuelled not only by the revolution of "smart instruments" but also by its applications in the life sciences and socio-psychological domains. The transition is being made from smart tools to intelligent ones. Research has advanced into the intricacies of human life and its functions thanks to studies that have delved into discoveries linking biochemical mechanisms with human emotions. The relationships between desires and choices are now well known, and this entire human mechanism has been transcribed into the instrumental and cognitive functions of computers. Thus, human behaviour is being analysed and predicted, and human decisions are being made, and this mechanism even leads to the substitution of professions with programmed machines or automatic devices.

There are three main attributes of AI technology: 1. Intelligent Decision-making; 2. Efficiency; 3. Adaptability and prediction Current studies have delved into the interconnectedness within the human being, specifically how the transition occurs from the neural-physical to cognitive processes, emotions, and human behaviour. It appears as an internal and mysterious itinerary where science has discovered how predictions and decision-making in humans arise from the charged state of neurons. If we understand this mechanism within the human being and treat it as an interaction, we can also learn how it has occurred and instrumentalize it digitally. Thus, AI, with its tools, is already present to take over certain professions or specific functions by instrumentalizing this internal human relationship. In his emotional study, Yuval Noah Harari[113] sheds

[112] What is the difference between a smart device and an intelligent one?
The 'smartness' of a device is defined as the ability to 'act independently using a computer,' while the intelligence of a device lies in its ability to 'adapt and respond to different situations, similar to humans.'

[113] "Within one or two centuries, we humans are likely to enhance ourselves into godlike beings and fundamentally change the principles of the evolution of life. Traditional mythologies described gods as powerful beings who could project and create life according to their desires. In the coming centuries, we may learn how to engineer and produce different forms of life according to our wishes. We will use bioengineering to create new species of organic beings; we will use direct brain-computer interfaces to create cyborgs (beings that combine organic and inorganic parts); and advancements in machine learning and AI may even allow us to set in motion the creation of fully inorganic beings. The primary products of the future economy will not be food, textiles, and vehicles, but bodies, brains, and minds." This is a fragment taken from Harari's work, as excerpted and published by the Encyclopedia Britannica.
https://www.britannica.com/topic/Our-Nonconscious-Future-2119857#ref1255243

light carefully on what has been happening in recent years, where neuroscience is helping researchers and scientists unravel what seems to be a mystery of the non-material world, that is, how humans make decisions. From the conducted studies, it has been proven that "our choices, from food to partners, are not the result of free will but of billions of neurons that calculate possibilities within a fraction of a second." "Human intuition," Harari writes in his study titled "21 Lessons for the 21st Century," "is actually a differentiation of models. "Specifically, the driver who avoids careless pedestrians or drivers who break the rules, the banker who avoids the dishonest borrower who may be a fraud or dishonest person, or the lawyer who deceives the citizen... In other words, intuition serves us to avoid or timely counter everything contrary to what we desire and to eliminate these obstacles, and intuition also serves as an accumulation of experience. Many researchers in the field, not just Harari[114], believe that AI is already competing with the "human nervous network" to avoid errors that human intuition cannot control perfectly and absolutely. "Human intuition is an unconscious mental process that seeks to solve problems without using a rational decision-making process. Meanwhile, artificial intuition is a limited representation of human intuition and models the intuitive problem-solving ability to be applied by machines." Is there a difference between intelligence and intuition? Yes, of course there are. Intuition[115] is about knowing

[114] Yuval Noah Harari is the author of internationally bestselling books. "Sapiens: A Brief History of Humankind" (2015) and "Homo Deus: A Brief History of Tomorrow" (2017) He was born in Haifa, Israel, in 1976, obtained his Ph.D. from the University of Oxford in 2002, and is currently a lecturer in the Department of History at the Hebrew University of Jerusalem. https://www.britannica.com/contributor/Yuval-Noah-Harari/12354625

[115] Simon M. McCrea, in his study titled "Intuition, Insight, and the Right Hemisphere: The Emergence of Higher Socio-Cognitive Functions," writes that "Intuition is the ability to immediately understand without conscious reasoning and is sometimes explained as an 'inner feeling' about the rightness or wrongness of a person, place, situation, episode, or temporal object. In contrast, insight is the ability to gain an accurate and profound understanding of a problem, which often involves moving beyond existing paradigms. Examples include Darwin's theory of natural selection, Einstein's theory of relativity, and Freud's theory of the unconscious, respectively. Many cultures name and recognize the value of these concepts, and insight is known as a distinct characteristic of outstanding achievements in the arts, sciences, and politics. Substantial evidence suggests that these two concepts are more interconnected than distinct and that a distributed intuitive network may be nurtured within a predominantly right-hemisphere-based neural architecture of insight. The preparatory and incubation stages of knowledge may rely on the involvement of domain-specific automated expertise schemas related to intuition. This manuscript reviews the neural networks associated with intuition and insight. Case studies of subjects with skill-achievement discrepancies and abnormalities are summarized. This theoretical review proposes the perspective that atypical localization of cognitive modules may enhance intuitive and insightful functions and thus explain individual achievements beyond what is expected from conventional intelligence tests. A model and a

things immediately and independently of specific cases. It does not require rational analysis and often goes much deeper; it is more accurate than simple prejudice. Intelligence, on the other hand, is valued as an expression of logical and rational search. With their intuition, humans anticipate and predict the actions of others and avoid potential risks. To instrumentalize human intuition! Once, this couldn't even be imagined. How can an instrument, a computer, understand and imitate, even without errors, the spiritual aspect of humans that has been revered and respected as divine for centuries?

What has happened? It has been instrumentally proven that emotions and desires, at their core, are biochemical algorithms[116], and computers can decipher these algorithms even better than any Homo sapiens.

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theory of the neuroanatomical basis of intuition and insight are proposed, which can serve as a starting point for future research and a better understanding of the nature of these distinct abilities. Are humans biochemical algorithms?"

"This is the grand mirror of modern life sciences. Humans are indeed just biochemical algorithms, and we are learning how to decipher these algorithms. The evolution of biometric sensors, which translate biochemical processes in the body and brain into electronic signals that a computer can store and analyze, is a significant advancement. However, the algorithms governing human life are incredibly intricate and complex, and they are still poorly understood." https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3218761/

[116] Are humans biochemical algorithms? "This is the grand mirror of modern life sciences." Humans are indeed just biochemical algorithms, and we are learning how to decipher these algorithms. The evolution of biometric sensors, which translate biochemical processes in the body and brain into electronic signals that a computer can store and analyze, is a significant advancement. Woodrow Barfield, in his work titled "The Algorithms that Shape Society, Our Bodies, and Our Brains," writes in October 2020: "Fundamentally, the evolution of life is a complete manifestation of the algorithms that govern the actions of the cells that make up our bodies. Thus, this means that beneath the level of consciousness, there are trillions of algorithmic processes continuously occurring within our bodies. So far, the law has shown little interest in the algorithms that operate within our bodies, except for the question of whether algorithms are a natural process and, therefore, patentable subject matter. But there are other legal issues affected by the use of algorithms. For example, it is also the case that algorithms have encroached into areas once thought to be solely within the realm of human creativity. At this point, algorithm-based systems are now writing poems, news articles, and even novels. Algorithms can also create paintings that reflect the style of the great masters of the Renaissance and occasionally compose original music." https://www.cambridgeblog.org/2020/10/algorithms-reaching-into-society-our-bodies-and-our-brain/#:~:text=Essentially%20the%20evolution%20of%20life,c b

P.S. Woodrow Barfield is currently the Associate Editor of the Journal of Virtual Reality and the Senior Editor of the first and second editions of Fundamentals of Wearable Computers and Augmented Reality. His book, Cyber-Humans: Our Future with Machines, discusses how robots will surpass human intelligence within the next fifty years. He edited the Handbook of Algorithmic Law and is a co-author of Advanced Introduction to Law and Artificial Intelligence, Virtual Environments and Advanced Interface Design, and Human Factors in

"Artificial intuition[117] allows systems to detect threats, problems, and opportunities without knowing exactly what they are looking for or without being told what to look for, just as human intuition allows them to make specific decisions without being taught how to do so." The main question is, "Does

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Intelligent Transportation Systems. Woody earned his Ph.D. in Engineering from Purdue University and his JD and LLM degrees in Law and Intellectual Property Policy, serving as the editor of the Journal of Law, Technology, and Arts. He is the author of over 350 publications and keynote presentations, including keynote speeches and articles in engineering and law review journals. He currently resides in Chapel Hill, North Carolina.

[117] Artificial intuition is such an intriguing term. Artificial Intelligence lacks intuition. That's the general viewpoint. But is it really true? And if Artificial Intuition exists, what does it mean for us? This is the question posed by Kees Groeneveld in his study titled "Artificial Intuition." Here's how he writes about it: "To understand it, we first need to define some terms. What do we mean by intuition and intelligence? What is artificial? And what is 'non-artificial'? The latter two are easy. Artificial Intelligence differs from traditional (digital) information technology in that it is a learning system based on 'experience' (patterns in data). Within the context of a learning system, I define artificial as 'created by humans, or perhaps better, 'not grown in nature.' And non-artificial, then, is 'biological' or 'natural."

"Intelligence or intuition. Defining intuition and intelligence is not easy. There is no universally accepted definition of intelligence. So, let's start with intuition. Wikipedia says, Intuition is the ability to acquire knowledge without proof, evidence, or conscious reasoning, or without understanding how the knowledge was acquired.' I can live with that. In short, intuition is knowledge gained without proof or conscious reasoning.

To define intelligence (both natural and artificial), I choose to differentiate it from intuition as the ability to acquire knowledge with proof, evidence, or conscious reasoning, or by understanding how the knowledge was acquired. In other words, intelligence is knowledge gained through proof or conscious reasoning.

Further, Kees Groeneveld states: 'Belief in Artificial Intuition. The interesting part is why we don't believe in artificial intuition while everyone in the world faithfully follows their Natural Intuition. After all, both are knowledge acquired without proof or conscious reasoning, even using different 'tools.' In the case of Natural Intuition, knowledge can flow from two distinct sources. One (nurture, training, Hebbian) is the knowledge acquired through (unconscious) learning that a person undergoes throughout their life, for example, through social signals and responses. The other (nature, innate, evolution) is a bit more mysterious: inherited (unconsciously) evolutionary knowledge, such as the intuitive notion that a lightning flash signifies danger—apparently deeply ingrained in our brains from birth.

In the case of Artificial Intuition, Artificial Neural Networks break down the data structures they are fed into 'identified' clusters (sometimes hidden). Based on the learned patterns, the features are then recomposed into objects, which are, for example, classified or their behavior predicted. Artificial intuition, so far, does not have access to evolutionarily inherited knowledge ('memory'). All its knowledge comes from the data it is fed. AI systems certainly do not grow like biological beings. Transfer learning may be a step towards providing Artificial Intuition systems with a kind of evolutionarily inherited 'memory.') https://medium.com/@keesgroeneveld/artificial-intuition-784963f989be

P.S. Kees Groeneveld 3rd degree connection: 3rd MD at Aiandus | Consulting, Interim, Recruitment, Data, AI, Quantum, Stanford University

artificial intelligence have intuition? Can AI imitate human intuition?" The answer is yes. Intuition is a spiritual state that enhances the ability to perceive, interpret, and utilize information, from superficial analysis to deep access analysis. The hybrid human being that is being created is one who thinks, makes decisions, analyses, and predicts like a machine. Humans provide data to machines and computers, creating a form of communication and dependency between them. Will AI break away from this dependency, meaning it can think independently? In his study titled "Artificial Intuition is the Next Phase of Artificial Intelligence," the author, Hamid Ganji[118] writes on March 23, 2022: "Until now, AI has gone through three stages of its development:

- Descriptive analysis to respond to what happened,
- Diagnostic analytics to respond to why it happened,
- Predictive analysis to respond to what may happen next.

The analytical and predictive power of AI has increased significantly, but it will not stop there. The problem with the current generation of AI is that it needs to gather data from humans. This reduces the problem-solving power of artificial intelligence when dealing with new events. It cannot be denied that AI has made it easier for humans to predict the future. However, a more powerful AI is needed when faced with future events, such as another pandemic. We need machines that are independent and that can make decisions and predict future events without relying on human data. The goal is to minimize human intervention and allow machines to operate independently." Harari takes an interesting approach when he highlights that "human drivers, bankers, or lawyers perceive signals related to internal biokinetic models by analysing facial expressions, tone of voice, hand movements, and even body odours. An AI device equipped with sensors can do this even better and without any errors. Humans, on the other hand, while socializing, enter into various relationships ranging from anthropological, social, professional, and even ideological, religious, or hobby-based affiliations, and so on. Moreover, as individuals and social subjects, humans are interested in increasing information and having abundant and fresh information without interrupting this exchange. These two essential functions can be instrumentalized. Moreover, AI can perform them with almost astonishing proficiency. Unlike humans, computers are integrated into a single, highly accessible network. So, if we compare the abilities of a

[118] Hamid Ganji is a professional writer, technology enthusiast, and internet researcher who has recently started his career in AI and business operations. He enjoys writing and educating people about how artificial intelligence can improve our lives and how companies can use it to revolutionize their operations. https://www.entrepreneur.com/author/hamid-ganji

group of interconnected humans with the abilities of an integrated network, we will understand that the network is more structured, more functional, and has no errors. The example Harari gives is straightforward and understandable. There are four drivers at an intersection who may make mistakes due to reasons such as fatigue, impaired vision, or unfamiliarity with the new traffic rules included in the traffic code. They are not interconnected; they rely on their intuition and experience, but these are insufficient, and accidents still happen. If they were autonomous vehicles connected to an integrated network, they would automatically become part of a single algorithm. Even when traffic rules change, information updates occur faster and more accurately in autonomous vehicles. Similarly, information about a disease and its characteristics or a new medication in circulation Human knowledge is about what one knows, to what extent, and everything else, but this is not the same for all individuals, even when they are part of a specific community that identifies participants with similar characteristics. The history of each individual is also the history of the knowledge they possess, and even within their personal history, if they want to identify themselves in different contexts, considering other factors such as their dominant hand, they need to consider the knowledge they possess and organize it properly on a scientific basis. Unsystematised knowledge can lead to incorrect actions or attitudes. What happened in the chess game between AlphaZero and Google and the Stockfish8 program, the chess champion in 2016, is already known. Stockfish8 was capable of calculating 70 million chess moves per second, and all of them were based on the accumulated human experience over centuries and the involvement of chess computers over decades. On the other hand, AlphaZero could perform up to 80,000 calculations per second, but with a difference because it had learned chess through "automatic learning" by playing against itself. Thus, I make the mistake and benefit from it. This is a kind of self-sacrifice to avoid mistakes when facing the real opponent the next day. "Many of its winning strategies and moves seemed unconventional to the human eye." Automation is also evident in another aspect. AlphaZero learned chess in 4 hours. Such a relativization of time and human experience is the "magic" that has happened when the role of the human mind is now taken by a "thinking machine." So, on December 7, 2017, AlphaZero defeated the Stockfish8 program, the world champion at the time. "For centuries, chess has been considered one of the most magnificent crowns of human intelligence. AlphaZero transitioned from ignorance to creative mastery in just 4 hours, without any human guidance."

Human experience is theoretical, practical, and applied knowledge created among generations, acquired by generations, and extended over time. Its accumulation and organization are a wealth for specific fields as well as for

society and humanity as a whole. If all this "matter" is transformed into a form of artificial intelligence, then communication with it and its use become unique assets; time becomes a singular moment. Furthermore, if we create a user tool like AlphaZero that self-learns and self-improves independently of humans in an automatic manner, all of this leads us into another world, the world of relativizing time, not just as movement but as intelligence. If we have such AI structures in many fields that accelerate learning, skill development, and utilization, all these calculated changes over time would bring about accelerated human and societal development. Simply put, human experience has now been instrumentalized by machines that think, feel, and make human decisions. This kind of hybridization was predicted early on, even in antiquity[119], and it

[119] E.R. Truitt writes, "Robots have a history that extends far into the past. Artificial servants, autonomous killing machines, surveillance systems, and sex robots all find expression in human imagination in works and contexts beyond Ovid (43 BCE to 17 CE) and the story of Pygmalion in cultures across Eurasia and North Africa. This long history of human-machine relationships also reminds us that our aspirations, fears, and fantasies about emerging technologies are not new, although the circumstances in which they manifest vary greatly. Placing these objects and the desires they create within the broader and deeper contexts of time and space reveals continuities and divergences that, on the other hand, offer opportunities to critique and question contemporary ideas and desires about robots and artificial intelligence (AI).
For 3,000 years, we have encountered interest in intelligent machines and AI performing various servile functions. In the works of Homer (around the eighth century BCE), we find Hephaestus, the Greek god of blacksmiths and craftsmanship, using automated figures to perform simple and repetitive tasks. The golden servants, equipped with features of movement, perception, judgment, and speech, assist him in his work. In his "Odyssey," Homer tells how the ships of the Phaeacians perfectly obey their human captains, detecting and avoiding obstacles or threats and moving "with the speed of thought." We come across Talos, the enormous bronze guardian that Hephaestus sculpted, centuries later, around 400 BCE, as he is patrolling the Crete shores. These examples from the ancient world all share their subjugating role; they exist to serve the desires of other, more powerful beings, whether gods or humans, and even if they have emotions, they lack autonomy. Thousands of years before Karel Capek introduced the term "robot" to refer to artificial slaves, we find them in Homer's works." https://thereader.mitpress.mit.edu/the-ancient-history-of-intelligent-machines/
P.S. Karel Capek was born on January 9, 1890, in Malé Svatoovice, Bohemia, Austro-Hungary [now in the Czech Republic]; he died on December 25, 1938, in Prague, Czechoslovakia. He was a Czech novelist, short story writer, playwright, and essayist.
The son of a country doctor, Capek suffered from a spinal disease throughout his life, and writing seemed like a way to compensate. He studied philosophy in Prague, Berlin, and Paris, and in 1917, he settled in Prague as a writer and journalist. From 1907 to the 1920s, most of his work was written in collaboration with his brother Josef, a painter who illustrated some of Karel's books. What is the meaning of the word "robot" in the Czech language? The word itself derives from "robota," meaning forced labor as done by serfs. Its linguistic root, "rab," from Slavic languages, means "slave." The original word for robots more accurately defines androids in that they were neither metallic nor mechanical. Who is the father of the robot? The first person to actually construct a programmable humanoid robot was Al-Jazari in 1206. Al-Jazari

developed during the Enlightenment. Humanity is now making this idea, which was once seen as a kind of witchcraft, a reality. One who delved deep into this dialogue of human-nature-science was Leonardo Da Vinci. Another figure is Claude Adrien Helvetius[120], who dared to challenge the moral and religious principles of his time by delving into the depths of human nature. His well-known work, "De L'esprit" ("On the Mind"), shook the authorities of the time so much that they did not hesitate to resort to denial during the Inquisition. Helvetius was one of the most prominent and infamous figures of the French Enlightenment. Along with his fellow philosophers, he asserted that all philosophical discussions should be based on the empiricism of John Locke's "Essay Concerning Human Understanding" (published in 1689). Locke believed that the use of reason to understand truth and determine the legitimate functions of institutions would optimize human flourishing in terms of material and spiritual well-being. This, on the other hand, constitutes the pursuit of natural law and the fulfilment of the divine purpose for humanity. The French Enlightenment thinker Offray de La Mettrie wrote a book titled "Man a Machine" (French: "L'homme Machine"), which is a work of materialist

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was an Arab Muslim scholar, inventor, and mechanical engineer during the Islamic Golden Age (Middle Ages). Which country invented robots? At the Burden Neurological Institute in Bristol, England, William Grey Walter developed the first autonomous electronic robots with complex behavior in 1948 and 1949. George Devol created the first digitally controlled and programmable robot in 1954, which he eventually called Unimate.

[120] Claude-Adrien Helvétius (born January 26, 1715, in Paris, France; died December 26, 1771, in Voré, Collines des Perches) was a philosopher, controversialist, and wealthy host of the prominent group of French Enlightenment thinkers known as the Philosophes. He is remembered for his emphasis on physical sensation, his attack on the religious foundations of ethics, and his extravagant theory of education. Helvétius, the son of the Queen's chief physician, became a general farmer (a revenue officer) at the request of the Queen in 1738. In 1751, he married, resigned from his post, and withdrew to his lands in Voré. There he wrote the poem "Le Bonheur" ("Happiness"), published posthumously with a narrative of his life and works by Marquis de Saint-Lambert (1772), and his well-known philosophical work "De l'esprit" (1758; "On the Mind"), which immediately gained recognition. His attack on all forms of morality based on religion stirred up significant opposition, particularly from the son of Louis XV, although it was openly published with the benefit of royal privilege. The Sorbonne condemned him, and he was ordered to be publicly burned. This was the most severe crisis the philosophers had known, leading Voltaire to claim that the book was ordinary, dark, and mistaken. Similarly, Jean-Jacques Rousseau declared that the author's philanthropy was contrary to his principles. Helvétius was called to retract, and he made three retractions of the book. The publication of the famous Encyclopedia of the Philosophes was suspended, and the works of others, including Voltaire, were also burned. Helvétius expressed the belief that all people are equally capable of learning, a belief that led him to argue against Rousseau's work on education expressed in his work "Émile" and to claim in his work titled "De L'homme" (1772) that the possibilities of education for solving human problems were limitless. https://www.britannica.com/biography/Claude-Adrien-Helvetius

philosophy. The author[121], a physician and philosopher of the 18th century, argued in this work, extending René Descartes'[122] argument, that animals are

[121] La Mettrie, Julien Offray De (born December 19, 1709, Saint-Malo, France; died November 11, 1751, Berlin, Germany) is known for his contributions in fields such as medicine, physiology, psychology, and the philosophy of science. He was the son of a wealthy textile merchant. La Mettrie studied medicine at the University of Paris from 1728 to 1733 and then transferred to Rheims to obtain his doctorate. He completed his training after another year in Leiden under the renowned Hermann Boerhaave, whose influence was decisive. From 1734 on, La Mettrie practiced medicine in the district of Saint-Malo. However, at the end of 1742, he suddenly left for Paris and soon after embarked on a daring and tumultuous career that lasted until his death.

Between 1743 and 1746, he served as a military doctor in the War of the Austrian Succession. While this was going on, his first philosophical work, "Histoire naturelle de l'âme" (1745), which explained a materialistic theory of the "soul," caused a scandal and received official condemnation from the Parisian Parliament. Despite this work's opposition to orthodoxy, La Mettrie's professional abilities were apparently valued enough for him to be promoted to the position of medical inspector of the armies in the dossier. However, he returned without maturity in "La politique du médecin de Machiavel" (1746), mocking the incompetence, greed, and charlatanism of a prominent gallery of French doctors.

This justified and successful attempt at medical satire was followed by "La faculté vengée" (1747) and his major work in that direction, "L'ouvrage de Pénélope, ou Machiavel en médecine" (1748–1750). La Mettrie's combined attacks on religion and the medical profession made him powerful enemies to the extent that, to avoid arrest and imprisonment, he was interned in Holland in 1747. But unable to escape troubles for long, he published his most infamous book there, "L'homme machine" (1748), whose open materialism and atheism stirred a storm of protests even among relatively tolerant Dutch people. The author, now considered by the public as the boldest and most dangerous of philosophers, was forced to flee again, this time to the court of Frederick II of Prussia, where he was appointed a member of the Royal Academy of Sciences and worked as a reader and physician to the king.

In this somewhat protected situation, he continued to write on scientific and philosophical topics that shook conventional minds. In particular, his work "Discours sur le Bonheur" (1748), which denied that vice and virtue had any meaning within a deterministic view of human nature and, consequently, without remorse, simply as a morbid symptom that needed to be eradicated, caused him (somewhat illogically) to be denounced as a corrupter and cynic of morality.

www.encyclopedia.com/people/philosophy-and-religion/philosophy-biographies/julien-offray-de-la-mettrie

[122] René Descartes was a French philosopher, scientist, and mathematician widely considered a key figure in the emergence of modern philosophy and science. He was born on March 31, 1596, in France and died on February 11, 1650, in Stockholm, Sweden. He is buried at the Église de Saint Germain des Prés in Paris, France. Descartes is hailed as the first modern philosopher. He is famous for establishing a crucial connection between geometry and algebra, which allowed for the solution of geometric problems through algebraic equations. He is also renowned for promoting a new conception of matter that enabled the calculation of physical phenomena through mechanical explanations. However, he is most famous for writing a relatively short work, "Meditationes de Prima Philosophia" (Meditations on First Philosophy), published in 1641, in which he provides a philosophical foundation for the possibility of the sciences.

simply automatons or machines for human beings. Descartes' view of the world was that sensory perception does not reveal the nature of substances. He believed that human intellect is capable of perceiving the nature of reality through pure intellectual perception. Descartes' main idea is related to thinking. His famous statement, "I doubt, therefore I think, therefore I exist," carries a philosophy of knowledge as existence. "The nature of the mind," says Descartes, "is to think. If something does not think, it does not have a mind. As for his ontology, the mind is an existing (ultimate) substance, and thinking or thoughts are its attribute."[123] Change is always anticipated by ideas that transcend their time and have the potential to bring forth challenging and profound approaches if cultivated. Human connection, collaboration, and knowledge are being instrumentalized by instruments that feel, think, reason, and make decisions. As Harari writes, "What is happening today with human-computer chess teams could happen in the future with human-computer teams in the police, medicine, and also in banking systems." The Enlightenment was not merely an intellectual enlightenment; it was also a cult of reason and its light. Let's come to our present day. If this light does not refuse instrumentalizing itself, then we are dealing with a symbiosis between it and the instrument, a kind of combined functional cooperation. The Enlightenment did not attack the "divine" meaning of human thought but rather the dogmatic mystification that was imposed on thinking, human thought, and spirit. By delving deep into the human being and humanity, they were the first to shed light on how deep human thought can go. "The Enlightenment, sometimes called the 'Age of Enlightenment,' was a late 17th- and 18th-century intellectual movement that emphasized reason, individualism, and scepticism. The Enlightenment presented a challenge to traditional religious views." "Just as with other natural phenomena, Enlightenment thinkers concluded through observation that human nature was a fundamental constant. In other words, it possessed common characteristics and was subject to verifiable laws of cause and effect. As David Hume said, 'Mankind is so much the same in all times and places that history informs us of nothing new or strange in this particular. Its chief use is only to discover the constant and universal principles of human nature." Everything that seemed mysterious at the time is now being demystified. From the human-machine of the Enlightenment and mechanistic materialism, we are transitioning to a machine that thinks of a different materialism, one of instruments that take

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https://plato.stanford.edu/entries/descartes-works/#:~:text=Descartes%20has%20been%20heralded%20as,by%20way%20of%20algebraic%20equations.

[123]https://www.google.com/search?q=rene+dekart+about+the+universe&ei=EJ9HZMaAObiPxc8Pt6Cr0A4&oq=rene+dekart+about+the+univers&gs_lcp=Cgxnd3Mt

on human values and functions.[124] Or, as Harari expresses it, "How can a computer understand the human spirit created in a divine way?" We are experiencing a transition from the closed divine to an opening of what was considered the eternal unknown. Preconceived ethical judgments seem more permeable in our time. Sciences, whether theoretical or instrumental, appear to have more freedom in serving humanity and are less constrained by moral dogmatism. Heresy in developed countries is now part of history, but unfortunately, it still exists in underdeveloped countries where atavistic religious sects do not allow such challenging and revolutionary approaches to human life. It seems that the digital world is leading us towards posthumanism." From humanism to posthumanism to understand posthumanism, it is important to start with a definition. Humanism is a term that encompasses a wide range of philosophical and ethical movements united by their unwavering belief in the unique value, freedom, and moral supremacy of human beings. Emerging during the Renaissance, humanism was a reaction against the superstition and religious authoritarianism of medieval Europe. It took control of human destiny away from the clutches of a transcendent deity and placed it in the hands of rational individuals, which at the time meant white men. In doing so, the humanist worldview, which still influences many of our most important political and social institutions, positions humans at the centre of the moral universe. Posthumanism, which is a group of ideas that have emerged since the 1990s, challenges the notion that humans are and will always be the sole agents of the moral world. In fact, Postumanists argue that in our technologically mediated future, the understanding of the world as a moral hierarchy and the placement of humans at its apex will no longer make sense."[125] Early dialogue on this issue

[124] "The Development of a Meta-Inventory of Human Values" The authors are An-Shou Cheng and Kenneth R. Fleischmann.
The article was first published on February 3, 2011. I quote: "Human values are increasingly being used as a concept in a wide range of fields, including psychology, sociology, anthropology, science and technology studies, and information science. However, the use of this concept varies significantly in these different fields, and several different instruments have been specifically developed to measure values."
https://asistdl.onlinelibrary.wiley.com/doi/full/10.1002/meet.14504701232

[125] The ideas presented by the Ethics Center are disseminated through this study, which examines "Two types of post-humanism." The first category, commonly known as transhumanists, asserts that human beings will undergo radical transformations in the coming century through the integration of implants, bio-hacking, cognitive enhancement, and other biomedical technologies. These advancements are predicted to propel our evolution into a species that bears little resemblance to our present form. Ray Kurzweil, a principal engineer at Google, passionately advocates this vision of the future, foreseeing that the exponential progress of technology will bring about profound changes in human history, leading to entirely new ways of existence that currently elude our comprehension.

has taken place. One of them is known as "A posthuman dialogue between Michel Foucault[126] and Bruno Latour."[127] "What is the difference between Foucault and Latour? While Latour's new realism is limited to expanding our epistemological perspective, Foucault's approach allows for the analysis of epistemic doubts by shedding light on their political, social, economic, and discursive conditions without reducing epistemology to power." We should read this clash of ideas differently. General philosophical principles are important but not rigid, dogmatic, or closed. We should view epistemology as an authority on thought and not as an imposed power. The reality in which we live certainly influences these principles. If we have entered a phase of life where the instrument takes on spiritual and mental human functions, thus having a different scientific, technological, cultural, debatable, social, political, and economic reality, then epistemological principles remain essentially generalizing but with developing content. Otherwise, we will have a restrictive collision and a separation between epistemology and reality that will manifest with und.

However, alternative post-human thinkers present a contrasting perspective. Philosopher Donna Haraway, for instance, contends that the convergence of humans and technology will not necessarily lead to physical enhancements but rather enable us to recognize our interconnectedness with non-human entities. Embracing the concept of cyborgs, which entails unconventional amalgamations of human and machine, allows us to challenge and reevaluate dichotomies such as human/nonhuman, natural/artificial, self/other, and organic/inorganic. Haraway suggests that by accepting our partial human-machine nature, we may find it easier to dismantle outdated divisions related to gender, race, and species. Thus, post-human ethics, as viewed by Haraway, extends moral considerations to entities distinct from ourselves, including other species and objects with which we share our existence.

In contrast to Kurzweil's perspective, which primarily emphasizes a technologically driven future of augmented humanity, Haraway's post-humanism assumes the form of an ethical stance that promotes moral regard for entities beyond our own kind. Haraway envisions our post-human future as a time when "species meet," advocating for a shift in human consciousness to embrace the interests and rights of non-human entities within our moral framework. Therefore, posthuman ethics encourages us to transcend the narrow interests of our own species, adopt a less narcissistic worldview, and earnestly consider the concerns of entities that differ from us. https://ethics.org.au/ethics-explainer-post-humanism/

[126] Michel Foucault, who lived from 1926 to 1984, was a prominent French historian and philosopher affiliated with both the structuralist and poststructuralist movements. His impact extended beyond the realm of philosophy, encompassing a diverse array of humanistic and social science disciplines. Stanford Encyclopedia of Philosophy https://plato.stanford.edu/entries/foucault/

[127] Bruno Latour, a French sociologist and anthropologist, born on June 22, 1947, in Beaune, France, and passing away on October 9, 2022, in Paris, was renowned for his groundbreaking and unconventional contributions to the examination of science and technology within societal contexts. https://www.britannica.com/biography/Bruno-Latour

THE IMPACT OF DIGITAL GLOBALIZATION ON ALBANIAN COMPANIES

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Abstract

The development of technology has facilitated communication and increased the interaction of people around the world. Digital globalization has changed the environment in which business operates during recent decades. Digital globalization enables businesses to increase the labor market, provides the opportunity to learn and compete with firms from all over the world, despite the level of development of the country of origin, and offers the opportunity for an international workforce. On the other hand, business development in the era of digital globalization requires top executives and managers to be open and able to accept change.

This paper intends to explore the impact of digital globalization and the opportunities it brings to the development of businesses in Albania, with a focus on the ability and desire of service companies to carry out activities online. The survey is centered on Albanian managers' and employees' approaches toward remote work and the management issues related to this work method. The methodology used is a combination of qualitative, exploratory research and a survey in the business environment to collect primary data. The research results shed light on how the development of the digital world directly affects businesses in Albania and it might be a first step for more in-depth studies on the effects of digitization and globalization on Albanian business.

Keywords: globalization, digitalization, remote work, productivity, motivation.

1. INTRODUCTION

The development of technology and its impact on radical change in people's lives, in general, is the key topic of discussion in recent years. Technology has made communication easier, and it has increased the interaction of people all over the world. The Covid-19 pandemic helped the world have a new perspective on how things could work. With the amount of information and the ease of exchanging ideas and technology, we have become a single society, moving towards unification, which is widely known by the term Globalization. According to Albrow in Globalization, Knowledge and Society (1990): "Globalization refers to all those processes by which the peoples of the world are incorporated in a single world society".

Organizations have now taken a new look, being evaluated on an international scale, and this happens thanks to the increased integration of economic, political, and technological systems, which comes because of the globalization process. Skare and Soriano (2021) consider globalization as a means to reduce barriers to technology transfer and to help increase innovation and productivity. In short, globalization gives businesses the opportunity to develop and have a new way of perceiving competition, market needs, demand, and supply.

Further on, nowadays we are not only dealing with traditional globalization, which started centuries ago. Digital transformation is affecting many more aspects of the economic world (Broz et al., 2020). Therefore, with the development of technology and the growth of innovation, globalization has taken on new dimensions, moving to digital globalization, which is the result of online activity. According to Schilirò (2020), with the increase in the use of technology and the Internet, the distance between nations decreases and thus the interaction and influence nations have on each other increases.
As a vital part of nations, the economy is also affected by technological development and digital globalization. Remote work is an important element of this development and has seen significant growth recently. In 2019, 147 million women and 113 million men worked from home. This amounts to 11.5% of all female workers and 5.6% of all male workers (ILO, 2021).

In recent years, before, during, and after the Covid-19 pandemic, numerous studies have been done on remote work and how it works (Eurofound & ILO, 2017), (Felstead & Henseke, 2017), (Karanikas & Cauchi, 2020), (Maurer, 2020). According to a questionnaire by Buffer (2018), 90% of remote workers plan to work remotely for the rest of their careers. Due to such popularity in developed countries, it is worthwhile to study remote work in the Albanian business environment, as a new term and concept for our society.

The purpose of this study is to explore the impact of digital globalization and the opportunities it brings to business development in Albania. It is mainly focused on the ability and disposition of service companies to do their activity and work online (remotely).

This study is motivated by the aspiration 1) to research digital globalization and its impact on business development in Albania and 2) to modestly contribute to the limited body of literature and factual studies at the country level.

2. THEORETICAL FRAMEWORK

The research on digital globalization opportunities shows that medium and small businesses, through digitalization, can join the big ones of e-commerce, reaching to get in the markets and connect with suppliers and clients from all over the world (Nitu, 2019). The digitalization of economic processes makes business work easier. Some of the disadvantages of traditional globalization become advantages of digital globalization.

The study from McKinsey Global Institute (2016) highlights some of the advantages of digital globalization such as greater participation from developing economies; increasing the exchange of information, and free services. As a whole, digital globalization facilitates international trade, affects economic growth, reduces poverty, and creates a more unified world thus influencing the faster development of innovation. On the other hand, Verbeke (2020) has emphasized the disadvantages, referring to the new challenges and costs associated with digital globalization. They mainly include investments in new technologies, training of employees to use these technologies, aspects of the implementation (or circumvention) of the legal framework, of privacy and cybersecurity.
Either way, we mustn't forget the fact that a business doesn’t work without the workforce. Digital globalization has affected the change in labor supply and demand. Work itself is changing, moving from working in the office to working partially or completely from home. Individuals can now export their skills to do a particular job. Thus, digital globalization has increased the opportunities to find a job even in other countries of the world, through remote work.

The pandemic helped create a new mindset of how remote work could function (Schiliro, 2020). Although things took a mandatory course, it served as an experience, because remote working underwent an immediate development as the only way for companies to continue operating.
The development of applications, software, electronic devices, and telecommunications have enabled real-time communication between people in different parts of the world and this only makes it easier to develop remote work. Everything can happen in real-time, working with the same content, on the same page, simultaneously.

Remote work has many advantages such as: saving time and money, non-geographic limitations, achieving work-life balance, flexibility, creativity, and productivity (Kowalski & Slebarska, 2022). On the other hand, some of the

challenges and disadvantages of remote work are considered to be loneliness, isolation, lack of communication, difficulty in management, cyber risks, the limited number of jobs that can be done online, and work-home interference (Beňo, 2021).

In a World Bank study Sanchez et al. (2020) show that on average, one in five jobs across the globe can be done from home. Even Albanian companies, with the experience gained, intend to have several remote employees in the future, mainly those who work in software engineering and web design (Zeneli, 2021).

In addition to remote work, companies are also widely applying other forms of hybrid or combined work. According to Oxford Learner's Dictionaries hybrid work is a flexible working arrangement in which employees work partly at home and partly in the office. This form of work fulfills the need that individuals have to work with others, but also the need for a social life outside of work, enabling employees to choose how to do the work and plan activities inside and outside the office. Collaboration, simpler management, and reduced interaction costs are some of the advantages of hybrid work (Microsoft, 2020). As for the disadvantages, there are geographical limitations, isolation and marginalization of employees, the difficulty to organize work with two schedules, and others. (Iqbal, 2021).

According to the International Labor Organization (2021), remote work is likely to become a prominent feature in the world of work in the coming years, therefore companies must be aware of and prepare for future challenges. This applies as well to Albanian companies, which are the target of this study.
On the other hand, there are few empirical studies on the development of globalization and especially digital globalization in Albania. Even those works that exist were open to a limited audience and access to them is difficult online (Gjika, Pano, 2019), or lean more towards the increase in the use of technology (Curraj, 2017; Angjeli et al., 2022). Recognizing and considering their results would be useful for companies, although it’s clear that technological advancement is not evenly integrated into all Albanian businesses. Consequently, there is a need for more and deeper studies to bring comprehensive results in this domain.

3. METHODOLOGY

Globalization is quite wanted and can have positive effects on Albanian businesses, but there is a lack of information and will to experiment and try new

means that technology offers for business development. From this starting point, the research question at the center of this study is: Are Albanian service companies ready to develop their online activity to be better integrated into global markets?

The main objectives of this research, being also the auxiliary questions, are:

- What are the challenges faced by Albanian companies that are involved in remote/hybrid work?
- What factors will shape the development of companies in terms of greater involvement in the global market, according to the opinion of their managers?

The used methodology is a combination of qualitative and quantitative methods. Research is exploratory. The choice to do exploratory research relies on the fact that there aren't many studies in this field and the latest developments in forms of work raise questions and present challenges for companies. The review of the literature and similar studies in other countries has made it possible to underpin the theoretical basis of the study and the background to argue the results of the observation. The main data to analyze the influencing factors in the present and the future of remote work were obtained from primary sources, using a questionnaire purposely designed for this survey.

The questionnaire consists of 5 sections and has 18 questions, 2 of which are expanded with some sub-questions to get a better idea about the management issues and development of the studied companies. In the first section, the questions are general and aim to gather information about the responding company. The second section deals with globalization and remote work as an important aspect of globalization. The third section focuses on the management of remote work, being one of the obvious difficulties that prevent companies from moving online. The fourth section is related to management issues in terms of online work, and the last section is an assessment of globalization situations that can bring development to Albanian companies.

The sample chosen to answer the questionnaire consists of service companies. This choice is based on the fact that companies operating in service sectors are more inclined towards digital globalization since in this way it is easier for them to find a workforce, and customers, and to carry out their activity online, without high administrative costs.

From the totality of companies that perform service activities in Albania (based on Business Registers 2021, INSTAT) service companies in the activities of information technology, marketing, education, and customer service have been selected for our survey. Of these companies (which, according to INSTAT, are about 13,600), only companies that meet the following criteria are targeted: 1-

have remote employees, 2-work in international projects, and 3-their type of work permit the transitioning to online activity.
This target includes about 410 companies, mainly located in the central area of the country. Due to the inability to contact all of them, a deliberate sample/cluster of 40 companies was chosen. The questionnaire was sent in electronic form to these 40 companies and was returned completed by 25 of them, which became part of the study.
The sample size is one of the main limitations of the study. However, the specific nature of the activities carried out by these companies allows us to generalize the results at a relatively high level for the fields of activity that are included in the survey. On the other hand, this encourages further observations in the future, both by the authors and by other researchers in the field.

4. SURVEY RESULTS AND DISCUSSION

The processing of the questionnaire data is made using statistical methods and is presented in graphical and tabular form.
Most of the companies in the sample are from the information technology and marketing field because they are activities that can easily be converted online. Also, digital globalization is favorable for the development of such types of companies, given that it brings on potential clients and workforce from around the world, thus increasing the labor market, action, and influence. Regarding the companies dealing with education and training or customer services, it was the pandemic period that provided the main impetus and obligation to enable the continuation of online activity, which then became a growing trend.
Of the companies studied, the largest percentage provide service outside Albania and small and micro companies prevail (according to INSTAT's classification). Statistical data for the sample included in the study are given in table no. 1.

Table 1. Statistical data for the study sample.

	Indicators				
1	According to activity	Education	Marketing	Customer service	Information Technology
	Percentage	12%	16%	16%	56%
2	According to the number of employees	1-9	10-49	50-249	250+

	Percentage	24%	52%	12%	8%
3	Acc. to the country where service is provided	Albania		Abroad	Albania & abroad
	Percentage	40%		44 %	16%

4.1. Remote work in Albania and the main concerns

There is an increasing trend in the percentage of people who want remote work in other countries. According to Knilans (2022), 97.6% of remote workers would like to work remotely, at least part of the time, during part of the remainder of their career. From this point of view, we were expecting a greater bias towards remote work in Albania as well. Yet, it seems from the survey that there are some stages to go to full remote work and the effectiveness of remote work. According to the surveyed managers, hybrid work is currently seen as the most effective form of work, and a very small percentage considers remote work to be more effective, mainly in information technology and education companies. The situation is presented in Figure 1.

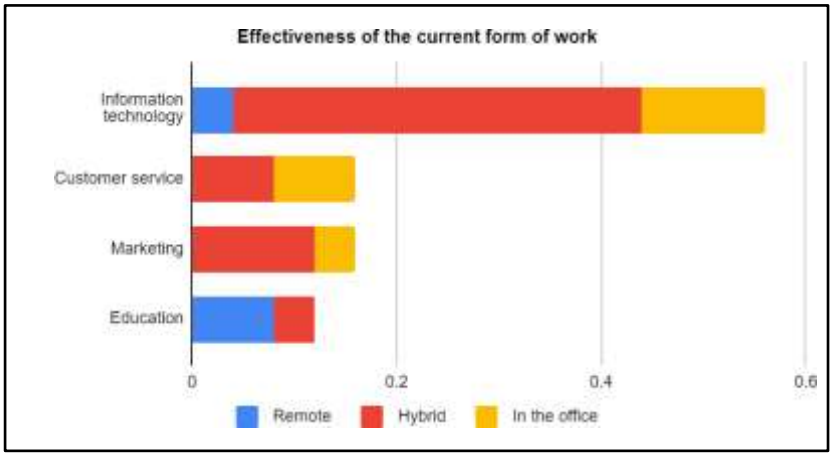

Fig. 1. The effectiveness of forms of work.

According to managers' assessment, the reasons for the low level of remote work effectiveness are the challenges that arise while carrying out the work. Some of them, according to studies in other countries, are considered to be loneliness, lack of communication, difficulty in management, and creating an

environment of work (Kowalski, 2022), (Beňo, 2021). Asked about the impact of each factor on their activity, on an increasing scale (from 1 - none, to 5 - too much), the respondents give assessments that vary according to the nature of the activity. Technical problems are less worrying for IT companies, due to the knowledge they have and facilitate their avoidance/solving them quickly. Meanwhile, in education and customer service, they are considered to have a higher negative impact. (Figure 2)

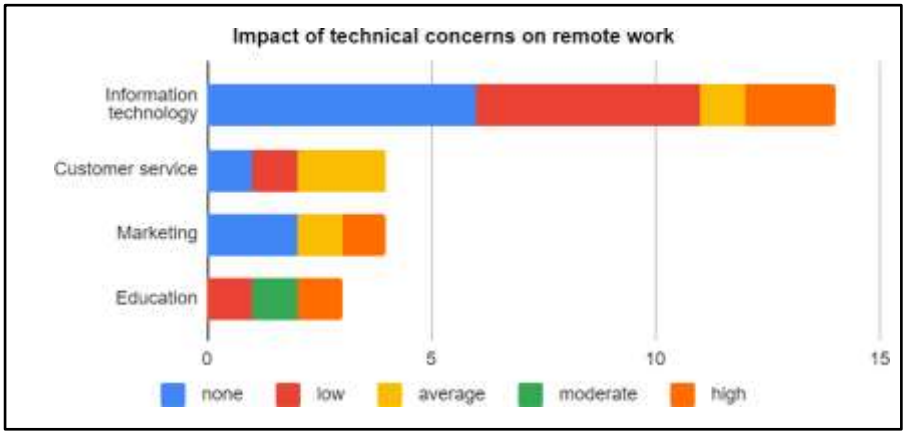

Fig. 2. Impact of technical concerns on remote work

Similarly, the effect of online work on job performance varies by activity. Companies from information technology seem to be more affected by the decrease in performance at work because it is more difficult for them to control the work, arrange teamwork, or solve problems encountered. (Figure 3)

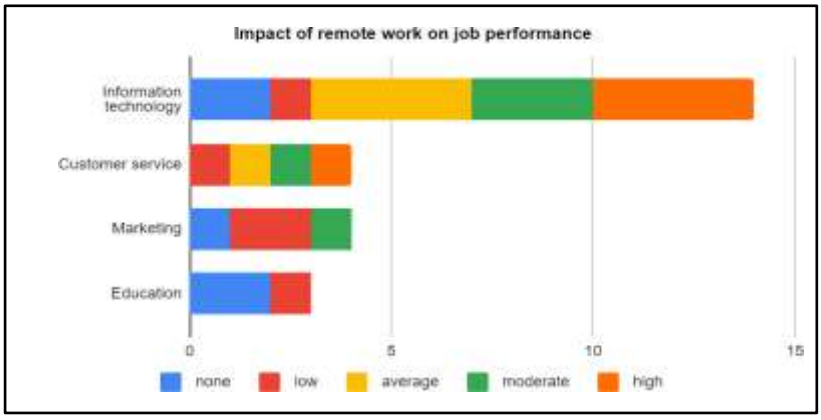

Fig. 3. Impact of remote work on job performance

The graphic presentation below (Figure 4) allows a more general assessment of the extent to which specific factors influence the performance of work for each category.

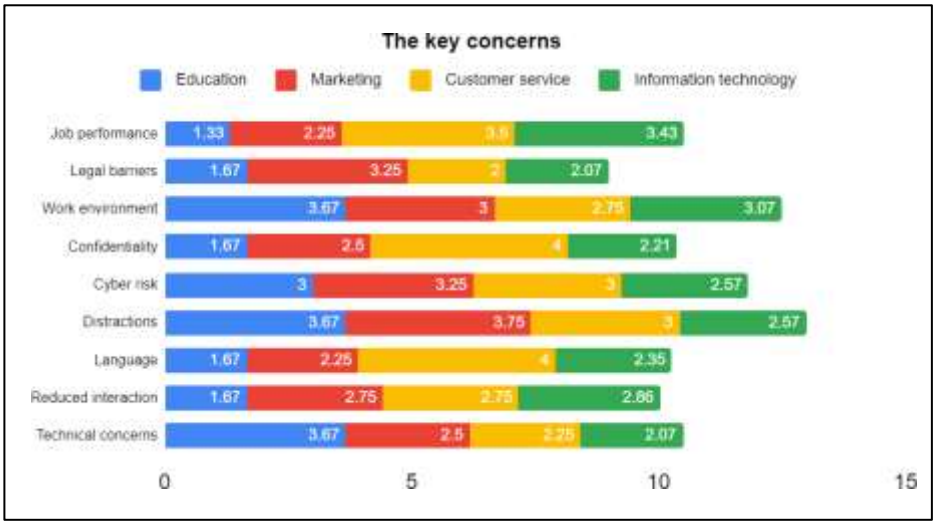

Fig. 4. The key concerns for Albanian companies working remotely.

This general overview evidence that factors with the highest impact are distractions, the creation of the work environment, and job performance. The first two are considered closely related, since distractions during remote work come mainly from the lack of space to create a work environment at home, highlighted by other researchers as well (Bergefurt, 2022). In 2020, employers reported that labor productivity was the same or higher when employees started working from home (Maurer, 2020). However, these correspond to the short-term assessment. Other studies show that in the long term, remote work can cause problems such as anxiety, stress, depression, muscle problems, etc., which consequently would reduce work performance (Ferrara et al., 2022). In addition to these, other factors such as work culture, qualification of employees, personal desires, nature of employees, age, and difficulty in separating work from life affect the performance of employees.

In addition to the main problems, it is worth mentioning that the reduced interaction seems to have affected more IT companies, as per the survey data. Since interaction is important concerning learning, practice, motivation, and teamwork (Ratcliffe, 2017), especially in the training period, its absence leads to a decrease in performance. Moreover, it should not be forgotten that face-to-face meetings in the business world are of particular importance, constituting one of the main activities of the working day (Svennevig, 2012).

Legal barriers are another point that should be considered in the case of switching to online activity. They are mainly related to the employees that are located in a different country from the company's offices. The legal difficulties lie in the fact that there may be legal gaps that cause ambiguity and difficulty in determining which law serves (or not) the employee or the company, for issues such as taxes, social and health insurance contributions, etc. (Agrawal et al., 2022), (Goldstein & Weimer, 2021). The survey data (Fig. 4) shows that legal barriers are a concern mainly for companies most affected by remote work (marketing and IT).

The concerns faced by companies during online activity are intertwined with each other and it is difficult to measure their effects in quantitative terms. However, the perception that companies have about the extent of this impact can guide them toward finding solutions for the management of remote work, the legal regulation of the activity, and the stimulation of performance growth. At the same time, it becomes a driver to forecast and plan the continuation of their activity in the future.

4.2. What about the future?

Companies make the following assessment (Fig. 5) when asked about the form of work they would prefer in the short or medium-term future while technological developments (AI, Big Data, Cloud platforms) are very fast and hinder long-term planning.

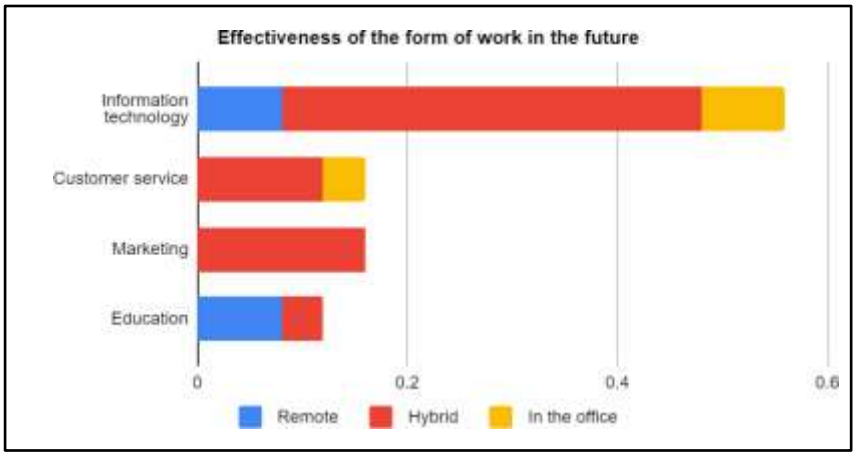

Fig. 5. The most effective forms of work in the future

The decrease in the percentage of managers who want to work in the office and the significant increase of managers who want to work in a hybrid way is obvious.
But is hybrid work a method that will advance business in terms of globalization, or is it just a step towards remote work? Companies can certainly use hybrid work and it helps in the development of digital globalization, but if a person from another country will engage with an Albanian company, working in the office (a few days) would be almost impossible. Still, the way hybrid work can have a positive effect by offering flexibility to employees so that they can choose the remote work method when they live in another country or hybrid when the employee and the offices are in a close location. In this way, the company has global human resources and prepares individuals for the possibility of remote work in the future. In most cases, hybrid work can be considered the best experience for employees, as many people still associate remote work with social distancing.

In addition to the preference regarding the type of work in the future, the respondents also appreciated the situations that would encourage the involvement of their companies in digital globalization (Figure 6).

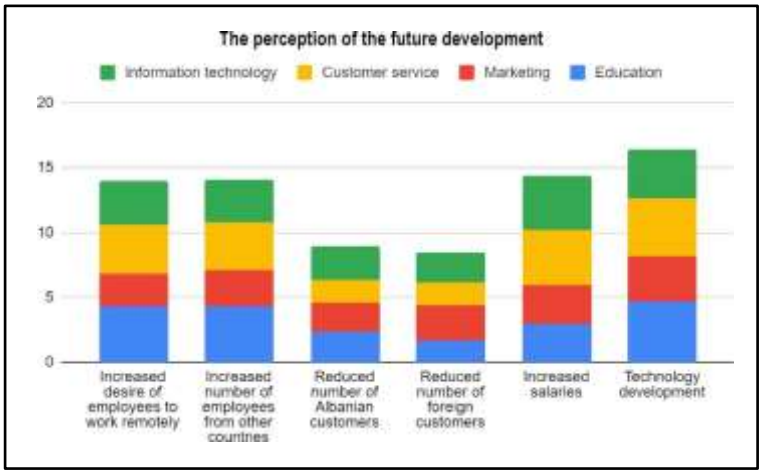

Fig. 6. The perception of the future development in globalization conditions

According to respondents, the situations that will mostly stimulate Albanian companies to integrate into digital globalization are technological changes and the need to increase salaries, while the number of clients does not play any important role.

Technological changes will help solve management problems and facilitate the transition to online activity. On the other hand, the increase in wages for Albanian companies means an increase in incomes and an increase in the opportunities for Albanian companies to integrate into digital globalization, competing on an equal level with companies operating in more developed countries.

Discussing the integration of Albanian companies in the global market, the survey points out that Albania still lacks development and knowledge on digital globalization. Adapting to new technologies is easier for companies in information technology, while other companies that deal with education and training or customer service face more difficulties, both in the implementation of technology and the entry into the international market.
An environment will be global when companies enter the international market under the same (or similar) conditions when their competitors are international companies (not only Albanians) and colleagues are also from different nations and in different countries. The development of technology will keep driving the world of business and industry, as it has done so far.

5. CONCLUSIONS AND RECOMMENDATIONS

The study has led to some important conclusions, which help to better understand the shape that work and the business world is taking in Albania, while digitalization and technology are rapidly evolving.

First, the increasing number of companies that offer their service online is noticeable. This is proof of the changing environment in which a business grows, moving from office work to remote work, from Albanian co-workers to colleagues who work together virtually from different countries of the world, and from local clients to foreign clients. The main aspects of the business model have been merged, creating new operating models, without much bureaucracy, for businesses to function well in the online world, and at the same time compete with other companies of the world.

Second, digital globalization has brought a positive impact on Albanian companies, as it has provided them the opportunity to operate in a global world, on an equal footing with companies from most developed countries of the world. It happens although our companies constitute a small % of the world market and aren’t sufficiently developed.

Third, digital globalization has increased the possibility of integrating the Albanian workforce into the global market, allowing employees to learn, be trained, and ask for a higher salary than the average salary in Albania, which leads to economic development and increased well-being of Albanians.

Fourth, digital globalization in Albania has encouraged new work methods such as remote work and hybrid work, leaning more towards the latter, which managers think is more productive and effective for employees.

Regarding the research question and the readiness of Albanian service companies to develop their online activity, the study confirms they have embraced a new approach to work. Most of the affected companies do not prefer to completely abandon the traditional model but prefer hybrid work instead.
Finally, remote work, as well as online interaction, are strong indicators of the increasing level of inclusion and the aspiration of Albanian companies to be part of digital globalization, considering the latter as an opportunity for development and integration.
Further, there are several recommendations addressed to stakeholders that might contribute to a supportive environment in Albania regarding digital globalization.

For businesses:
- It is important to revise the management system for the future, focusing on finding new and innovative methods of the evaluation, monitoring, and control of work, since management highly affects business success.
- It is necessary to invest in staff training for the best use of technological developments as an advantage for the company.
- Albanian companies should focus on the implementation of new technologies, to facilitate the work of managers, especially when it comes to hybrid and remote work methods.

For policy making:
The legal framework should be expanded to consider cases of remote work when companies operate only online and do not have physical offices in the country.

Research work for the future:

There are plenty of issues related to the impacts of digitalization on businesses. Some relevant topics for further observation might include the progress and development of work models (remote and hybrid work) in Albanian companies; technologies used for labor management in Albanian service companies; perspective of work models according to company profile and the field of activity.

Acknowledgment:
We are thankful to all the managers from the Albanian service companies who participated in this survey and provided us with very useful information and opinions for carrying out the research.

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THE CASE OF ALBANIA - GENESIS OF HISTORY AND RELIGIOUS LAW

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Abstract

This paper examines the unique religious history of Albania, shaped by factors such as extreme poverty and foreign occupiers associating with specific religions. This resulted in a weak religious sentiment among the population, characterized by compromise and pragmatism over religious divisions. Following independence, the state maintained a secular stance, promoting religious diversity and independence from foreign influence. However, the advent of Communist rule suppressed religious sentiment, leading to the abolition of religions and the establishment of state atheism. After the fall of the Berlin Wall, Albania embarked on a process of rediscovering and reclaiming its religious roots. The current stage emphasizes the need for academic discourse and political interest in comprehending the country's religious history and diversity.

The study explores the evolution of Albanian religiosity, spanning from pre-independence to the post-communist era. During the early period, Roman, Slavic, and Ottoman occupations influenced religious practices in Albania, with Christian assimilation of Illyrian populations and later Islamic conversions. However, the prevailing spirit was one of adaptation and pragmatism, rather than strong religious identity. Indifference, permissiveness, and religious opportunism characterized religious behavior, fostering tolerance and adherence to previous religious experiences to avoid conflicts.

Since the enactment of the Organic Statute, the relationship between the state and religious communities has remained relatively unchanged. Reforms aimed to strengthen national identity and limited ties with foreign religious centers. The 1998 Albanian Constitution emphasizes religious coexistence and aligns with European Court of Human Rights (ECHR) judgments.

1. Introduction

STATUS QUAESTIONIS

The relationships between Empire, Monarchy, Republic, and/or other forms of power organization, civil coexistence (*Kanun*), and religious power in Albanian-speaking territories date back to times preceding the proclamation of

independence (end of November 1912). Therefore, a preview of the ancient and medieval periods is proposed to better understand the historical causes that led to the current stage of religious approach and related regulation, analyzed within the framework of their chronological development.

In the author's opinion, attention should be mainly directed towards the historical succession of the country for a better understanding of the historical causes that led to the current stage of religious approach and related regulation. The reconstruction of the religious phenomenon in the territories of modern-day Albania inevitably starts from its historical genesis in the Illyrian era and in the populations that were entirely pagan in Illyricum.

The subsequent annexation of Illyricum to the Roman Empire brought about new religious issues, and the natural and immediate reaction was distrust in their ability to alter the ethnic/autochthonous identity. Despite this, the Romans' polytheism, along with their tolerance towards any cult, allowed the country to be integrated into the religious-cultural fabric of the Empire without significant conflicts or traumas. Over time, pagan practices began to mix with the practices of the newly emerged Christian religion, causing a natural approach towards it and weakening traditional religious sentiments.

The religious tolerance typical of the Roman Empire allowed for a gradual mutual understanding that, by breaking down religious taboos, favored the spread of the Christian faith. The total assimilation of the Illyrian populations followed accordingly. The division of the Roman Empire caused the separation of Illyricum's territories in half, and the subsequent split of the Christian religion involved the same territories equally centuries later, which found themselves divided on opposite sides of the border between the Roman and Byzantine Churches.

The *Codex Purpureus Beratinus*, dating back to the 6th century, is a witness to the Christian thought's ability to merge, please, disseminate, and absorb Roman ideals of tolerance in the border territories between the two Empires to avoid disputes in important transit lands such as Illyricum, a gateway between two ancient civilizations. It was a gift from the Eastern Roman Emperor to the southern Illyrian Church, and it is a hybrid between the Eastern and Western Christian schools. It was the first and only one of its kind at the

time[128] and seemed to embody some kind of auspice of a vocation against future signs of religious division[129].

Over the centuries, there was an inevitable and definitive split of the Christian religion into the Eastern (Orthodox) and Western (Catholic) branches, but the indigenous population was relatively immune to it. As it was a division of the same religion, inter-religious coexistence did not develop existential conflicts. In the territory, the first experiences of multi-confessional coexistence[130] took place.

The officiating of the two Churches' respective rites was the immediately visible element, with theological divisions not being perceptible to the people of believers.

Towards the end of the Late Middle Ages, after the epic resistance led by George Castriot Skanderbeg (*Gjergj Kastriot Skenderbeu*) and the Ottoman occupation of Albanian-speaking territories in their entirety, the indigenous population began to convert to Islam. It was a long and progressive process that lasted almost five centuries[131]. The religious pluralism of society, even with the prior knowledge of Islam, did not seem to create any sparks of contrast with the local Christianity, and the new religion did not become a cause of inter-religious

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[128] P. Batiffol, Les manuscrits grecs de Berat d'Albani et le Codex purpureus, Paris, 1886; K. Matsuura, Gur themeltar në ndërtesën e trashëgimisë, in Kodikët e Shqipërisë, Tiranë, DPA, UNESCO, 2003; SH. Sinani, A. Velianj, Kodikët e Shqipërisë në "Kujtesën e Botës", Tiranë, Naimi, 2011, passim.

[129] It is no coincidence that another Codex Purpureus with identical content was donated by the same emperor at the same time to the populations of the Exarchate of Southern Italy and is preserved in Rossano (Codex Purpureus Rossanensis), a location adjacent to Albanian settlements in northern Calabria, which began in the mid-fifteenth century, demonstrating how intense and "natural" the relationships were between the two territories.

[130] With the schism between the Western and Eastern Church, the north of Albania remained under the Latin rite and the jurisdiction of Propaganda Fide, while the south retained the Greek rite. See G. Cimbalo, Pluralism of religions and religious communities in Albania; R. Morozzo Della Rocca, Nation and religion in Albania; C.G. Pitsakis, From New Rome to the Byzantine Commonwealth: The political-religious model of Constantinople and its expansion beyond the borders of the Empire; P. Grossi, Medieval Legal Order, among others.

[131] The phenomenon is also reflected in writings on the emigration of Arbëreshë to Italy and their subsequent role in the development of Albanian society and its institutional structures. See: M. Mandalà, "Mundus vult decipi". I miti della storiografia arbëreshë, Palermo, Mirror A.C., 2007; F. Altimari, Passato e presente. Identità minoritarie. Mediterraneo. Nuova questione meridionale. Gli Arbëreshë nel ventennio del silenzio, Soveria Mannelli, Rubbettino, 2007; C. Korelevskij, L'Eparchia di Lungro nel 1921. Relazione e note di viaggio, a cura di S. Parenti, Unical, Rende (CS), 2011; G. Cimbalo, Il ruolo degli "arbëreshë" nella messa a punto del modello albanese di rapporti tra le comunità religiose e lo Stato, see below.

conflicts. In many cases, it was a public and convenient adherence provoked by the reduced taxation applied to Muslim families[132]. Islam presented its tolerant side, favoring and allowing the flourishing of brotherhoods capable of performing an operation of syncretism capable of assimilating and incorporating previous religious experiences[133]. Thus, the seed of religious indifference and permissiveness blossomed.

In the first decade of the 20th century, on the eve of the nation's independence, the same pluralism of Muslim brotherhoods, the pronounced and constant religious tolerance manifested by Islam towards other religions, together with the nationalist impulses of the Ottoman cultural revolution of the 19th century, founded on the secularization of society and the state, created/fostered a favorable ground for the new Albanian state without passing on inter-religious conflict pathologies[134] as an inheritance.

In the first decade of the 20th century, the pluralism of Muslim brotherhoods, the religious tolerance of Islam towards other religions, and the Ottoman cultural revolution's nationalist impulses fostered a favorable ground for the new Albanian state on the eve of its independence. This was achieved without passing on inter-religious conflict pathologies as an inheritance.

The genetic predisposition to religious indifference that the population has developed over the millennia has prevented a nationalist bond with any particular religion. Religions arrived with occupiers and identified with them, and the reaction to this was the development of a weak religious sentiment, bordering on oblivion, which favored a culture of compromise and pragmatism.

This has favored identity and cultural survival at the expense of assimilation. Another important factor that influenced national cohesion/homogeneity at the expense of religious division was the extreme poverty in which the country was living. In the struggle for survival, there was

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[132] The footnote translates to: "On the conservation in private life of the names and Christian tradition of Albanian families apparently publicly converted to Islam, see: R. Morozzo Della Rocca, Nazione e religione in Albania, Bologna, Il Mulino, 1999, passim."

[133] G. Cimbalo, The Islamic brotherhoods in the Balkans: a model of pluralistic European Islam, in Daimon. Yearbook of Comparative Law of Religions, 2009, pp. 225-245; Id., The experience of Eastern European Islam as a contribution to a shared regulation of religious freedom in Italy, in R. Aluffi Beck-Peccoz (ed.), Religious identity and integration of Muslims in Italy and in Europe (tribute to the memory of Francesco Castro, Rome, May 22, 2008), Turin, Giappichelli, 2011, pp. 71-104.

[134] Translation: On the subject see: R. Bottoni, The principle of secularism in Turkey. Historical-legal profiles, Milan, Vita e Pensiero, 2012, throughout.

little time for beliefs and religions that had cycled through the country with secular regularity.

The combination of these factors led to an atypical condition of Albanian religious sentiment and its alternation, and greatly influenced the indifference/neglect of religion on the eve of the proclamation of independence. From independence to the Second World War, two periods can be distinguished, with related approaches and a common denominator: the secularism of the state, which places itself above religious divisions under the strict control and supervision of world powers, in virtue of national unity. Initially, the Congress of Lushnja and the Statute enacted by it were equidistant in their relationships with religious communities, and at the same time, they guaranteed the overcoming of the symphonic model of relations between state and religious confession, which characterized the Orthodox-majority Balkan countries and any implications arising from the fact that the majority of the country was Muslim, projecting the national dimension of religious communities. However, it remains to be evaluated whether this result was exclusively a domestic achievement or not.

It can be inferred that in the subsequent period, Zog's active policy stands out: promoting the political and administrative independence of the various religious denominations in Albania from any foreign influence, guaranteeing and privileging religious diversity, and thus perfecting the evolving institutional structure of Albania in the new century[135]. The state remained almost impervious to the appeals emanating from the various religious communities, due to the higher call of national unity and also due to the lack of conservative-religious popular consensus on the matter. The state legislated in total absence of endemic pressure.

It is essential to underline the application of the *Kanun*[136] on the subject at hand, expressions of traditional autochthonous law. From the beginning of their validity to the present day, they have proven to be highly effective alternatives and complements to secular and ecclesiastical law.

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[135] On the ecclesiastical policy of Zog, see: R. Morozzo Della Rocca, Nazione e religione in Albania, Bologna, Il Mulino, 1999; G. Cimbalo, Pluralizmi i besimit dhe komunitetet fetare në Shqipëri, cit., throughout.

[136] In addition to the Kanun of Lek Dukagjini, other variants are known, such as the Kanun of Skanderbeg, also known as the Kanun of the Mountains, and the Kanun of Laberia, also known as the "Shartet e Idriz Sulit". The first was the most widespread and had roots in the north of the country. The Kanun of Skanderbeg and the Mountains also came from the same region, while the Kanun of Laberia was widespread in the south.

After the end of World War II, with the arrival of the Communist Party in power, there was a growing isolation with the outside world, and the State changed course with the submission, oblivion, and repression of religious sentiment[137], culminating in the famous abolition of religions and the proclamation of state atheism in the late 1960s and early 1970[138]s.

All of this would not have been possible elsewhere. The traditional religious permissiveness, strong and of a para-secular nature, allowed the free and indiscriminate exercise of religion to be accompanied this time not by a new religion, but by an intense atheistic education, already in the first decade after the war. The agrarian reform[139], the literacy of the country, and other factors contributed to obtaining maximum popular consensus. On the other hand, there was a radical change in productive and social relations. All the factors of social life acted against religious life. The abolition of the clergy of all religious communities, religious practices, and places of worship was carried out without any resistance. The people, indoctrinated for two decades, watched these events with veiled consent.

Initially in the post-war period, the people's democracy state implemented a permissive and protective religious policy which gradually became more restrictive over time, eventually leading to the total suffocation of the religious phenomenon and related freedoms, through the implementation of definitive religious persecution in complete and total tranquility, without any resistance from the people. The enthusiasm for ideological purification, pride, and zeal in the rapid construction of a new atheist society became dizzying. This led to the first generation of atheists, dealing a decisive blow to religion[140].

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[137] On the topic, see: E. Jaques, Shqiptarët, Istanbul, Kartë e Pendë, 1996; D. Sadikaj, Pozita e fesë në Shqipëri në kushtet e sistemit komunist, Tiranë, 1972; S. Hysi, Historia e komuniteteve fetare shqiptare, Tiranë, Mësonjëtoria e parë, 2006, throughout.

[138] The new constitutional text, promulgated with Law No. 5506 on December 28, 1976, proclaimed the state atheism as the distinctive feature of the socialist and popular Republic of Albania, in Articles 37 and 55. http://licodu.cois.it/?p=383.

[139] L. n. 108, 29 08 1945, on the Albanian lland reform (*Për Reformën Agrare*).

[140] Regarding the topic, see: P.R. Prifiti, Albania: towards an atheist society, in B.R. Bociurkiw, J.W. Strong (eds.), Religion and atheism in the USSR and Eastern Europe, London, Basingstoke, The Macmillan, 1975, pp. 388-404; G.P. Tozzoli, Il caso Albania, L'ultima frontiera dello stalinismo, Milano, 1989; H. Hako, Gjygj zotit, Tiranë, Shtëpia Botuese e Librit Politik, 1972; H. Hako, Ateizmi shkencor, Tiranë, SHBLU, 1983; H. Hako, Paraziti shekullor i planetit: vatikani pa maskë, Tiranë, Shtëpia Qëndrore e Krijimtarisë Popullore, 1984; H. Hako, Mbi përvojën e luftës kundër fesë në R.P.S.SH. Konferenca kombëtare për problemet e ndërtimit socialist. Tiranë, 1979; G. Iljaz, Veprimtaria reaksionare e klerit katolik në fushën e arsimit, Tiranë, 1978, passim.

The fall of the Berlin Wall, the end of isolation, and the new democratic projection of the State led to a renewed discussion about faith and religion after decades of religious obscurantism, conditioned by the declaration of state atheism contained in the 1976 Constitution. The process of researching and recovering one's religious roots is restarted, sometimes successfully and other times not, and relations are redrawn with both traditional and newly emerged religious communities, according to lines of relationships that are tendentially coherent with their institutional and normative history.

The current stage of our knowledge on the fraternal coexistence and inter-religious diversity in Albania highlights, above all, the considerable deficit of academic debate on the matter, the lack of publications on the subject, and the absence of courses on religious law and the history of religious law in university *curricula*[141]. This liberal view/condition should not support or opportunistically encourage the absent academic and political interest regarding the phenomenon. Our economic condition raises concerns as poverty is still an explosive mix that can be easily manipulated through prejudices and stereotypes. Man becomes an enemy of what he does not know, humanity is an enemy of what it does not know[142].

- The choice of the topic and its reasons:

This is precisely the basic reason for choosing the profile of this research work. I hope that this contribution will help activate the necessary attention of our academic world so that what this people has been able to testify with its existence no longer remains in the shadows and we do not have to apologize to future generations, leaving uncomfortable surprises behind the corner.

The good omen of this work is for the possible contribution in completing the historical and normative puzzle of the religious habitat of the country and deepening the knowledge of its roots, in order to better know and understand itself in view of future challenges.

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[141] An attempt has been made to overcome these shortcomings, at least in part, with the International Symposium organized by the Autocephalous Orthodox Church of Albania, 2000 Years Church Art and Culture in Albania, held in Tirana on November 16-18, 2000, the proceedings of which were published by the Autocephalous Orthodox Church of Albania in Tirana in 2005.

[142] Father E. Brahimaj, Bektashi Community in Albania, "*Religions and civilizations in the new millennium. The case of Albania*", Tirana, Publication of Albanian Centre for Human Right, 2004, pp. 134-140.

Quoting the saying of Imam Ali, one of the greatest masters: "Men are enemies of what they do not know." [...] In the end, the greatest disaster is that this position is also taken by men of science and knowledge, in whom God and religion have placed great hopes for the true emancipation of society.

An environment so favorable to the conditions of a plural religiosity without preferences and prejudices has not been and is not the product of occasional circumstances. The knowledge of the reasons is a reason and an obligation that falls especially on the academic world.
The economic future of the Balkan area as well as that of the continent, due to globalization, is not at all rosy. The lively evolution of the relationship between State and religious communities in Albania and the lack of development of religious sentiment are auspicious, as they offer a very valid range of tools available, which greatly facilitate the prospect of preventive legislation in this field, absolutely not to be underestimated. We cannot consider ourselves immune from possible risks of sporadic religious radicalism precisely because no one can be so, especially in our conditions. It remains the duty of the State to develop and renew the regulations in due time and "seize the moment", following our best experiences, with awareness of our past and due attention to the future. It is the responsibility of the academic world to illustrate our past and present condition in order to know and not forget.

2. Genesis of History and Religious Law

The results of this work must be necessarily divided into four parts: Before Independence; From Independence to the Ahmet Zogu regime; From the Zogu regime to the Second World War; Post-communism and transition.

The profile of the first part is deeply marked by the perpetual invasions that this borderland between the East and the West has collected over the millennia and by the deep spirit of survival, resilience, and adaptation that characterizes the Albanian people. Precisely from this perspective, the impact of the Roman Empire initially and subsequently the Slavic and Ottoman occupations are revealed in the evolution of the Albanian religious spirit.

Initially, due precisely to polytheism and the marked Roman tolerance, the alignment of the country in the religious context of the Empire and the consequent Christian initiation. The absorption of such open cultural characteristics was the first step towards the condition of the profile that distinguishes Albanian religiosity today, before and at its genesis.

For this reason, following the Christian assimilation of the Illyrian populations, there were no traces of rejection or major contrasts that could affect the chronicles of the time. Everything proceeded peacefully and spontaneously. Christianity was experienced with enthusiasm as something new and as a projection of prosperity.

The millennial adherence of the Illyrian population to Christianity underwent a first test and confirmation, under the same sign, with the schism of the Christian religion that showed the almost autoimmune reaction of the indigenous population, although the process fully affected the territories of Illyricum and divided them in half. The reply is distinguished by a high sense of adaptation and clan pragmatism, rather than a spirit of one's own religious identity. There were no signs of religious fanaticism or conservatism of any kind. The awareness of the peripheral relevance of the local reaction was well present and conscious, with consequences that resulted in maximum permissiveness and indifference. This was in the religious field; as far as territorial dominations are concerned, the subsequent Slavic invasions, even though under the banner of the fraternal Orthodox religion, provoked a strong national reaction and continuous bloody struggles until the arrival of the Ottomans, who put everyone under their dominion and control, eliminating regional/local conflicts.

The long and progressive Islamic conversion of the population that lasted for many centuries repeats history, in a sense, under the same guise, as the religious pluralism that Islam experienced, without projecting a contrast with the local Christianity, further amplifies religious indifference and opportunism. Islam, as the state religion and bearer of its interests, conditions/imposes maximum tolerance in all conquered territories, allowing and favoring the adherence of previous religious experiences to avoid conflicts of religious profile, further favoring national religious characteristics.

Conditions of adaptation/alignment are created, which will characterize religious behavior in the territory even more. All this further consolidates the spirit of indifference, permissiveness, and religious pragmatism.

After many centuries, we come to the second relevant part of our journey: the eve of national independence.

The outcomes of this work are necessarily divided into four parts: Before Independence; From Independence to the Ahmet Zogu regime; From the Zogu regime to World War II; Post-communism and transition.

The profile of the first part is deeply marked by the perpetual invasions that this borderland between the East and the West has collected over the millennia and by the profound spirit of survival, resilience, and adaptation that characterizes the Albanian people. From this perspective, the impact of the Roman Empire and later the Slavic and Ottoman occupations can be seen in the evolution of Albanian religious spirit.

Initially, due to the polytheism and the marked Roman tolerance, the country aligned itself with the religious context of the Empire and the consequent Christian initiation. The absorption of these open cultural

characteristics was the first step towards the profile that distinguishes Albanian religiosity today, both in the past and at its genesis.

For this reason, after the Christian assimilation of the Illyrian populations, there were no traces of rejection reactions or major contrasts that could have affected the chronicles of the time. Everything proceeded peacefully and of its own spontaneous will. Christianity was experienced with enthusiasm for the new, in pursuit of prosperity.

The millennial adherence of the Illyrian population to Christianity underwent its first test and confirmation, under the same sign, with the split of the Christian religion, which showed the almost autoimmune reaction of the native population, although the process affected the territories of Illyricum and divided them in half. The response is distinguished by a high sense of adaptation and clan pragmatism, rather than a spirit of religious identity belonging. There were no signs of religious fanaticism or conservatism of any kind. The awareness of the peripheral relevance of the local reaction was well present and conscious, with consequences that led to maximum permissiveness and indifference. This is in the religious sphere, regarding that of territorial domination, the subsequent Slavic invasions, even under the banner of the fraternal Orthodox religion, provoked a strong national reaction and continuous bloody struggles until the arrival of the Ottomans, who put everyone under their dominion and control, eliminating regional/local conflicts.

The long and progressive Islamic conversion of the population lasting for many centuries repeats history, in a sense, in the same guise, as the religious pluralism that Islam has known, not projecting any contrast with the local Christianity, further amplifies indifference and religious opportunism. Islam as the state religion and bearer of its interests conditions/imposes maximum tolerance in all conquered territories, allowing and favoring the adherence of previous religious experiences to avoid conflicts of religious profile, further favoring national religious characteristics.

The conditions of cyclical adaptation/alignment are created, which will characterize religious behavior in the territory. This consolidates even more the spirit of indifference, permissiveness, and religious pragmatism.

With the passing of so many centuries, we come to the second relevant part of our journey: the eve of national independence.

The regional geopolitical momentum found in the territory a favorable habitat for the aspiring Albanian state, contrary to what could be seen and believed from outside and from above. The pluralism of Islamic brotherhoods, their constant and marked tolerance, and, last but not least, the Ottoman cultural revolution of the nineteenth century, based on the secularization of society and institutions, not leaving behind any conflicts of an inter-religious nature, have

privileged the abandonment of the cardinal problem: the possible instrumentalization of the country's plural-religious condition and its potential destabilizer. The conditions are mature.

Especially and thanks to the religious opportunism of the time, the plural-religious condition in which the country was sailing no longer presented insurmountable obstacles for those who had the intuition that the future

The first example is the Council of Elders (Pleqesia) [143]: the first of a well-defined line. Its composition is a testament to the secular and guarantor projection and the privileged equidistance of the State in its relations with religious communities.

It is within this content perspective that the CNC's work in drafting the first constitutional charter, the Organic Statute, 1914, unfolds.

Materializing the first constitutional framework of its kind, the Statute pays particular attention to the religious composition of the country, always in the name of secularism and the centrality of the State and the Prince's figure. It enunciates and guarantees religious pluralism and the constant function of state control in relations with the various faiths.

It proclaims the absence of a state religion (full secularism) and guarantees the free public exercise of any faith, excluding any possible discrimination based on different religious affiliations in the possession of all rights. It confirms equal standing between religions (equal dignity, rights, and responsibilities) at the organizational level of the constitutional structure as well. The CNC, through the Statute, shows great attention to local customary law, reflecting/revealing the traditional collegial component at the parliamentary representation level. The legislative body of the Principality of Albania is composed not only of elected members and those appointed by the Prince but also of members identifiable ex officio by the Constitution: the highest representatives of religious communities. This reference is not only symbolic of the traditional/indigenous continuity solution but also a solid point of reference for the future.

The 1914 Statute initiates/establishes the pillars of what will later become the normative production at all levels, starting with the constitutional one. It also imposes the requirement of 'Albanian nationality' and 'residence in the Principality' for the chief representatives of religious communities, primarily sanctioning their mandatory national bond. This instrument directly affects the future self-referential/autocephalous projection of Albanian religious confessions and their nationalization. This is reaffirmed by the particular and

[143] Organ elected by the National Assembly of Vlora, proclaimer of the country's independence and creator of the first Albanian constitutional institutions born on nationalist foundations.

significant attention given to key moments of religious life, such as the recognition of communities, their properties, their income, their tax regime, their investiture act, and state funding, etc.

Furthermore, it strongly impacts the future nationalization/ Albanianization of the religious habitat, foreseeing that high clerics and their leaders, heads of Albanian communities, would have to receive investiture from the Prince, while they would remain free to organize themselves in matters of dogma, in their endo- and exo-communitarian relations and interaction with central seats and spiritual leaders. This last provision, as we have seen, has been narrowing in a nationalistic perspective. These relations will be regulated in the future by specific agreements to be concluded between the Principality's Government and the religious leaders and their respective faiths, based on the principle of bilaterality in relations with religious communities. It was precisely this principle, introduced by the Albanian order, that later allowed for the exercise of an accentuated model of state authoritarianism in relations with religious communities under Ahmet Zogu's government.

The end of World War I brings the country back to the same existential issues related to independence and territorial governance and puts everything back into play, while the Congress and the Statute of Lushnje cautiously express for the first time the autonomous national will, still within the framework previously drawn by the international factor (Statute 1914). The constitutional axis triangle confirms the High Council at the top of the state pyramid, a collegiate body (Presidium/Collegiate Head of State) guarding the power hierarchy, with regency functions towards the King. Its composition of four members, the highest leaders of traditional Albanian religious communities, reflecting the country's religious affiliations and carrying out their representational functions collegially, is neither coincidental nor accidental. The Statute of Lushnje chooses to place at the head of the country, with royal regency functions, the highest representatives of religious communities rooted in the country. This choice confirms the perspective already materialized in the 1914 Statute by the CNC, elevating the ex officio parliamentary figure/component to a collegiate body at the top of the state.

It should be noted that the return to customary traditions favored by international actors as the best solution for the inter-religious condition, considering the clan-based nature of Albanian society, is merely a reiteration. Equal dignity between traditional religious confessions is reaffirmed and highlighted at the summit, representing the unity of the state and the nation.

Although three more constitutional statutes will be issued later (1922, 1925, and 1928), none of them address the religious issue with the breadth and depth of the Organic Statute, 1914. The religious issue and the state regime are

considered off-limits topics, due to the delicacy of their content and the broad consensus they require, thus prerogatives of the Great Powers and later the National Constitutional Assembly. This is until the right dose of government authoritarianism and territorial direction matures, allowing the completion of the final design with Zogist legislation.

Following in the footsteps of the Statute of Lushnje, the "Expanded/Extended Statute of 1922" also addresses the subject with great parsimony and caution, due to the conflict that was feared to arise on the inter-religious issue.

Indeed, the only two articles of the "Expanded/Extended Statute of Lushnje" of 1922 that address the subject were enough to provoke the sharpest debate/contrast recorded on the entirety of the articles discussed in the Statute, both in the parliamentary commission and the assembly, while the figure of the High Council, as the top constitutional body, is reaffirmed as absolutely central.

The Statutes of 1925 and 1928, although they reverse the form of the regime from monarchy to republic and vice versa, do not bring any variation/evolution in the religious sphere, fully and unchangedly incorporating the articles of the 1922 Statute. They also take into account the innovations brought by the 1923 Decree and its provisions regarding religious associations, integrating them into the respective articles 120 (Constitutional Statute 1925) and 219 (Constitutional Statute 1928), while the latter introduces for the first time the concepts of freedom of thought and conscience, offering them a guarantee of observance.

In all three consecutive Statutes/Constitutions, the format of relations between the State and religious communities remains almost unchanged, remaining within/under the framework of provisions issued by the Organic Statute, 1914.

Constitutional changes require the production and subsequent adjustment of secondary legislation, which, with the right agility, completes the regulatory landscape with the best auspices of nationalism and unity of the country.

After the Statutes of Lushnje, religious communities prepare to assume the national dimension of their organization through their new Statutes. Emblematic among them and with an innovative format, the Congress and the 1923 Statute of the Sunni Community aim to bring changes to further strengthen the Sunni national identity, introducing radically innovative interpretations both in the field of dogma and doctrine, producing autonomous theological elaborations. The strength of the gesture, not only symbolic, of the religious majority of the country leaves its mark.

The Bektashi Statute and the Orthodox Statute follow.

Having established the alignment through the approval of the Statutes of the main religious communities in June 1923, with the issuance of the Decree on the Legal Statute/Status of Religious Communities (Statuti Legal i Komiteteve Fetare), the time comes to bring the recognition of the legal personality of the cults to civil/private legislation. For the first time, religious communities are recognized and equated with religious associations, with legal capacity in profile/private law.

The 1923 Decree, following in the footsteps of the 1914 Organic Statute, but this time with a further nationalistic projection, limits/identifies the exclusively spiritual and dogmatic ties that can be established with the great religious centers abroad and integrates/lists, among other things, the characteristics that hierarchs/high clerics must possess: Albanian citizenship; mastery of the Albanian language; enjoyment of civil and political rights; belonging to the Albanian ethnicity or Albanian descent from three generations, etc. The level of centralization and control undergoes its first step towards the "authoritarian" model, which will characterize, not long after, the Zogist decade.

The decree proves capable of effectively and innovatively projecting the new conception of religious confessions to guarantee confessional pluralism, using private law as a basic instrument and inserting religious associations into the traffic of common rights, like other private/civil profile associations. The solution will be taken up/favored in the years following the fall of the communist regime.

The following Statutes and Legislative Decrees embody a growing amplification of the centrality of the State in confessional life and in the Albanianization of faith, culminating in the 1929 Decree, which solidifies an almost/para-despotic regime in relations with religious communities. All of this, although this time it is presented under an ultra-centralist reading, found its roots and the setting of will in the framework of the 1914 Organic Statute and customary permissiveness.

It can be firmly stated that it is an articulated decree, designed to regulate the formation and activity of religious communities, showing particular attention to their Statutes and the acquisition of legal personality, in view of the provisions on legal persons treated, finally, this time in the new civil code.

The Decree stands out for the amplified/emphasized gravitational force recognized to the State and to the King/Monarch, in particular in relations with religious communities, with a view to the nationalization of the religious context, already timidly started with independence and the Congress of Lushnje.

In conclusion, all three reformed Statutes after the 1929 Decree-Law voluntarily undergo the strong jurisdictional imprint of the monarchical legislation. There is an open and blatant complicity between the State and

religious communities in resizing the pre-existing relations between them to establish/start the new nationalist order in favor of the unity of the country and the Albanianization of religious communities.

Another point of convergence between the Statutes, always in the same line, is the provision concerning Albanian nationality and citizenship for all active clergy members.

Bektashi, Orthodox, and Sunni, in addition to reforming and appropriating their Statutes to the new national needs, breaking definitively and respectively with the central religious Seats, contribute progressively to the nationalization of religious customs, primarily consolidating the use of the Albanian language as a constant and irreversible liturgical instrument.

It is affirmed with certainty that the path towards the nationalization of religious customs was in full phase of consolidation/implementation. All for the benefit of national unity.

The exception made by the Catholic Church in the alignment process of religious communities traditionally rooted in Albania, in support of national unity, demonstrates once again the fundamental role that the international factor has played in this regard.

In the finalization of this process, the role of Ahmet Zogu is fundamental and decisive, whose path and ascent began with the first intervention of his matrix/initiative, the 1923 Legislative Decree, the impact of which went beyond the national territory, bringing to the benefit of those who issued it (at the time Minister pro tempore of the interior), the utmost attention, allowing him to make it his political battle horse, precisely because the crisis of interreligious relations was the greatest danger/obstacle that could threaten the unity of the nation. Indeed, from the same, it was used as a political conflict argument and expansion of consensus in the international context. It is in this context that Ahmet Zogu's political rise began, which later became Prime Minister, President of the Republic, and then King. His interventions and policies on the matter leave an indelible mark on the relations between the State and religious communities.

It is precisely thanks to them that even today Albania manages to stand out for the cutting-edge solutions elaborated and selected at the beginning, to be partly resumed later, in the post-communist transition period, and still today.

With his proclamation as King of Albania and Albanians, Ahmet Zogu completes his project through the issuance of the Statute/Constitution of December 1, 1928, and with the Decree of July 4, 1929.

It is not a coincidence. Ahmet Zogu's policies on the matter are clear and decisive, as well as synthetic. The same will be articulated in detail by the new Decree-Law. With his establishment on the throne, he began a new phase of

interventions in the legal system, which saw the country equip itself with codes and a cutting-edge legislative body in line with the most advanced Western systems.

With his particular sensitivity shown towards the religious condition of the country, he managed to attract the right attention, especially from the international context, which for the same reason rewarded and promoted him at various levels, up to crowning him as King/Monarch. In confirmation of this, we find the 1914 Statute in which the International Control Commission expressed a very high attention to the current interreligious condition of the country and not only.

The analysis of basic norms and constitutional choices at the beginning of the new State proves a high ability to adapt to circumstances, in function of existential needs and the necessities of building the new State.

In addition to the regulatory component, the cohesion of the socio-national fabric was decisive. Extreme poverty and the hope that with a free and united country, rampant misery could be defeated determined the union despite the religious "pluridivision".

It is not at all easy, for the distinguished and congenital pride that characterizes us, to admit that not everything is our merit in having institutionalized the condition of fraternal and peaceful religious coexistence. However, this certainly would not have been possible without our religious atypicality, perhaps better defined as religious opportunism, conditioned by the economic situation and the positioning of the country on the border between two cultures and civilizations.

The careful sensitivity poured in this direction, in the final act of independence and subsequently by the international community with the first constitutional Charter obtained, has reconfirmed the path of peaceful and enduring plurireligious condition, within the new framework of full secularism.

It is on these footsteps that much of our post-communist religious system is contextualized, characterized by a long and agonizing transition that sees the country swing from one extreme to another, from the most ironclad communism to "far west" capitalism without rules.

Following the fall of the Berlin Wall, the last decade of the 20th century was marked by chaos, disorder, and a lack of effectiveness of the state, accompanied by a weak exercise of control and surveillance powers that would transform into a crisis[144].

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[144] On this subject, see: R. Morozzo Della Rocca, Albania: le radici della crisi, Milan, Guerini e Associati, 1997, throughout the book; E. Kalldremxhi, Albanie au bord du gouffre: bibliographie sélective d'articles ayant traité de la crise albanaise, de son évolution et des

The clergy quickly reorganizes to regain prestige and privileges, including economic ones, to the detriment of the radical secularization of the country. The collective trauma of the transition[145] into the new system is widespread, and poverty is increasingly pervasive. The impact, after decades of ironclad isolation and endemic backwardness, is staggering. The marked tendency towards immigration and emigration[146], as a spontaneous solution to the emergency, exacerbates the dramatic nature and confusion of the internal situation in the country. Due to necessity and previous isolation, there is an extreme openness and strong alignment with everything that came from abroad, accompanied by repercussions also towards the religious phenomenon. Last but not least, in the new millennium, the consumerist and materialistic model of postmodern capitalism, in the form of homos aeconomicus, will influence the spiritual and religious condition of this recently ex-atheist people[147].

While this is the general picture of popular religious sentiment, the state relies on the new capitalist economic and political model, making its first efforts at the level of constitutional regulation and the issuance of ordinary/secondary legislation. Unfortunately, it does so by losing one of its central characteristics of approach to the religious world/model, achieved since independence: the gravitational force of nationalization/Albanianization of religious life. Perhaps due to possible feelings of inferiority and/or guilt, at first, it "avoids hindering" the relationships of domination/submission of our religious communities

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craintes qu'elle fait naitre (février-8 juillet 1997), Sion, Bibliothèque Cantonale du Valais, 1998; D. Vaughan-Whitehead, Albania in crisis. The predictable fall of the shining star, Northampton, Cheltenham, Edward Elgar, 1999; A. Ademi, Në ditët e shtetit pa pushtet, Tirana, Dardania, 1998, throughout the book.

[145] On the subject, see: S. Bianchini, G. Schöpflin (eds.), State building in the Balkans: dilemmas on the eve of the 21st century, Ravenna, Longo, 1998; E. Lhomel (coordinated work), Transitions économiques à l'Est (1989-1995), Paris, Documentation Française, 1995, throughout; F. Tarifa, M. Spoor, First decade and after. Albanian's democratic transition and consolidation in the context of Southeast Europe, Hague, Cestrad, 2000; E. Biberaj, Albania in transition. The rocky road to democracy, Boulder, 1999; S. Madani, Shënime për tranzicionin tonë: kronikë mbresash, Elbasan, Rama Graf, 2011, throughout.

[146] On the topic, see: H. Myrto, Albanians at the door: documents of the exodus, Lecce, P. Manni, 1991; P. Resta, People on the move. Albanian migrations to Italy, Lecce, Besa, 1996; G. Da Molin (ed.), Albanian immigration in Puglia. Interdisciplinary essays, Bari, Cacucci, 1999; A. Negrini, A. Riccardi, Muslims among us. Catholic Church and Islamic immigrants in Europe. The German example, Caltanissetta-Rome, Salvatore Sciascia, 1999; Albanian Center for Migration Studies, Current situation of Albanian emigration, Tirana, 2004; R. Devole, Albanian immigration in Italy: data, reflections, emotions, Rome, Agrilavoro, 2006, passim.

[147] The topic is discussed in: H. Hako, Anti-Zot: on the optimal standards of the status of religious communities in modern democracy, Tirana, Uegen, 2013, throughout.

(during the 1990s) by the central religious authorities abroad, newly established[148], allowing them to exercise an overwhelming influence to the detriment of the national dimension[149]. As confirmation/example, the case of the election by the Holy Synod of the Orthodox Patriarchate and all the bishops, including the Archbishop in Albania, can be mentioned.

Let's remember that, due to such religious sentiment, in Albania, the state in earlier times, such as during the reign of King Zog, did not succumb to the pressure of communities when legislating on matters of religion and worship. In this context, not forced into compromises, it was able to prepare and promulgate strongly secular legislation.

This is also where the final part of these synthetic/conclusive considerations begins.

History repeats itself once again, as constitutional matters are approached with great caution, prudence, and timidity[150], until the decisive

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[148] In his work "Pluralism of Faith and Religious Communities in Albania,"(*Pluralizmi i besimit dhe komunitetet fetare në Shqipëri)* G. Cimbalo notes that the Albanian legal system has increasingly granted greater space and support to religious communities in order to facilitate their reconstruction. This support includes tax exemptions and privileges, as well as avoiding obstacles to their relationships with their overseas headquarters. The Albanian government also encourages efforts by religious communities to re-establish themselves in civil society, while also promoting the development of their doctrinal and cultural practices. Overall, these efforts reflect a positive trend towards greater recognition and support for religious diversity and pluralism in Albania.

[149] Despite the phenomenon being subsequently diminished, the national scale of religious communities in Albania has been permanently altered. As a result, in the new millennium, Albania has been forced to confront extreme conditions of religious radicalism, previously unknown in the country, such as the presence of Albanian and Kosovar militants in jihadist and Al Qaeda-affiliated groups like Al Nusra and ISIS, operating between Syria and Iraq.

[150] The first constitutional provision implemented through the Constitutional Law No. 7491, dated 29.04.1991, which materialized the era of political pluralism, provided in a very concise manner in Article 7 that: The Republic of Albania is a secular state and as such respects the freedom of religious belief and creates the conditions for its exercise. http://licodu.cois.it/?p=365&lang=en
Furthermore, in the supplementary provision of the Law No. 7491, dated 29.04.1991, which was amended by the Constitutional Law No. 7692, dated 31.03.1993, the freedom of conscience and religion is declared inviolable and is integrated into the catalog of fundamental rights and freedoms (Article 18). "Everyone is free to change their religion or belief and to manifest them individually or collectively in public or private through worship, education, practices or rites. The freedom of religious expression or one's own belief cannot be limited except in cases provided by law..."
http://licodu.cois.it/?p=367&lang=en

international intervention and accession to the Council of Europe. The new transitional constitutional framework, initiating democracy and political pluralism[151], does not include provisions specifically protecting religious freedom and/or relations with religious communities and remains free from articulations aimed at better defining relations with worship and its free exercise. It presents itself as of a general nature and in line with legal tradition, reaffirming the secularism of the state and religious freedom, equally/already introduced with the Organic Statute of 1914.

The non-existent/lacking regulatory framework at the primary and secondary level left religious communities facing different choices in operating within an absent legal framework for the administration of their activities. These conditions of regulatory vacuum allowed for the reconfiguration of the relationships between the traditional religious communities of the country and the Central/Global religious headquarters and their operational structures at the international level, to their own disadvantage and subordination. Once again, the country's economic condition affects its content. The Sunni Muslims feel the weight and influence the most, as they have even more to offer as representatives of the country's religious majority. It is they who have offered, in due course, the greatest contribution to the Albanization of the country's religious customs. The communities improvise and work through various institutions connected to them[152], in order to be legally present and operate in the national territory. The legislative vacuum in this area is such that they resort to using temporary regulations that can satisfy the immediate needs of religious communities to restart after decades of hibernation. In the early 1990s, immediately after the fall of the regime, under conditions of regulatory vacuum, there were atypical forms of presentation/creation of the same, such as their registration with the District Courts as non-profit associations[153]. This particular solution indicates one of the possible ways for immediate operation and influenced the profile and content of the subsequent regulatory solution of continuity for religious communities in Albania.

Initially, the 1994 Civil Code[154] helps to bring order to the great confusion that reigned in the country. The same methods of using common law

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[151] The constitutional amendments No. 7491, dated 29.04.1991, http://licodu.cois.it/?p=365 e nr. *7692, of 31.3.1993,* http://licodu.cois.it/?p=367

[152] The Catholic Church initially used the structures of Caritas Italiana in this direction.

[153] The Law No. 2362, dated 16.11.1956, "On non-profit social organizations," was later repealed by the Civil Code of 1994.

[154] The Law No. 7850, dated 29.07.1994, has a significant impact on the life and activities of religious communities, by regulating the acquisition of civil legal personality and property of the subjects under its jurisdiction. Article 34 states that "Associations are social organizations

of a general nature are also employed for the restitution of religious properties confiscated from communities during communism[155]. Regarding social viability and the exercise of proselytizing rights, the transitional constitutional provisions are complemented by the 1993 Decree[156] of the President of the Republic. To complete the transitional profile, the 1995 Penal Code[157] is approved, which provides the necessary guarantees for the free exercise of activities by religious organizations, the protection of their material assets, and the freedom of expression of beliefs and religious pluralism. Its deterrent and clear strength in a context of total transition and confusion includes the shift from rigid atheism to the protection of religious freedoms, amidst the Balkan religious and ethnic wars that threaten with their extremist potential for conflict in a multi-religious context like the Albanian one.
The peaceful coexistence between religious communities and national unity becomes a top priority in a context of critical transition from rigid state atheism to the protection of religious rights and freedoms. Attention towards religious matters and related issues intensifies.

The adoption of a better-defined constitutional framework, aimed at overcoming the transitional period, brings the international factor back into play, this time with the Venice Commission taking charge. The differences are also felt in the religious sphere. The approval of the new 1998 Constitution[158], which enunciates religious coexistence among the fundamental principles upon which the Albanian state is founded, and the religious communities as part of its social formations.

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that pursue political, scientific, cultural, religious, charitable or any other non-economic purpose," placing the matter under the framework of common law.http://licodu.cois.it/?p=8810

[155] Law No. 7698, dated 15.04.1993, and Law No. 7699, dated 21.04.1993, along with subsequent amendments, created the legal framework for the restitution and compensation of properties to former owners in Albania. These laws aimed to restore the property rights of those whose properties were seized during the communist regime and to compensate those who were not able to have their property returned. The laws provided for the establishment of a special commission to review property claims and make recommendations to the relevant authorities. Overall, these laws were an important step in addressing past injustices and restoring property rights to those affected by them.

[156] D.P.R nr.506, of 03.04.1993

[157] The Law No. 7895, dated 27.1.1995, includes provisions in Articles 131-133 and the following ones regarding.
http://licodu.cois.it/?p=2942

[158] Article 3 of the Constitution of 21.10.1998, http://licodu.cois.it/?p=389

Following this are detailed provisions of religious origin that echo the traditional historical legislation and recall the positivist roots in the subject matter. Individual articles from the 1914 Constitutional Statute[159] are literally reproduced and replicated.

The maximum historical continuity of openness (with the exception of the communist period) towards international institutions is confirmed by provisions[160] that determine the direct application of the ECHR judgments and the jurisprudence of the Strasbourg Court in the Albanian system, with the related impact also on the subject of freedom of conscience and religion, as a further guarantee of supranational protection.

The constitutional genesis legislation[161] is taken up in its entirety, while the national framework is chaotic and full of economic, political, and social

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[159] Starting from Article 10 of the 1998 Constitution, which states that the Albanian state is without an official religion and impartial in religious and conscience affairs, as the guarantor of these expressions in public (first and second paragraph, Article 32, Organic Statute 1914). The same article establishes/restores religious equality, mutual independence between the State and religious communities, and their collaboration through the conclusion of cooperation agreements between them, subject to ratification by Parliament. Religious communities are recognized as legal persons, independent in the administration of their assets according to their own regulations.Following this, Article 18 of the 1998 Constitution, stating the fundamental principle of equality before the law, addresses the issue of religious equality and non-discrimination in the enjoyment of rights for all, including ethnic minority populations (Article 20).The provisions of Article 24 of the 1998 Constitution, which is dedicated to freedom of conscience and religion, follow the same content as the third paragraph (third paragraph, Article 32, Organic Statute 1914). This article professes the freedom to change religion and beliefs, to express them individually or collectively, in public or private, and not to suffer limitations on such freedoms beyond those provided by law. The State plays the role of an impartial guarantor of the right to freely declare and practice religious affiliation.
http://licodu.cois.it/?p=389

[160] Article 167, Constitution 21.10.1998:, http://licodu.cois.it/?p=389

[161] Quoting one of the few authors who has written on the subject, perhaps the only one in Italy, referring to the period of regulatory reference, it should be emphasized that: "The new constitutional charter certainly meets the criteria set by the Council of Europe, but cannot be considered octroyée, as happened for some Balkan countries, especially with regard to the legal nature and freedom of religious communities, as well as the protection of individual and collective religious freedom, because it actually falls in line with the legal experiences that have characterized the Albanian state since its independence. In fact, the secular nature of the state is reaffirmed, already present in the 1914 Statute, as is the recognition regime to which religious communities are subject. The Constitution follows in the footsteps of the country's legal tradition, which, starting from 1923, has adopted pluralism of religions as one of its distinctive features, a position that makes Albania a unique case for the time in which it occurred, not only in European law, but even today among countries where Islam is the majority religion."

contrasts. The permissive/negligent mentality of the religious social environment serves as a context and general framework.

Following the same negligent/inert attitude towards the religious phenomenon and treating the subject with common tones, Law no. 8788 of 07.05.2001 on Non-profit Organizations can be observed. The law treats religious organizations on par with all other non-profit organizations in its entirety, concerning "the creation, registration, management, organization, and operation of non-profit organizations that pursue the public good and interest", considering the former under the category of "Associations, Foundations, and Centers whose activities are conducted independently and without being influenced by the State." It is under this broad and neutral definition of activity, in defense and respect of fundamental human rights, acting under the provisions of the Civil Code, that the activities of religious-profile associations will find their space. The law provides for the possibility of establishing organizations with or without members, regardless of whether they are national or foreign. No reference to any religious element, while the general nature of the law and the unlimited openness to registration for foreign organizations open a valid breach to dismantle the Albanianization of the cults previously conquered. This common law provision offered as a tool also for freedom of organization in the religious sphere, although in full historical continuity with the principle of separation and secularism of the State, demonstrates the extreme weakening of the religious sense and sentiment, negligence, indifference, forgetfulness, lack of knowledge, oblivion.

State atheism brings its account to the table, and the Central religious Seats regain full control of the communities they belong to, introducing conditions foreign to the Albanian tradition.

Any other comment on the matter is superfluous. It should be added for the record that this law allows the Catholic Church to obtain recognition of civil legal personality, so troubled. The post-communist institutional and regulatory framework is finally completed with the establishment of the State Committee for Cults[162], a body designed to manage relations with religious communities and, in particular, to conduct negotiations for the signing of cooperation agreements, as required by the constitution, in line with previous experiences[163] and the regulatory tradition.

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[162] The committee is under the jurisdiction of the Council of Ministers. It is composed of a director and four members. Its organizational structure and rules of operation are approved by the Prime Minister.

[163] During the Zogist period, the relationship between religious communities and the state was managed by the Ministry of Justice, through the Committee for Religious Affairs, the

In addition to the privileged use of ordinary legislation to regulate matters concerning the exercise of religious freedom, traditional and specific legal instruments are also used to better access these rights. Among these, we must mention the signing of cooperation agreements, whose legal configuration is similar to that of negotiated laws, which generally/practically serve as framework agreements, aimed at better personalizing relations with religious communities.

This final framework highlights how much of the normative tradition has been brought back and how much has been lost along the way and the recurring state of popular religious sentiment.

If it is true that part of innate/conditioned behavior is transmitted through generations even by instinct, then it can be argued that Albanians have developed a genetic predisposition over millennia, such as religious indifference, not having been able to establish their own bond with a religion. This fact has miraculously favored the survival of identity and culture at the expense of religious assimilation. All of this, of course, cannot be an immutable condition. The dominium of the mountainous terrain served as shelter, while the innate Albanian pride to which we owe existence, and which has also been crowned with freedom for a hundred years, now makes us reflect on the dark points of our cultural condition, as the result of such a modus operandi. Therefore, we find so much dialogue and harmony among religious communities, but little knowledge of the roots, differences, and history of religious denominations rooted in our territory on the part of the academic world, politics, and consequently also the sovereign, today.

In the meantime, the challenges of the new millennium, globalization, and the fight against terrorism and religious fundamentalism put the Albanian state in a new position compared to the past. Extremist and religious radicalism phenomena have clearly demonstrated their potential range of action at the international level, no longer limited to local and/or national level.

The duty of the state to maintain the proper distance from religious life with appropriate controls, considering the statutory and administrative autonomy of religious communities, must not and cannot hinder preventive legislation regarding potential risks of radicalization of beliefs.

It should not be forgotten that the common elements of areas that stand out in religious fundamentalism are poverty and lack of development.

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predecessor of today's State Committee for Cults. The committee served as a liaison between the state and religious communities and exercised control over them. The same Committee for Religious Affairs, with the same functions, was reinstated after World War II and remained in effect during the communist period until the proclamation of state atheism in the 1970s and the abolition of cults.

Referring back to what was anticipated in the introduction, it is hoped that the contribution will stimulate and activate the necessary attention of our academic world so that the most precious things this people have been able to witness with their existence will no longer remain in the shadows and that one day we will not have to apologize to future generations for leaving uncomfortable surprises around the corner.

The good auspices of this work are confirmed by the contribution to the completion of the historical and regulatory puzzle of the country's religious habitat and the deepening of the knowledge of one's roots, in order to better know and understand oneself in view of future challenges.

Such a favorable habitat for the conditions of a plural religiosity without preferences and prejudices has not been and is not the product of occasional circumstances. Knowing the reasons is a motivation and an obligation that lies primarily with the academic world.

SAMUEL TAYLOR COLERIDGE AND WILLIAM WORDSWORTH AS PIONEERS OF ROMANTICISM

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Abstract

This article examines the collaboration and mutualism of English poets Samuel Taylor Coleridge and William Wordsworth. Wordsworth and Coleridge collaborated a lot and the result of this collaboration was a small volume published anonymously in 1798 under the title Lyrical Ballads with a few other poems which opened with Coleridge's Rime of the ancient Mariner and closed with Wordsworth's Lines Composed a Few Miles above Tintern Abbey. It is a revolutionary manifest about the nature of poetry. It contains his statement of poetry and of the place of the poets in the society. Wordsworth chose incidents and situations from common life and related and described them in a selection of language really used by men. At the same time he throw over them a certain coloring of imagination whereby ordinary things should be presented in unusual way. Coleridge spoke about supernatural things presenting them as something acceptable, as something that really existed. And if we accept supernatural as something real it becomes a part of reality.

The common elements of Wordsworth and Coleridge's poetry.

Wordsworth writes about unusual things in human's life (peasants, ordinary people) but gives them supernatural and original connotation, while Coleridge writes about supernatural, unusual things (character, stories) but makes them usual, normal and very realistic. He tries to make you get involved in the play, an exercise of a willing suspension of disbelief. They are friends; they both have the most important gift that the poet can have – imagination. They both make very successful descriptions (of life, nature and the world that surrounds them) and both believe in the power of language which can be understand by the ordinary people (everyday language).

Keywords: collaboration, imagination, Romanticism, nature, English poets, Lyrical Ballads, power of language

4. Introduction

In the spring of 1798, a young William Hazlitt was walking with his idol, the poet Samuel Taylor Coleridge, when the two men encountered a fisherman who told them about a boy who had drowned the day before. The fisherman had risked his life trying to save the boy, explaining, as Hazlitt later remembered, that "he did not know how it was that they ventured, but, Sir, we have a nature towards one another."

The interconnectedness of all things was one of the main themes of Coleridge's poetry that year, a momentous one in the history of English literature. In June 1797, with Britain at war with revolutionary France, 24-year-old Coleridge retreated to the Quantock Hills of Somerset County, where he befriended another poet, the then-unknown William Wordsworth, 27, who lived nearby with his beloved sister, Dorothy. The two men had previously met, corresponded, and admired each other's work; Coleridge already thought Wordsworth "the best poet of the age." Now, in the refuge of the Quantocks from that summer to the next, their friendship blossomed, and so did their writing.

They were different in so many ways, each embodying distinct strains of Romanticism. Coleridge, a bit slovenly, was generous, expressive, and easily moved by the iridescent beauty that he sensed around him. He had a strong religious, even mystical, sensibility. Wordsworth, brooding and distant, had a keen sense of his own greatness and was once seen walking in the moonlight in a black fur cap and green gown looking like a "grand Signior," as Dorothy recalled. The tension in their ways of being ultimately undid their friendship, but not before it spurred their poetry. Their opposing spirits pushed and pulled against each other that year, unleashing some of the most celebrated poems in the English language, from Coleridge's "Kubla Khan" and "The Rime of the Ancient Mariner" to Wordsworth's "We Are Seven" and "Tintern Abbey." Their time together culminated in the publication of Lyrical Ballads, which ushered in the Romantic movement, forever changing the course of English literature.

William Wordsworth literary output and style

William Wordsworth is one of the most accomplished and influential of England's romantic poets whose theories and style created a new tradition in poetry. Wordsworth's first published poetry were the collections *An Evening Walk* and *Descriptive Sketches.* He and Coleridge met almost daily, talked for hours about poetry, and composed together. The result of their joint effort was a small volume published anonymously called *Lyrical Ballads* (1798). It opened with Coleridge's *The Rime of the Ancient Mariner* and closed with Wordsworth's descriptive and meditative poem written in blank verse *Tintern Abbey. Lyrical Ballads* announces a new style and a new spirit in poetry. Representing a revolt against the leading artificial classicism of contemporary English verse, *Lyrical Ballads* were greeted with hostility by most critics of the day. Wordsworth's contribution to *Lyrical Ballads* consisted

chiefly of his use of ballad form in shaping its traditional subjects and striving to find an appropriate language. For Wordsworth the standard English was appreciated for poetry. Two years later, during which time the first edition sold out, Wordsworth published a second edition under his name *Second Edition of Lyrical Ballads and Preface* (1800), to which he added a second volume of poems, many of them written in homesickness during a long and cold winter during his stay in Germany. In the second edition he included series of poems called *The Lucy Poems.* Among the other works, the most notable is his powerful tragic poem *The Ruined Cottage.* He died at the age of 80, and only then was his masterpiece published, *The Prelude,* an autobiographical poem. Most of his greatest poetry is published within *Poems in Two Volumes* (1807) *(ode: Intimations of Immortality* – in which he expresses his thoughts of immortality as he was a child) and *The Excursion,* after which there is an overall decline in his powers as a poet.

William Wordsworth for subject matter, language, imaginative quality poet, poetry, imagination and nature (from Preface to Lyrical Ballads)

Subject matter – he rejects the traditional principle of "decorum" (the contemporary emphasis on form and an intellectual approach that drained poetic writing or strong emotion) according to which the subject matter and the level of diction are contrived by the poet to conform the status of the literary kind of the poetic scale. He deliberately chooses to represent incidents and situations from common life and to relate or describe them with certain coloring of imagination. He is justifying his use of peasants, children, outcasts, criminals and idiot boys as a serious subject of poetic and even tragic concern.

Language – he says that he will write in "a selection of languages really used by man" on the grounds that there can be no essential difference between the language of prose and metrical composition. He will write in simple/ordinary language so that he can be understood by everyone.

Imaginative quality – has the primary role in keeping human beings emotionally alive and morally sensitive i.e. keeping them essentially human in the modern era of technological and urban society.

Poet – the poet is a man speaking to a man, endued with more lively sensibility more enthusiasm and tenderness. He has a great knowledge of human and nature and a more comprehensive soul. The poet has a gift to be affected by absent things as if they were present and fusing the past and the present into a work of art.

Poetry – the spontaneous overflow of powerful feelings, it is the image of man and nature, the object of which is truth carried by passion. Poetry is a breath and finer spirit of all knowledge – it is as immortal as the heart of man. Poetry originates from "emotion recollected in tranquility". It is an emotion stimulated by the nature and related outwards, than variously applied or illustrated by moral and social incident.

Imagination – is the most important gift that a poet can have, he is aware that a mere creation is not enough and that it must be accompanied by a special insight. Imagination is another name for absolute power and clearest insight, amplitude of mind and reason in her most exalted mood.

Nature – has its independent existence and imagination in some sense must conform to nature. The existence of nature is just as powerful as the existence of mankind and that is why it should not be denied. The highest state is when the soul of nature and the soul of man are united.

Poetic assignments that Wordsworth and Coleridge had in the Preface of Lyrical Ballads:

Wordsworth and Coleridge collaborated a lot and the result of this collaboration was a small volume published anonymously in 1798 under the title *Lyrical Ballads* with a few other poems which opened with Coleridge's *Rime of the ancient Mariner* and closed with Wordsworth's *Lines Composed a Few Miles above Tintern Abbey*. It is a revolutionary manifest about the nature of poetry. It contains his statement of poetry and of the place of the poets in the society. Wordsworth chose incidents and situations from common life and related and described them in a selection of language really used by men. At the same time he throw over them a certain coloring of imagination whereby ordinary things should be presented in unusual way. Coleridge spoke about supernatural things presenting them as something acceptable, as something that really existed. And if we accept supernatural as something real it becomes a part of reality.

The common elements of Wordsworth and Coleridge's poetry

Wordsworth writes about unusual things in human's lies (peasants, ordinary people) but gives them supernatural and original connotation, while Coleridge writes about supernatural, unusual things (character, stories) but makes them usual, normal and very realistic. He tries to make you get involved in the play, an exercise of a willing suspension of disbelief. They are friends; they both have the most important gift that the poet can have – imagination. They both make

very successful descriptions (of life, nature and the world that surrounds them) and both believe in the power of language which can be understand by the ordinary people (everyday language).

Both William Wordsworth and Samuel Taylor Coleridge were pioneering poets of English Romanticism. Both men were part of a sort of first wave of the movement (while younger poets, like Keats, Shelley, and Byron, were of the next wave). Wordsworth even established some of the key traits and ideologies of Romanticism in his *Preface to Lyrical Ballads.* The Romantic markers, like free expression of emotion and writing about ordinary life and nature, are established there.

Most of Wordsworth's well-known poems are reflections on nature and country life. He does have some more political offerings as well, though. Coleridge's poetry, like his most famous long work *The Rime of the Ancient Mariner*, has a bit more gothic edge than we see in Wordsworth's poetry. However, both men were proponents of individual expression and valued emotion over reason. Both men were supporters of the French Revolution and its emphasis on individual liberty and the end of monarchy. Both men influenced and defined some of the parameters of the Romantic movement while also remaining informed of the political contexts of their era.

Samuel Taylor Coleridge (1772-1834)

Samuel T. Coleridge literary output

He was the poet who together with his friend Wordsworth was a founder of the Romantic Movement. His despairing farewell to health, happiness and poetic creativity had been described in *Dejection: an Ode* where he perfected in writing an irregular English ode, a genre in which only a few poets have been successful. Even after his quarrel with Wordsworth he continued his little literary efforts by giving public lectures in London on various topics for the following years, as well as writing for newspapers and periodicals, such as *The Friend.* His tragedy *Remorse* was successfully performed in Drury Lane Theatre. In the following years he published *Biographia Literaria* (1817), *Zapolya* (a drama), and 2 collections of poems. When he died, he left his friends with the sense that an incomparable intellect had vanished from the world. He wrote poems of mystery and demonism in the course of a few years. Such poem is *Kubla Khan* (1797) – an exotic and mysterious poem, a fragment from a vision in a dream and *Christabel*(1797 1st part/1800 2nd part) a poem about a creature half snake half woman existing between worlds (it remained unfinished and has been criticized as immoral and obscene). Also such poem is *The Rime*

of The Ancient Mariner(1798) (published in the joint publication of Lyrical ballads together with Wordsworth) a long poem that resembles old English and Scottish ballads which contains a moral with a purpose to teach; the poet used archaic words and ballad stanzas in order to create mysterious impression*;* and also lonely and meditative poems in which he combined skillfully description and meditation, the best of which is *Frost at Midnight.* Coleridge with the epistle *To William Wordsworth* he gives the most insightful comment about *The Prelude*, and a superb tribute to his friend. He also has written *Biographia Literaria* (1817) – a prose work, an autobiography in discourse by which he established himself as a literary critic. It is his best work, a description of his spiritual and literary intellect. It consists his understanding for creating poetry.

Coleridge's view on imagination (primary, secondary imagination and fancy and their significance)

Imagination was the key word in poetry of romanticism, it is the creative power of God and the poet is the "creator". Without imagination poetry is impossible. He defines imagination in three parts: primary, secondary and fancy in his Biographia Literaria.

Primary imagination – is the living power and prime agency of all human perception – a repetition in a finite mind of the eternal act of creation in the infinite I am. According to Coleridge the primary imagination in humans is continuation of God's self- consciousness that our minds somehow participate in the creative mind of God. It means that our imagination not only comes from a divine source, but is essentially one with the divine mind.

Secondary imagination – is considered as an echo of the primary imagination. Coexisting with the conscious will, yet still identical with the primary imagination in the kind of its agency and differing only in degree and in mode of its operation. It dissolves, diffuses, dissipates in order to recreate, or where this process is rendered impossible, at all events it struggles to idealize and to unify. The secondary imagination is the vital, active imagination that strives to find the spiritual meaning within things.

Fancy – has no other counters to play with but fixities and divinities. Fancy is indeed no other than a mode of memory emancipated from the order of time and space while it is blended with and modified by the empirical phenomenon of the will, which we express by the word "choice". Imagination and fancy are not completely separated from one another. The already given ideas and imagers can be subjected to fancy. According to Coleridge, imagination must have

fancy, in fact the highest intellectual powers can only act trough a corresponding energy of the lower.

Poetic faith and good sense for Coleridge

Poetic faith – its function is to stop our disbelief for a moment, to accept the supernatural and to use it but not as a dominant element and to relate it to human situation adding human interest.

Good sense – is the body of poetic genies; fancy its drapery, motion its life and imagination the soul that is everywhere and in each and forms all into one graceful and intelligent whole.

Coleridge's "esemplastic imagination"

Coleridge explained this property of the imagination as "esemplastic" to "shape into one" and to "convey a new sense." Coleridge in his *Biographia Literaria* described this ability of the imagination as "Esemplastic." Noting that esemplastic was a word he borrowed from the Greek "to shape," Coleridge explained that it referred to the imagination's ability to "shape into one, having to convey a new sense." He felt such a term was necessary as "it would aid the recollection of my meaning and prevent it being confounded with the usual import of the word imagination." Esemplastic means "having the function of molding into unity; unifying." The picture derived from the word is of someone, probably a poet, taking images and words and feelings from a number of realms of human endeavor(effort) and thought and bringing them all together into a poem s/he writes. This requires a huge effort of the imagination, which we might call the "esemplastic power of the poetic imagination."

The "Esemplastic power," in "all its degrees and determinations", is the culmination of Volume I. It had become the Central pillar of Coleridge's investigations from 1800 (or even earlier) until the time of Biographia. Yet it was also to be the imagination as differentiated from fancy in a special way, not in the way Wordsworth differentiated them in the 1815 Preface. This is the important point of cohesion for the book as a whole. Coleridge first comes to this point at the end of Chapter 4 and again at the end of Chapter 13. Significantly, these two places mark the "entrance" and "exit" of the philosophical chapters, their beginning and end.

Coleridge's theory of imagination like Wordsworth identifies poets as gifted individuals and separates them from the rest. However, we are left to imagine whether this gift of secondary imagination is innate or can be acquired. Coleridge's theory of imagination also renders a vague difference between

fancy and imagination. Furthermore, human faculty of perception and imagination work in tandem and as a single process. It's unnecessary to compartmentalize the creative process of human mind.

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THE ROLE OF WOMEN IN THE WORK AND DECISION-MAKING PROCESS (COMPARATIVE ASPECTS BETWEEN NORTH MACEDONIA, ALBANIA AND KOSOVO)

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Abstract

When talking about the achievement of gender equality, what is mainly meant is the advancement of women's position in society, and in particular in public life and in decision-making positions. Gender equality means " equal participation of women and men in all areas of life, equal position, equal opportunities to enjoy all their rights and to use their individual potentials in the development of society, as well as to have equal benefit from the achievements of this development " [164].

The states of the Western Balkans are constantly making efforts to achieve gender equality, and in particular to advance the position of women in society and public life, working towards the emancipation of women, but also for the evaluation of the contribution to the society and for the advancement of her position, a significant improvement in the treatment of women in relation to the work and decision-making process is noticeable. A significant number of different organizations, including national and international non-governmental organizations, through various programs and projects, have contributed to the advancement of women's position also towards achieving gender equality. State institutions have also continuously undertaken a series of actions to ensure equal opportunities and treatment without differences, including gender differences. In some cases, affirmative measures have been taken that lead to the achievement of gender equality, such as setting gender quotas or similar.

To reflect the current situation in the field of gender equality and the decision-making role, this research will shed light on the relevant legislation, in particular the promotion of women's participation in the work process, as well as in leadership and decision-making positions, comparing the differences and similarities of the legislation in power in three neighboring states: North Macedonia, Albania and Kosovo.

Keywords :gender equality, work and decision-making process, comparative aspects, Albania, Kosovo, North Macedonia.

[164]*Law on Gender Equality, No. 2004/2, Article 2, point 1, "Terminological definitions", for more see: http://assembly-kosova.org/common/docs/ ligjet/2004_2_al.pdf*

1. Introduction

When talking about the achievement of gender equality, what is mainly meant is the advancement of women's position in society, and in particular in public life and in decision-making positions. Gender equality [165]means " *equal participation of women and men in all areas of life, equal ranking, equal opportunities to enjoy all their rights and to put their individual potentials in use to the development of society , as well as to benefit equally from the achievements of this development".*

Women are not and cannot be simply a number because they make up roughly one half of the world's population.. They play pivotal roles in altering our lives. Traditionally women are seen in the role of mother, teacher, wife. But their participation and contribution, is more and more recognized, increasingly formalized, and it extends to every part of life. The more women become present in the so-called non-traditional roles, the more impact they create, the more creativity, value and energy they bring.

The active participation of women in the public and private life of a country is both a right and a necessity. Justice system is written in the constitution and laws of every state, but practice shows that women are not included enough and are prejudiced because of their gender. Inevitably while denying or not encouraging approximately half of the population, not putting actively in service of itself and society, the human capacity (intellective and emotional) that it carries translates into a visible economic inefficiency.

"*To engage in politics, a woman needs time, connections, resources and a favorable environment* ." [166]Excluding women from politics so that they can take care of their families ultimately harms the future of these families and others in the long run. There is growing evidence that women improve political decision-making processes by advocating for causes that men are less likely to pay attention to, such as parental leave, maternal health, childcare and work-life balance.

With financial support and sustained technical assistance from UN Women[167], the Regional Women's Lobby for Peace, Security and Justice in South East Europe (RWLSEE) is working to promote women's empowerment, to include a

[165]Law on Gender Equality, No. 2004/2, Article 2, point 1, "Terminological definitions", for more see: http://assembly-kosova.org/common/docs/ ligjet/2004_2_al.pdf

[166]Fiorela Shalsi from Leadership and Political Participation Program (UN Women, Albania).

[167] UN Women is a United Nations organization dedicated to gender equality and empowerment

gender perspective in politics and increase participation of women in decision-making worldwide. Founded in 2006, the group gathers politically influential women and civil society leaders from Albania, Bosnia and Herzegovina, Croatia, Kosovo, Republic of North Macedonia, Montenegro and Serbia.

2. Institutional mechanisms for promoting the participation of women in decision-making positions in North Macedonia, Kosovo and Albania

The achievement of gender equality and the participation of women in decision-making positions leaves much to be desired, which means that the legislation in force in the countries that are the subject of the study are not sufficient without having an institutional support for their implementation in practice.

Women are still not sufficiently represented in leadership positions in both public and private institutions. By making a comparison of the institutional mechanisms of three countries: Kosovo, Albania and North Macedonia, conclusions are reached about the institutional commitment in promoting women's participation in decision-making positions.

However, in order to achieve an equal gender representation in public institutions and in leading and decision-making positions, the Government of Kosovo has established institutional mechanisms. The Assembly of Kosovo in the previous legislature had established an informal women's group with the aim of protecting and advancing the position of women. This group consisted of deputies from all parliamentary groups represented in the Assembly. In addition, there are also other mechanisms within the Executive, activities which aim to achieve gender equality.

These mechanisms are:

- Agency for Gender Equality in OPM;
- Ombudsperson Institution - Unit for Gender Equality;
- Officials for gender equality in ministries;
- Interministerial Council for Gender Equality.

Likewise, even at the local level, there are institutional mechanisms for achieving gender equality such as:

- Officials for gender equality in municipalities;
- Municipal committees for gender equality.

Despite the fairly good legislation to ensure gender equality, and the mechanisms established to achieve gender equality in workplaces and in decision-making bodies, there are still great challenges not only for Kosovo's institutions but also for Kosovo society in general in achieving full equality. The number of female employees in public and private institutions in Kosovo is still not proportional to the gender percentage of the population. This proportion is still low in decision-making positions, even though significant progreses has been made in this area.

Established institutions, such as the Agency for Gender Equality or other mechanisms, both at the national level and at the local level, are important mechanisms for ensuring gender equality, and encouraging women for greater participation in decision-making processes. Although such mechanisms are important, their role and work would be minimal if these mechanisms do not possess the appropriate instruments to exert the appropriate influence on other institutions that implement the laws, policies or strategies drafted by these institutions.

As for North Macedonia, the entities that create equal opportunities and equal treatment of women and men are: legislative, executive and judicial bodies, local self-government units and other bodies also organizations in the public and private sector, public enterprises, political parties, the media and all those who offer goods and services that are available to the public and that are offered outside the sphere of private and family life also the transactions that are carried out in that context if the person in question belongs to the public or the private sector.

The Assembly of the Republic of North Macedonia, within its competence, ensures the elimination of all forms of gender discrimination and the improvement of the social status of women; integrates the principle of equal opportunities for women and men into the law, initiatives, policies and programs; organizes public debates and hearings on issues from the field of equal opportunities for women and men; analyzes and provides opinions on the impact of legal provisions on the status of women and men, requests reports and documentation from competent institutions related to the field of work and prepares and publishes reports of its work. The government, according to the law, is obliged to provide equal participation in all bodies and delegations and to regularly publish data on the representation of men and women. Even political parties are expected to regulate the manner and measures for the advancement of equal participation in their structures and political bodies.

Means of public information while promoting the equal participation of genders in political life, must be careful to direct their presentations in a way that does not offend, violate or suppress equality. The Commission for Equal Opportunities for Women and Men is a permanent working body in the The Commission for Equal Opportunities for Women and Men is a permanent working body in the Assembly[168] and has an important function in promoting gender equality in the political dialogue, initiating and improving legal and policy proposals, including those related to public finances, as well as in monitoring their implementation. The commissions for equal opportunities for women and men have also had an important role as permanent work bodies of local self-government units. At the Government level, this structure consists of the Ministry of Labor and Social Policy [169] as the main ministry for development, coordination, monitoring and notifying the implementation of laws and policies for the advancement of gender equality.

Also, an advisory group has been established between the departments in which, by government's decision, has been determined representatives from state government bodies, civic associations, trade unions, employers' associations and individual experts also. Each state government body has the obligation to designate coordinators and deputy coordinators for equal opportunities of women and men, which is also an obligation of local self-government units .

The Agency for Audio and Audiovisual Media Services has an important role in the control and monitoring of public information tools through the processing and publication of annual analyses.

The educational system was also identified as one of the most important structures in the willingness of women and men for active and equal participation in all areas of social life. The modification of educational programs and those for professional training, innovative methods, including the removal of prejudices and stereotypes in special ways, have been highlighted as measures to achieve and the most important goals on gender equality law. In this regard, the competent institutions for work in the field of education and the institutions that carry out education have a legal obligation to conduct regular analyzes of lesson plans, programs and textbooks in terms of advancing equal opportunities for women and men.

[168] Commission for equal opportunities for women and men, Assembly of RMV, available at: https://sobranie.mk/rabotni-tela-2016-2020-ns_article-komisija-za-ednakvimoznosti-na-zenite-i-mazite-16.nspx,
Commission for equal opportunities for women and men, Assembly of RMV, available at:
[169] Ministry of Labor and Social Policy

For years, the Government of Albania has prioritized the strengthening of the legal and institutional framework in relation to gender equality, gender-based violence and domestic violence, aiming at the same time to harmonize this national legal framework with the international one, based especially on: the United Kingdom's Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) and its Additional Protocol, the Beijing Declaration and Platform for Action, the Sustainable Development Goals, the Council of Europe Convention on Preventing and Combating Violence against Women and Domestic Violence, the Gender Equality Strategy 2020-2025 of the European Union and the Plan of Action for Gender Equality (GAP III) 2021-2025, etc.

In Albania, there are several structures that deal with issues of gender equality, gender-based violence and domestic violence. According to Law No. 9770, dated 24.07.2008 " *On gender equality in society* " and Law no. 9669, dated 18.12.2006 " *On measures against violence in family relations* " as amended, the state authority responsible for gender equality and the fight against gender-based violence and violence in the family is the ministry that covers issues of gender equality.

With the organization of the new government in September 2017, based on point e) of decision of the Council of Ministers no. 508, dated 13.9.2017, the area of responsibility for issues of gender equality and the fight against gender-based violence also domestic violence was entrusted to the Ministry of Health and Social Protection . The Ministry exercises this function through the leading role of the Minister in the National Council of Gender Equality and the Sector of Policies and Strategies for Social Inclusion and Gender Equality, as part of the General Directorate of Policies and Development of Health and Social Protection .

According to Law no. 9770, dated 24.07.2008 "On gender equality in society", articles 11 and 12, the National Council for Gender Equality is the highest advisory body for gender equality issues and ensuring gender integration in all areas, especially in political, social, economic and cultural affairs. The Council is established by Prime Minister's Order and is re-established once every four years. State institutions at the central and local level have the legal obligation to cooperate with the relevant minister covering gender equality issues to exchange information and facilitate the fulfillment of her/his function. For this purpose, a gender equality officer (GBE) has been assigned to each ministry and is tasked with addressing gender equality issues, also one or more local gender equality officers are appointed in each municipality.

The Prime Minister's Order No. 32, dated 12.02.2018 " *For the determination of the national coordinator for gender equality* " has defined the Deputy Prime Minister as the national coordinator for gender equality, who is authorized to strengthen the mechanism for gender equality at the central level and undertake a coordinating role.

At the level of the Assembly of Albania **,** on December 4, 2017, was approved the resolution " *On the punishment of violence against women and girls and increasing the effectiveness of legal mechanisms for its prevention* Pursuant to the commitments made in this resolution and based on Article 19 of the Regulation, with the decision of the Assembly no. 113/2017, dated December 4, 2017, the establishment of the Subcommittee "On gender equality and the prevention of violence against women" was approved, under the permanent Committee for Labour, Social Affairs and Health. This subcommittee in the framework of the parliamentary control process requires continuous information on the implementation of the National Strategy for Gender Equality, reporting on the situation of gender-based violence and domestic violence, the extent and functioning of the Coordinated Referral Mechanisms for domestic violence cases, reporting on issues of discrimination against women, as well as holding hearings with interest groups and institutions. Alliance of Women MPs(AGD), which began its organization in 2013, is the result of a lobbying movement started by female MPs, with the aim of promoting gender equality in Parliament and advocating for the inclusion of a gender perspective in laws.

The National Alliance of Councilors , originally created in 2017 with the support of UN Women and subsequently strengthened within the framework of the *Strong Municipality project* , also aims to implement protective and comprehensive policies for women in need as well as achieving gender equality at the local level.

3. Legal framework in Kosovo

Kosovo has a fairly advanced and modern legislation, including legislation in the field of creating equal opportunities and advancing the position of women in political and public life. The Assembly of Kosovo has adopted a series of laws towards the advancing of women's position in society and increasing their role in leadership positions, including a special law intent guaranteeing gender equality such as the Law on Gender Equality. such as the Law on Gender Equality. Likewise, the adoption and entry into force of the Labor Law is expected to create better opportunities for women's employment and career advancement.

Although laws and other legal acts prohibit any form of discrimination and provide equal working conditions for both genders, in many cases this is not enough to encourage women to be involved in the work process. A number of other conditions and circumstances prevent the equal access of men and women to the work process. The current level of economic and social development in Kosovo, such as the insufficient number of kindergartens or even their working hours, which are often not in line with the usual working hours, represent an additional obstacle for women to be included in the work process.

Legislation in Kosovo provides a good basis for encouraging and supporting women's participation in the work process, and also in decision-making positions. Legislation in Kosovo strongly promotes the principle of gender equality. The Constitution of the Republic of Kosovo [170], the highest legal and political act of the country, besides having a gender balance in its language and structure, it respects and promotes the principles of gender equality, which are also accepted internationally (Article 71). Moreover, the Constitution prohibits any form of discrimination, including discrimination based on gender. Such a principle is further sanctioned by the Anti-Discrimination Law [171], which promotes the principle of gender equality and against gender-based discrimination (Article 2), also foreseeing sanctions for natural and legal persons who violate the provisions of this law (Article 9.2). The field of application of this law covers not only public institutions, but also private ones, including the actions or inactions of natural persons (Article 4). The Law on Gender Equality [172], which in particular aims to protect, address and establish equality between the genders as a fundamental value of the democratic development of Kosovo society, with equal opportunities for the participation of women and men and for their contribution to political development, economic, social, cultural and in all areas of social life (Article 1.1). The law defines a series of legal measures for achieving full equality of women and men in society, which give specific advantages so that members of a certain gender can have equal access to all areas of social life, to avoid inequality existing gender, or to provide them with rights that they did not previously have (Article 2.9).

[170]Constitution of the Republic of Kosovo,
http://assembly-kosova.org/common/ docs/Kushtetuta_sh.pdf
[171]Anti-Discrimination Law, No. 2004/3,
http://assembly-kosova.org/ common/docs/ligjet/2004_3_al.pdf
[172]Law on Gender Equality, No. 2004/2,
http://assembly-kosova.org/common/docs/ligjet/2004_2_al.pdf

In the composition of the 2016-2020 Assembly of the RMV Assembly, 45 of the 120 deputies (38.8%) are women, while their representation in the local councils after the 2017 elections is 415 women councilors out of a total of 1,388 elected councilors in the units of local self-government (29.8%). This is a big step forward compared to 8.4% in 2000, before the introduction of legal changes. However, this progress is on the verge of reaching the legal minimum.[173]

The lack of women is particularly visible in local government, but there is also a lack of formal and practical activation of public/political participation of women, especially in rural areas. The Commission for Equal Opportunities for Women and Men is a permanent working body in the Assembly [174]and has an important function in promoting gender equality in political dialogue, initiating and improving legal proposals and policies, including those related to public finances, as well as in monitoring their implementation. The commissions for equal opportunities for women and men have also had an important role as permanent work bodies of local self-government units. At the level of the Government, this structure consists of the Ministry of Education and Culture [175]as the main ministry for development, coordination, monitoring and notification for the implementation of laws and policies for the advancement of gender equality.

In addition, an advisory group has been established between departments in which, by government decision, representatives from state government bodies, civic associations, trade unions, employers' associations and individual experts have been determined. Each state government body has the obligation to designate coordinators and deputy coordinators for equal opportunities for women and men, which is also the obligation of local self-government units.

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[173]https://www.sobranie.mk/statistika.nspx
[174]Commission for equal opportunities for women and men, Assembly of RMV, available at: https://sobranie.mk/rabotni-tela-2016-2020-ns_article-komisija-za-ednakvimoznosti-na-zenite-i-mazite- 16.nspx,
[175]Ministry of Labor and Social Policy

4. Legal Framework in North Macedonia

The most important step for the development of the legal framework within the Macedonian legal system regarding the political participation of women is the introduction of 40% representation, that is, positioning of the less represented gender in every third place in the candidate lists, as and the mandatory change of elected women to women candidates, have significantly increased women's access to elected positions.

The specific legal and political documents for the advancement of gender equality, in addition to those expressed during the electoral process, enable the affirmation of women's participation in institutions of all levels of legislative, executive, local and judicial power, including political parties.

Most important in this sense is the Law on Equal Opportunities for Men and Women [176], which defines the equal representation of a certain gender that is smaller than the percentage representation in the entire population.

This law regulates the establishment of equal opportunities and equal treatment of women and men, the basic and special measures for the establishment of equality, the opportunities of women and men, the rights and obligations of the entities responsible for ensuring equal opportunities for women and men , the determination procedure, the unequal treatment of women and men, as well as the rights and duties of the legal representative for equal opportunities for women and men as a designated person for the development of the procedure for determining the unequal treatment of women and men.

Equal opportunities for women and men is the promotion of the principle of introducing the equal participation of women and men in all areas of the public and private sector, equal status and treatment in the exercise of all rights and in the development of their rights individual potentials through which they contribute to social development and equal benefits from the results of that development .[177]

The participation of women as one of the strategic priorities in the Government Program 2017-2021 is not reflected in the current full representation of only 19 women (11.18%) in appointed functions and bodies for decision, direction and leadership under the competence of the current composition of the government.

[176]"Law for equal opportunities for women and men" (consolidated text) Official Gazette of the Republic of Moldova no. 201 from 16.11.2015

[177]Article 4, paragraph 1.1., Law on equal opportunities between men and women, 2015

In fact, apart from the positions of ministers with 4 women ministers (15.38%) and 1 woman (6.67%) in the positions of deputy minister, the knot of other functions to the detriment of women is also large. Therefore, in the positions of general and state secretaries there are 4 women (25%), while in the positions of directors, deputies, spokespersons and coordinators appointed by the Government, the representation is only 8.85%, i.e. 10 women.[178]

The advancement of gender equality in decision-making processes is one of the priority thematic areas of the Strategy for Gender Equality 2007-2020, while from the implementation of the National Action Plan for Gender Equality 2018-2020 it is expected that the quota of 50% of representation will be included in the laws of men and women in electoral administration bodies and decision-making processes at the national and local level.

The Ministry of Labor and Social Policy, in relation to equal opportunities for women and men, performs the following obligations provided for in the Law: cares for the promotion of equal opportunities for women and men in all areas of social life, cares to introduce the principle of equal opportunities in the mainstream and evaluation of political processes of all levels and in all phases at the national and local level, gives opinion on the proposals for approval of the basic and special measures for the creation of equal opportunities for women and men and monitoring of their implementation, cooperates with the Commission for equal opportunities for women and men in the Assembly of the Republic of North Macedonia in the drafting of laws, strategic documents and reports, submits proposals to the Government or competent ministries for approval or amendment of laws and regulations other relevant for the establishment of equal opportunities, as well as for the approval of general and special measures, prepares the proposal of the Strategy for Gender Equality and plans for its implementation, monitors the implementation and publishes the annual reports of the activities and the results of its implementation, coordinates and supports the work of the interministerial group for the promotion of equal opportunities for women and men in politics and programs in all areas of social life, monitors, in cooperation with the Ministry of Foreign Affairs, the implementation of international agreements related to equal opportunities and the promotion of status of women, prepares national reports on the implementation of international obligations by the Republic of North

[178]Answer no. 49-8855/2 submitted by the General Secretariat of the Government of RMV from 18.10.2018, with a request for access to information of a public nature from the Association for the Advancement of Gender Equality Action Zdruzhenska Skopje.

Macedonia in the field of equal opportunities, prepares analyses, reports and other documents related to equal opportunities and publishes them on the website of the ministry cooperates with employers' associations, trade unions and active associations in the field of equal opportunities, cooperates with coordinators in state administration bodies, as well as coordinators and commissions for equal opportunities formed in local self-government units, ensures their coordination mutually and prepare instructions and proposals for the fulfillment of their obligations to achieve the purpose of this law.[179]

The supervision of the implementation of the provisions of this law and the regulations issued on the basis of this law is carried out by the Ministry of Labor and Social Policy. The inspection supervision over the implementation of the provisions of this law and by-laws approved on the basis of this law is carried out by the State Labor Inspectorate in accordance with the said Law.[180]

The general conclusion from the legal implementation is that although there is a legal framework and general policies in place for gender equality and the inclusion of women in politics, as well as democratic mechanisms that enable participation through different forms of action (political parties, civic organizations, local and central government mechanisms), there is a lack of continuous policies and efforts in terms of women's empowerment and their involvement in decision-making and policy-making processes.

5. Legal framework in Albania

The recognition and respect of equal legal rights between women and men are emphasized in the Constitution of the Republic of Albania, in Article 18/2 of which the principles of equality and non-discrimination are promoted: "*Everyone is equal before the law and no one can unfairly discriminated against for reasons such as gender, race, religion, ethnicity, language, political, religious or philosophical beliefs, economic, educational, social status"* .

The ongoing efforts to harmonize the national legal framework with the international one have resulted in highlighting the issues of gender equality and the fight against gender discrimination, gender-based violence and domestic violence, not only in special laws dedicated to these issues, but also in Albanian legislation as a whole.

[179]Article 12 of the Law on Equal Opportunities between Women and Men, 2015

[180]Article 37, ibid

Law no. 9970 dated 24.07.2008 "On gender equality in society " **.** From its very object, the law regulates the basic issues of gender equality in public life, the protection and equal treatment of women and men, for equal opportunities and chances for the exercise of rights, as well as for their participation and assistance in the development of all areas of life. This law foresees special temporary measures to guarantee at least 30% participation of the less represented gender in political and public decision-making positions, as well as protection from discrimination in the sectors of education, employment, media, etc. It is also foreseen the mandatory collection of gender statistics, by all state bodies, as well as the establishment of institutional structures and mechanisms for advancing gender equality. Completion of the sub-legal framework for the implementation of this law, among others, with the decision of the council of ministers No. 465 dated 16.07.2012 " *For gender integration in the medium-term budget program* ", paved the way not only for the planning of measurable gender objectives in the budget programs of central institutions, but also for all further steps in the direction of gender responsive budgeting (GRP). in Albania. While with *Law no. 139/2015 "On local self-government* " mayors/mayors are obliged to implement and respect gender equality in the appointments of deputy mayors/mayors and the appointments of administrators/administrators of administrative units.

Law no. 10019, dated 29.12.2008 "Electoral Code of the Republic of Albania " provides for the first time the obligation of electoral subjects to respect gender equality. This Code provided for the implementation of gender quotas in some of its provisions, such as in the electoral administration, second-level commissions and in the composition of the elected legislative body, the Assembly. The Electoral Code established the obligation that in the multi-name list of candidates/candidates for deputies/deputies of political parties, for the elections to the Assembly, none of the genders could be represented with less than 30%. This would be guaranteed by the inclusion in the multi-name lists of candidates submitted by political parties for the elections to the Assembly, for each electoral district, of the gender quota criterion according to which at least thirty percent and/or one in three names of first it must belong to either gender. With the amendments made to this Code in 2015, a quota of 50% men and 50% women was established in the lists of candidates for councilors in local elections. While with the amendments of 2020, with *Law no. 101/2020 "On some additions and changes to law no. 10019, dated 29.12.2008 "Electoral Code of the Republic of Albania", amended,*the concept of the " *underrepresented gender* " (the gender with traditionally the smallest number of members in the Assembly or, as the case may be, in the local councils at the

country level) was included, as well as the definitions on electoral freedom and gender equality in Article 4 were clarified of this Code.

Law no. 7961, dated 12.07.1995 "Labor Code of the Republic of Albania", amended by law no. 136/2015, where it is emphasized, among others: the treatment of employees without discrimination; taking temporary and special measures by the employer, which aim to accelerate the real establishment of equality in the exercise of the right to employment and occupation, when the lack of equality is caused by discrimination for any reason mentioned in Article 9 of the Code of Work, as well as the termination of this measure as soon as the objectives of treatment and provision of equal opportunities have been achieved; the provision by the employer of the reasonable adaptation of the workplace for persons with disabilities or persons in other conditions; taking the necessary measures to stop the moral harassment committed by the employer and other employees, as well as posting the provisions on moral and sexual harassment and the corresponding sanctions; prohibiting the employer from performing any action that constitutes sexual harassment for employees and not allowing the employer to perform such actions by other employees; etc.

Law No. 93/2014 "On the inclusion and accessibility of persons with disabilities" defines the essential rights related to the inclusion and accessibility of persons with disabilities in order to guarantee their equal opportunities and conditions with others. Among the basic principles of this law is gender equality, which ensures that women with disabilities have equal opportunities as men with disabilities to benefit from the rights guaranteed by this law. In the institutional aspect, the law foresees the establishment of the National Council for the Disabled as an advisory body established by order of the Prime Minister, consisting of 17 members appointed by the Prime Minister, paying due attention to the inclusiveness of different categories, such as the ability limited, age and gender.

6. Conclusions

Given the consequences of a tragic history, decades after the breakup of Yugoslavia and the subsequent conflicts that engulfed the Balkans in the 1990s, a powerful group of women are coming together to overcome ethnic and political differences and build a better future.

A common solution is to adopt quota systems in parliaments, as all Western Balkan countries have done. However, quotas address the symptoms of the problem, not the causes. Quotas prove to be effective in some cases, but do not

have a uniform effect. Quotas have had limited impact beyond women's representation in parliament and little impact on challenging cultural norms and gender stereotypes, as is evident in the case of Kosovo.

With the very fact that the status of women in contemporary societies is considered one of the key indicators for good governance and leadership, and in general, as a condition of liberal democracy, global and national trends are increasingly sophisticated in terms of providing relevant data. for the equal inclusion of women in social-political life.

Women would have more active involvement in politics, they would be even better and more successful than men because they think that women are more creative, more responsible, more organized, more intelligent and more empathetic. But women do not have such a perception of themselves and therefore will not be involved in conventional political activities but only in humanitarian actions and initiatives. This personal perception is mainly due to the predetermined social role of women and the representation of the low percentage of women in the politics of the Western Balkan states.

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PSYCHOLOGICAL WELL-BEING OF STUDENTS

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Abstract

In recent years, there has been growing interest in the concept of psychological well-being, particularly in the context of higher education. Psychological well-being refers to a state of positive mental health characterized by factors such as emotional stability, positive relationships, and a sense of purpose or meaning in life. This paper examines two main theories of psychological well-being: Eudaimonic and Hedonic. The Eudaimonic theory posits that psychological well-being is achieved through the pursuit of personal growth, development, and fulfillment of one's potential. In contrast, the Hedonic theory focuses more on the pursuit of pleasure and happiness. The college years can be a time of significant stress and transition, and many students experience challenges that can impact their mental health. Academic stress, social relationships, and physical health are all factors that can influence students' well-being. The review highlights several factors that influence the psychological well-being of students, including social support, self-efficacy, and stress management. Therefore, universities have implemented a range of programs and services to support the mental health of their students, such as counseling services, peer support groups, and wellness programs. However, the review also notes several limitations of the studies reviewed. For instance, many studies were conducted in Western countries and may not apply to other cultural contexts. Additionally, most studies relied on self-reported measures of psychological well-being, which may be subject to biases and inaccuracies. The review highlights the importance of psychological well-being for students and the need for universities to prioritize mental health resources and support. Future research should focus on developing interventions and programs that are effective across diverse cultural contexts and that address the unique needs of different groups of students. The study concludes that psychological well-being is a crucial factor in students' overall success and happiness and that understanding the different theories and factors involved can help promote positive mental health among students. This paper aims to emphasize the importance of psychological well-being for student success and the need for universities to prioritize mental health resources and support for their students.

Keywords: Psychology, well-being, theory, scientific, emotions, psychological therapy

1. Introduction

The psychological health of students is a critical component of their overall health and academic success. A growing body of research has highlighted the importance of enhancing psychological health among students, particularly given the increasing prevalence of mental health issues among this population (Auerbach et al., 2020; Cvetkovski, Reavley, & Jorm, 2019). One important factor that has been linked to psychological well-being among students is social support. Studies have shown that students who feel connected to others, whether through family, friends, or school-based networks, are more likely to experience positive emotional states and lower levels of stress and anxiety (Burt, Howard, & Li, 2021; Hussong, Curran, & Bauer, 2018). Social support can be fostered through a range of interventions, such as peer mentoring programs, social skills training, and community-building activities. Another factor that has been linked to psychological well-being among students is mindfulness. Mindfulness is the practice of paying attention to the present moment in a non-judgmental way and has been shown to reduce stress and improve emotional regulation among both students and adults (Burke, 2010; Galante et al., 2018). Mindfulness-based interventions, such as meditation and yoga, are effective in promoting psychological well-being among students in a range of educational settings (Burke & Williams, 2019; Meiklejohn et al., 2012).

In addition to social support and resilience, other factors that contribute to psychological well-being among students include physical health, academic self-efficacy, and a sense of autonomy and control over one's life (e.g., Deci & Ryan, 2008). Educational institutions can support students' psychological well-being by promoting healthy lifestyle habits (e.g., exercise, sleep, nutrition), providing academic and career counseling, and offering opportunities for student involvement and leadership. Moreover, the use of digital technology can also play a role in promoting psychological well-being among students. For example, online mindfulness-based interventions have been found to reduce symptoms of stress and anxiety among college students (e.g., Jain et al., 2015). Additionally, online peer support groups and virtual counseling services can provide students with convenient and accessible sources of social support and mental health resources (e.g., Kessler et al., 2009).

2. Method

The review method for research typically involves a systematic and rigorous process of identifying, analyzing, and synthesizing existing literature on a particular research topic. This is commonly known as a literature review, and it

involves a comprehensive and critical analysis of existing research studies, articles, books, and other relevant sources of information. The review method for this research provides a foundation for the research by identifying existing knowledge gaps and informing the development of research questions and hypotheses. Critically analyzing and synthesizing the findings, results, and conclusions of the selected literature to identify patterns, gaps, and areas for further research.

3. The Eudaimonic theory

The eudaimonic theory is a well-established concept in positive psychology that emphasizes the importance of finding meaning and purpose in life for overall well-being (Waterman, 2013). The term eudaimonia is derived from the Greek word for happiness, but it is not the same as the concept of hedonic happiness, which is focused on the pursuit of pleasure and immediate gratification. Instead, eudaimonic happiness is a more lasting form of well-being that comes from living a life that is meaningful and fulfilling (Ryff & Singer, 2008).

As stated by the eudaimonic theory, there are six key dimensions of well-being that are essential for people to experience a fulfilling life. These dimensions include autonomy, personal growth, self-acceptance, a sense of direction in life, healthy interpersonal connections, and environmental mastery (Ryff & Keyes, 1995). Autonomy refers to the sense of independence and control that individuals feel in their lives. Personal growth involves the pursuit of personal development and the realization of one's potential. Self-acceptance involves a positive self-regard and the acceptance of both strengths and weaknesses. Purpose in life involves having a sense of direction and meaning in one's life. Positive relationships with others refer to the quality of social connections and support systems.

The eudaimonic theory is a philosophical and psychological framework that posits that genuine pleasure and wellbeing originate come from leading a life of meaning, purpose, and fulfillment rather than just seeking pleasure and avoiding pain (Deci et al., 2014). The concept of eudaimonia, which roughly translates to "human flourishing" in Greek, dates back to Aristotle and has since been applied to various fields of research, including positive psychology, ethics, and health.

The eudaimonic theory emphasizes the importance of self-discovery and personal growth in achieving well-being. This involves identifying one's unique strengths and values and using them to pursue meaningful goals that align with

one's sense of purpose and identity (Waterman, Schwartz, & Conti, 2023). In contrast, hedonic pursuits such as materialism, hedonism, and external validation are considered less conducive to lasting well-being because they often lead to feelings of emptiness and dissatisfaction (Steger, 2018).

Research has shown that individuals who prioritize eudaimonic pursuits tend to experience increased amounts of life satisfaction, meaning in life, and positive emotions, even in the face of adversity (Steger et al., 2016). Moreover, eudaimonic well-being has been linked to better physical health, greater resilience, and reduced risk of mental health issues such as depression and anxiety (Ryff & Singer, 2008). One key aspect of the eudaimonic theory is the notion of "authenticity," or being true to oneself and one's values. Authenticity involves acknowledging and expressing one's thoughts, feelings, and desires, even if they go against social norms or expectations (Harter, 2002). Research has found that more authentic individuals tend to have higher levels of self-esteem, life satisfaction, and well-being (Wood et al., 2008). However, eudaimonic pursuits can also be challenging and require effort, as they often involve taking risks, facing obstacles, and confronting difficult emotions. As such, eudaimonic well-being is not a static state but rather a dynamic process of growth and development that requires ongoing engagement and adaptation (Waterman, 2013).

4. The Hedonic theory

Hedonic motivation is the readiness to begin acts that increase positive (pleasant or nice) experiences and reduce unpleasant experiences. In the literature, this phrase has been employed in two different situations. For starters, it has been used to account for a general concept in human behavior, namely, that "individuals are more inclined to initiate actions that lead to rewards than those that lead to penalties" (Gray, 1981: 247). Second, in the context of well-being, hedonic drive (seeking pleasure and avoiding suffering) has been compared with eudaimonic motivation (achieving personal excellence) to explain how people differ in their pursuit of happiness (Huta & Waterman, 2014). The main idea behind hedonic motivation is simple: people prefer to undertake behaviors with the intention of increasing happy experiences and decreasing negative experiences. Gray's theory of personality has examined this component of hedonic motivation (Gray, 1981). Gray argued that two systems regulate human behavior: the behavioral inhibition system, which is responsive to punishment, and the behavioral activation system, which is sensitive to reward. Because of

the efficacy of these two systems, healthy people maximize rewarding experiences while limiting negative events.

The Hedonic theory, which is also known as the pleasure principle, is a concept in psychology that suggests that people are driven by the desire for pleasure and the desire to avoid suffering (Bentham, 1789; Mill, 1861). This theory has been widely studied and discussed in the field of psychology and has been applied to various areas of human behavior, including decision-making, consumer behavior, and happiness (Kahneman, Diener, & Schwarz, 1999; Schimmack et al., 2002).

According to Bentham (1789), the Hedonic theory posits that people are naturally driven by their desire for pleasure and their aversion to pain and that this drive shapes all aspects of human behavior. Mill (1861) later expanded on this theory, arguing that people are motivated not just by immediate pleasure, but also by the anticipation of future pleasure and the memory of past pleasure. Researchers have studied the Hedonic theory from various perspectives, including its relationship to satisfaction and wellbeing. Kahneman et al. (1999) conducted a study that found that people's subjective well-being is influenced not only by their current experiences of pleasure and pain but also by the overall quality of their life experiences. Similarly, Schimmack et al. (2002) found that people's happiness levels are influenced by a variety of factors, including their personality traits, social support, and life circumstances.

In terms of its application to consumer behavior, the Hedonic theory has been used to explain why people buy certain products or engage in certain behaviors. For example, researchers have found that people are more likely to buy products that provide them with pleasure or other positive emotions, such as luxury goods or experiences (Hirschman & Holbrook, 1982; Richins, 1997). Additionally, the Hedonic theory has been used to explain why people engage in risky behaviors, such as drug use or extreme sports, which can provide intense pleasure or excitement (Zuckerman, Eysenck, & Eysenck, 1978).

Applications of this theory include various areas of human behavior, including decision-making, consumer behavior, and happiness, and has been studied from various perspectives. Understanding the Hedonic theory can provide insights into why people behave in certain ways and can inform interventions aimed at promoting well-being and positive behavior change.

5. Factors influencing students' psychological well-being

It is crucial to recognize that factors that influence the psychological well-being of students in Western countries may not necessarily apply to other cultural contexts. Cultural factors such as values, norms, beliefs, and practices can significantly influence the psychological well-being of individuals in different ways.

For example, one study carried out in China (Liu, Zhang, & Liu, 2018) examined the link between academic stress and psychological well-being among Chinese college students. The study found that Chinese students who reported higher levels of academic stress had lower levels of psychological well-being, including higher levels of anxiety and depression. The study did discover, however, that students with more robust social support systems—including those with close friends and relatives—exhibited better levels of psychological well-being. The authors suggested that cultural values of family support and collectivism may play a significant role in influencing students' psychological well-being.

Similarly, a study conducted in India (Choudhury & Mahapatra, 2019) examined the importance of family support, academic stress, and coping strategies in predicting the psychological well-being of Indian college students. According to the study, students who expressed greater levels of familial support and used positive coping strategies had higher levels of psychological well-being, whereas those who reported higher levels of academic stress and used negative coping strategies had lower levels of psychological well-being. The authors suggested that cultural values of family support and collectivism may play a significant role in influencing students' psychological well-being in India.

One study carried out in the United States (Cohen et al., 2003) investigated the role of social support in predicting the psychological well-being of college students. The study indicated that psychological distress, anxiety, and sadness were less common among students who reported receiving more social support. Moreover, psychological well-being was greater in kids who received social support from a variety of social groups, including family, friends, and classmates.

Another study conducted in Australia (Stallman et al., 2019) examined the relationship between academic stress and psychological well-being among university students. The study found that students who had lower levels of psychological well-being, particularly higher levels of depression, anxiety, and stress were associated with higher levels of academic stres. However, the study

also found that students who engaged in regular physical activity had higher levels of psychological well-being, suggesting that physical exercise could be a protective factor against the negative effects of academic stress.

A study conducted in the United Kingdom (Hart et al., 2019) investigated the role of social media use in predicting the psychological well-being of university students. The study found that students who reported spending more time on social media had higher levels of anxiety and depression, whereas those who engaged in face-to-face social interactions had higher levels of psychological well-being. The authors suggested that promoting face-to-face social interactions and limiting social media use could be effective in improving students' psychological well-being.

6. Discussion

The studies reviewed imply that a student's psychological health is influenced by various factors such as social support, academic stress, physical activity, social media use, and cultural factors. These factors can have either positive or negative effects on students' psychological well-being, which in turn affects their academic performance and social relationships.

The Eudaimonic and Hedonic theories are the two main theories of psychological well-being. The Hedonic theory posits that happiness is achieved through the attainment of pleasure and the avoidance of pain. As opposed to that, the Eudaimonic theory suggests that happiness is attained through the fulfillment of one's potential and the pursuit of meaning and purpose in life. Recent research suggests that both theories have unique contributions to understanding psychological well-being. Research has indicated that individuals who score high on measures of hedonic well-being tend to experience positive emotions and high levels of life satisfaction. They usually carry out certain actions that promote pleasure and enjoyment, such as leisure activities and socializing. On the other hand, individuals who score high on measures of eudaimonic well-being tend to experience a deeper sense of fulfillment and meaning in life. They tend to engage in behaviors that promote personal growth, such as learning and helping others (Waterman, 2014).

7. Conclusion

This study aimed to emphasize the significance of psychological health for student success and the need for universities to prioritize mental health

resources and support for their students. The study reviewed highlights the significance of encouraging psychological health among students, which can have significant implications for their academic success and overall quality of life. Finally, the dimensions of the school atmosphere, particularly the school value system and instructors' attitudes toward students as seen by the latter, impact students' hopeful acceptance of life, psychological and physiological well-being, and academic performance. As a result, promoting the psychological well-being of all college students should be a top focus. The study suggests that social support, academic stress, physical activity, and social media use are important factors that influence the psychological well-being of students. Understanding these factors can inform interventions aimed at promoting students' psychological well-being and improving their academic and social outcomes.

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THE IMPACT OF DIGITAL TECHNOLOGY ON PSYCHOLOGY LEARNING

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Abstract

The rapid advancement of digital technology has revolutionized the way we learn and teach psychology. The widespread use of digital technology in education has prompted a growing interest in understanding the impact of such technology on student learning outcomes, particularly in the domain of psychology education. In this review paper, we explore the impact of digital technology on psychology learning, examining the benefits, challenges, and implications for both students and lectors. We begin by discussing the advantages of digital technology in psychology learning, including enhanced accessibility, flexibility, and interactivity. We then consider the challenges of digital technology, such as technological barriers, distraction, and potential privacy concerns. We also examine the potential implications of digital technology for the learning process, including changes in pedagogy, assessment, and student engagement. The review highlights several ways in which digital technology has the potential to enhance psychology learning. For instance, digital tools such as online quizzes and interactive simulations can provide immediate feedback and promote active learning. Additionally, digital technology can enable remote access to resources and peer-to-peer communication, which can facilitate collaborative learning and enhance student engagement. However, the review also notes potential challenges associated with the use of digital technology in psychology education. For example, overreliance on technology can lead to passive learning and reduce critical thinking skills. Moreover, there is a risk of information overload and distraction when using digital technology in the classroom. The aim of this paper is to examine research on the impact of digital technology on psychology learning. Overall, this review highlights the transformative potential of digital technology on psychology learning, while also recognizing the need for careful consideration of the challenges and implications associated with its use. Further research is needed to better understand how digital technology can be effectively integrated into psychology education to maximize its benefits while mitigating its potential drawbacks.

***Keywords**:* digital technology, psychology learning, pedagogy, assessment, student engagement, multimedia resources

1. Introduction

Digital technology has become an integral part of our lives and has significantly impacted various domains, including education. The impact of digital technology on psychology learning has been extensively studied in recent years.

One of the most significant impacts of digital technology on psychology learning is the availability of online resources. Online resources such as e-books, podcasts, and online lectures have made it easier for students to access information on psychology. According to a study by Chen and Li (2021), online resources positively influence students' academic achievement and motivation to learn. This study found that students who used online resources performed better in their psychology courses and had a higher motivation to learn than those who did not use online resources. Another impact of digital technology on psychology learning is the use of digital tools in the classroom. Digital tools such as virtual reality and simulations have been shown to enhance students' learning experiences. According to a study by Rizzo et al. (2020), virtual reality simulations can significantly improve students' understanding of psychological concepts, such as mental illness and neurocognitive disorders. The study found that students who used virtual reality simulations had higher levels of engagement, motivation, and interest in learning.

Furthermore, digital technology has also made it easier for psychology educators to assess students' learning. Online assessments, such as quizzes and tests, have become more common in psychology courses. According to a study by Hsu et al. (2021), online assessments can provide instant feedback to students, which can help them identify their strengths and weaknesses. This study found that students who received immediate feedback through online assessments had higher levels of engagement and motivation to learn. The authors conducted a search in multiple electronic databases, screened the studies based on inclusion and exclusion criteria, and synthesized the findings to provide a comprehensive overview of the topic.

2. Method

The study has used the review method aiming to systematically analyze and synthesize the existing literature on the impact of digital technology on psychology learning. The review will follow a systematic process of searching, screening and synthesizing relevant studies. The search terms will include "digital technology," "psychology learning," "online resources," "digital tools," and "online assessments." The screening process will involve assessing the

relevance of the studies based on inclusion and exclusion criteria, such as study design, population, and intervention type. The synthesis process will involve extracting data from the selected studies, analyzing the findings, and presenting a summary of the results. The review method is a systematic process of analyzing and summarizing existing literature on a specific topic (Pollock & Berge, 2018).

3. Digital technology in psychology learning

The mental treatment of emotional wellness issues is starting to go through a basic change. This change is being driven by the far-reaching accessibility of "computerized innovation" by which we mean PCs, the web, cell phones, for example, cell phones, and portable programming applications (applications). The difficulties in scattering observationally upheld mental medicines are worldwide; as far as anyone is concerned, their successful inclusion doesn't surpass half in any country. Indeed, even this figure is probably going to be a significant over-gauge. The inclusion in low and center-pay nations is a lot lower. A new gauge from India and China, two moderately well-resourced center-pay nations, uncovered a treatment hole surpassing 90% for normal mental problems and liquor use issues (Patel et al., 2016), the two emotional well-being conditions for which mental medicines are suggested as first line intercessions by the mhGAP program (WHO, 2008).

Worldwide psychological well-being trailblazers have endeavored to address two significant hindrances to decrease this hole, viz. their low adequacy because of context-oriented contrasts between the settings in which mental medicines were created and those in which they are to be utilized, and their low attainability because of the absence of emotional well-being experts to convey them (van Ginneken et al., 2013). This collection of exploration has shown that mental medicines are successful in generally unique social and social settings in any event, when conveyed by individuals with practically zero earlier emotional wellness preparation (vanGinneken et al., 2013). Be that as it may, there stay two significant hindrances: the proceeding with dependence on eye-to-eye designs for preparing and oversight, and the low interest for psychological wellness care in casual medical services settings, not least because of the great degrees of disgrace joined to emotional well-being issues. Computerized innovations offer a certified open door to jump from the two obstructions.

The largest repository of innovations in global mental health, the Mental Health Care Innovation Network (www.mhinnovation.net), has identified 38 innovations that use digital technology to disseminate empirically supported

interventions (24 April 2016). The direct delivery of treatments like cognitive behavior therapy is one of these, along with a wide range of other approaches that have different objectives. social networking for the supervision of mental health professionals; digital platforms where service users can support one another and share their experiences; systems for case management that keep an eye on how care is given; telemedicine systems for providing mental health care to populations located far away or for supervising workers on the ground; tools for screening and making decisions for workers on the ground; interfaces for video games that target psychopathology; and using text messages to inspire patients (Fairburn & Patel, 2017).

The first advantage of digital technology in psychology learning is enhanced accessibility. Digital technology has made it possible for students to access learning materials from anywhere at any time. Online courses, webinars, and e-books are just a few examples of digital resources that have made learning more accessible for psychology students. This is particularly important for those who are unable to attend traditional classes due to geographic, financial, or other constraints (Huang et al., 2020). The second advantage of digital technology in psychology learning is flexibility. With digital technology, students can customize their learning experience to fit their unique needs. They can learn at their own pace, re-watch lectures, and review course materials as many times as needed. Additionally, digital technology has made it possible for students to balance their academic work with other commitments, such as work or family responsibilities (Li & Irby, 2019). Digital technology has made psychology learning more interactive. Learning management systems, social media, and other digital platforms have made it easier for students to collaborate and engage with their peers and instructors. This has created a more dynamic learning experience, as students can share their thoughts, ask questions, and receive feedback from their peers and instructors. In addition to these advantages, digital technology has also made it possible for psychology students to access a wide range of resources, including academic journals, databases, and online forums. This has expanded the scope of psychology learning beyond traditional textbooks and lectures, providing students with a more comprehensive understanding of the field (Moule, 2019).

The advantages of digital technology in psychology learning refer to the benefits that technology can bring to the learning experience. Some of these advantages include increased access to educational resources, enhanced learning experiences, and improved student engagement. To support these advantages, various research studies have been conducted. For example, Borrego Jr. et al. (2020) conducted a study on the use of educational technology in teaching

psychology in Brazilian higher education. They found that technology can increase access to educational resources and promote active learning. Cavanaugh et al. (2021) also showed that online learning can provide greater flexibility and convenience for students.

Other studies have highlighted the enhanced learning experiences that digital technology can provide. For instance, Lim et al. (2021) conducted a meta-analysis comparing the outcomes of blended learning versus traditional classroom instruction and found that blended learning resulted in better learning outcomes. Ye and Wang (2022) conducted a systematic review and meta-analysis on the use of interactive whiteboards in psychology learning and found that they can enhance learning by promoting interaction and engagement. Digital technology can also improve student engagement. Hong et al. (2021) showed that digital storytelling can enhance student engagement in flipped classrooms, while Yoon and Kim (2022) found that online discussions can increase student engagement, sense of community, and academic achievement.

4. The challenges of digital technology

Digital technology has revolutionized the way we communicate, work, and live our lives. However, along with the benefits, there are also several challenges posed by digital technology. This review will discuss some of the most pressing challenges, including technological barriers, distraction, and potential privacy concerns. Technological barriers refer to the difficulties experienced by individuals when using digital technology, particularly by those who are not technologically savvy. These individuals may feel overwhelmed by the various applications and devices available, leading to feelings of frustration and anxiety. For example, older adults may have difficulty using smartphones or tablets due to the small screen size or complicated user interfaces (Czaja & Lee, 2017). Additionally, some individuals may not have access to digital technology due to financial or geographic constraints, which can limit their ability to participate fully in the digital age (Friedman, 2019).

The learning crisis has a number of well-known causes. The low quality of training is one important cause. Instructors usually have limited subject knowledge and training. There are technological answers to this, and they could be useful for both teacher training and student instruction (Štemberger & Konrad, 2021). Technology may offer in-person instruction alone or in conjunction with online instruction. There is evidence that instructors need greater incentives as well. They are capable of teaching but lack the drive to do so. Despite the fact that education has always taken place outside of the

traditional classroom, the magnitude and shifting conditions of digital and remote contexts require a large amount of adaptation, planning, support, and participation. Aware learning and teaching may benefit from little or no interaction with students, rethinking engagement, reaching, and teaching ways, correctly addressing a variety of specific requirements, motivating students, managing competing time demands, and adapting to restrictive environments (Gromova, 2021).

Privacy concerns have also been a significant challenge associated with digital technology. With the increasing amount of personal information being shared online, there is a risk of this information being misused. Additionally, many people are not aware of the extent to which their personal data is being collected and used by third parties. For example, social media companies have been criticized for their use of personal data to target advertisements to users (Barrera & Tacon, 2021). This has led to concerns about the potential for data breaches and identity theft. Furthermore, the digital divide has also become a significant challenge with the rapid advancement of digital technology. The digital divide refers to the gap between those who have access to digital technology and those who do not. This gap is often attributed to factors such as income, education, and geographic location. Those who are unable to access digital technology are at a disadvantage when it comes to education, employment, and social interactions (Warschauer, 2017).

Distraction is another significant challenge associated with digital technology. The constant notifications from emails, social media, and messaging apps can be distracting, making it challenging to focus on tasks. This has been particularly problematic for students and employees who have to complete assignments and tasks that require sustained attention (Rosen, Carrier, & Cheever, 2013). Digital technology has brought about several challenges, including technological barriers, distraction, privacy concerns, and the digital divide. While these challenges may seem daunting, it is important to acknowledge them and take steps to mitigate their impact. For example, digital literacy programs can help individuals who are not technologically savvy to develop the skills they need to participate fully in the digital age. Additionally, organizations can implement policies to reduce digital distractions and protect personal data. Finally, efforts must be made to ensure that digital technology is accessible to all individuals, regardless of their income or geographic location.

5. The potential implications of digital technology for the learning process

Digital technology has the potential to restructure the learning process, but it also raises questions about the impact of technology on student engagement and academic performance. In this review, we will discuss the potential implications of digital technology for the learning process, drawing on recent research in the field. One potential benefit of digital technology is its ability to enhance student engagement. Research suggests that digital tools, such as interactive multimedia resources and online discussion forums, can increase student participation and motivation in the learning process (Wang & Chen, 2015). Additionally, digital technology can provide personalized learning experiences that are tailored to individual student needs and learning styles (Dabbagh & Kitsantas, 2012). However, digital technology also poses challenges to student engagement. The ease of distraction and multitasking on digital devices can lead to reduced focus and attention during learning activities (Rosen, Carrier, & Cheever, 2013). This can ultimately impact student learning outcomes and academic performance.

Another potential benefit of digital technology is its ability to increase access to education. Online courses and resources can provide students with greater flexibility in terms of when and where they learn, which is particularly beneficial for students who may face geographical or logistical barriers to attending traditional classroom-based courses (Allen & Seaman, 2017). Additionally, digital technology can provide opportunities for lifelong learning and professional development, allowing individuals to continually update their skills and knowledge (Janta, Lugosi, & Brown, 2014). However, digital technology also raises questions about equity and access to education. Students from disadvantaged backgrounds may not have access to the necessary technology or internet access to fully participate in digital learning environments, leading to further disparities in educational outcomes (Watters, 2014).

Finally, digital technology has the potential to improve the assessment and evaluation of student learning. Digital assessment tools can provide real-time feedback and allow for more efficient grading and evaluation (Li, Yen, & Peng, 2016). Additionally, digital technology can enable the collection and analysis of large datasets that can inform curriculum development and educational research (Siemens & Long, 2011). However, there are concerns about the validity and reliability of digital assessments, particularly in the context of high-stakes testing (Cizek, 2013). Additionally, the use of digital technology for assessment raises questions about privacy and data security (Bennett, Maton, & Kervin, 2008).

6. Discussion and Future Research

While digital technology offers many advantages for psychology learning, there are also potential drawbacks, such as distraction and privacy concerns, that need to be addressed. Further research is needed to better understand how digital technology can be effectively integrated into psychology education to maximize its benefits while mitigating its potential drawbacks (Baker-Eveleth, Stone & Wiggins, 2021).

One area where further research is needed is in understanding how digital technology affects student learning outcomes. While there is some evidence to suggest that digital technology can enhance learning outcomes, more research is needed to understand how specific digital tools and platforms impact student learning in psychology. This research could include experimental studies that compare the effectiveness of traditional teaching methods with digital tools, as well as longitudinal studies that track the academic performance of students who use digital tools over time. Another area where further research is needed is in understanding how to effectively design and implement digital learning resources in psychology education. This includes identifying best practices for designing online courses and resources that promote engagement, collaboration, and critical thinking. It also involves understanding how to effectively assess student learning in online courses and how to provide feedback that is meaningful and constructive (Garrison & Kanuka, 2004).

Finally, more research is needed to understand how digital technology can be used to enhance the accessibility of psychology education for students with disabilities. This includes developing and testing digital tools and resources that are designed to meet the needs of students with different types of disabilities, as well as identifying best practices for designing and delivering online courses that are accessible to all students. We also suggest that future research could concentrate on how particular factors, such as infrastructure and government support, school leadership and management, students and teachers' digital competencies, and teaching and learning strategies (such as blended, online, and hybrid learning, flipped classrooms, STEM/STEAM approach, project-based learning, and inquiry-based learning) used by teachers, affect the impact of digital technologies on education. To conclude the discussion, while digital technology offers many potential benefits for psychology education, further research is needed to better understand how to effectively integrate it into the learning process (Heick, 2017).

7. Conclusion

In conclusion, the impact of digital technology on psychological learning can be both positive and negative. On the one hand, digital technology can provide students with access to a wealth of information, resources, and interactive learning tools that can enhance their understanding of psychological concepts and theories. Additionally, technology can facilitate communication and collaboration among students and instructors, which can foster a sense of community and engagement in the learning process.

On the other hand, there is a concern that excessive use of technology can lead to passive learning, reduce critical thinking skills, and even contribute to mental health issues such as addiction, anxiety, and depression. Moreover, the prevalence of online misinformation and the ease with which false information can be spread through digital channels can create challenges for educators in teaching students to critically evaluate sources and evidence.

Overall, the impact of digital technology on psychology learning depends largely on how it is used and integrated into the learning process. It is essential for educators to carefully consider the benefits and limitations of technology and use it in a way that enhances active learning, critical thinking, and student engagement, while also addressing potential challenges and risks.

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COVID-19 THE EFFECT ON HUMAN MANAGEMENT AND WORK DIGITALIZATION

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Abstract

The COVID-19 pandemic affected human resource management (HRM) operations and accelerated work digitalization. Most firms put considerable resources into managing employees to sustain their performance. During COVID-19, companies had to comply with legal and political pronouncements, such as social distancing, affecting the management of employees qualitatively and quantitatively (Elayan, 2021). Equally, new HRM practices and strategies, such as remote working and cutting training and development costs, significantly affected organizational performance. Besides managing employees, business continuity was also a priority in designing working practices. In particular, many firms had to adopt advanced technological models to sustain their operations (Contreras, 2021). Adopting advanced technology ensured improved communication and enhanced productivity (Caponecchia & Mayland, 2020). Consequently, with profound changes, organizations increased digitalization as a strategy to overcome the adverse effects of the pandemic. In essence, HRM practices were agile and responsive to emerging needs. In addition to that, the accelerated digitalization actively supported and promoted employee performance and the quality of work.

Key words: Human resources, online, company, performance, quality, technology.

1. Introduction

Human Management during COVID-19

The COVID-19 pandemic had a considerable impact on human resource management and the performance of employees. Restrictions and regulations to manage the pandemic profoundly affected the management of employees (Bieńkowska et al., 2022). For example, focusing on social distance and limiting the movement of people forced companies to change how they work. Organizations had to restructure their processes and shift towards remote working (Wong et al., 2021). On the other hand, employees experienced challenges related to working from home. Bieńkowska et al. (2022) established

that using new work tools, adjusting to working from home, and new business interactions, completely transformed work, performance, and how organizations managed their employees.

Human resource managers' challenge during the pandemic was to improve and sustain high organizational performance. This construct involves different firm domains, including shareholder returns, financial performance, and market performance (Wong et al., 2021; Chaker et al., 2021). Evidence reveals a positive correlation between corporate performance and job performance (Bieńkowska et al., 2022). Different components of job performance could affect the productivity of employees and the performance of firms. Specifically, increased turnover, task performance, and employee behavior could influence organizational performance (Gigauri, 2020). It is common knowledge that contemporary firms are increasingly operating in a changing context. According to Masa'deh et al. (2016), the performance of employees should be the focus of all organizations to guarantee business continuity and improve output under challenging conditions. This was the case when most companies reduced their operations during COVID-19 (Chaker et al., 2021). The pandemic increased uncertainty and created a turbulent environment for businesses to succeed (Bieńkowska et al., 2022). The pandemic affected employees' behavior, which is associated with job performance. It is vital to note COVID-19 affected human resource management and decreased job performance.

COVID-19 regulations affected the effective management of employees. For example, social isolation or social distancing is one regulation that forced HR managers to redesign job functions. While a quantitative study by Chaker et al. (2021) established an indirect association between job performance and social isolation, some authors have confirmed that social distancing could hinder learning and development, affect informal conversations, and influence the behavior of employees negatively (Bieńkowska et al., 2022). COVID-19 also caused massive layoffs in the hospitality sector due to social distancing regulations. Layoffs associated with the pandemic elevated employees' stress levels, resulting in decreased job performance (Wong et al., 2021). HR managers who focused on employees' well-being, health, and job tasks improved the performance of employees.

COVID-19 significantly affected HRM operations, such as hiring, employee training and development, and job design. Due to uncertainty caused by the pandemic, HR managers experienced challenges in accurately predicting short-term and future staffing needs (Aurelia & Momin, 2020). Factors such as political regulations and market demand affected staffing needs. Some HR managers adapted to emerging trends to predict short and long-term staffing needs (Bieńkowska et al., 2022). Employee development is a crucial component of organizational performance and productivity. While employee development and promotions are critical in supporting organizational performance, during the pandemic, HR managers took radical measures focused on survival (Bieńkowska et al., 2022). For instance, Vardarlıer (2016) concluded that firms cut activities that would incur additional costs during uncertainties. These activities may include employee training and development, promotions, and other benefits. Hence, employee training and development reduction significantly negatively affects organizational performance (Bieńkowska et al., 2022). Additionally, the pandemic resulted in job design changes as organizations aligned their activities and operations with emerging technological needs (Caponecchia & Mayland, 2020). For example, many firms had to adopt new technologies and transform their spaces entirely to reduce physical interaction (Bieńkowska et al., 2022). Overall, job redesign affected how companies functioned, and these changes may persist even after the pandemic.

Contemporary HRM practices are effective when organizations are facing uncertainty and turbulence. Notably, HR managers must consider and implement practices that mitigate adverse related to the COVID-19 pandemic and foster learning and development opportunities (Bieńkowska et al., 2022). Two HRM approaches could help organizations during turbulent times: soft and hard practices. In soft HRM practices, employees are perceived to be valuable organizational assets (Battisti et al., 2022). Soft HRM practices primarily focus on improving employees' well-being to enhance performance. HR managers introduced training programs to help employees acquire new skills, such as working remotely. Additionally, HR managers focused on effective communication and information sharing using new technology forms. Other organizations introduced coaching and counseling to foster the well-being of employees (Bieńkowska et al., 2022). Some firms used hard HRM practices,

such as pay cuts, downsizing, and reducing employees' performance goals and benefits (Bieńkowska et al., 2022). A mixture of hard and soft HRM practices is considered effective in addressing adverse effects caused by COVID-19. This model enables HR managers to motivate employees and simultaneously reduce operational costs related to hiring, training, and development.

The bottom line is that COVID-19 has positively and negatively impacted human resource management. The negative impact associated with the pandemic affected the performance of employees. For instance, high-stress levels, job uncertainty, inadequate technology for work, technical challenges, constraints in sustaining virtual relationships, and difficulties in balancing work and life adversely reduced the performance of employees (Bieńkowska et al., 2022). On the other hand, remote working increased flexibility, and the possibility of hiring employees without focusing on global boundaries enhanced job satisfaction, job output, increased productivity, and improved organizational performance (Wong et al., 2021).

1.1 Work Digitalization during COVID-19

During the pandemic, organizations made drastic changes, including restructuring, to respond to the harmful effects of COVID-19. Amankwah-Amoah et al. (2021) established that most firms invested in digitalization to overcome the negative impact of COVID-19. Some organizations were forced to adopt advanced information systems and move their services and products online (Wong et al., 2021). Digitalization involves adopting advanced technologies and incorporating digital and physical systems (Amankwah-Amoah et al., 2021). The digitalization process consists of transforming an organization's business model through the implementation of digital technology, demonstrated as a digital platform, and includes human resources, management, and business model.

Organizations improved their HR technology to sustain operations and respond promptly to emerging business needs. Digitalization has been part of the business and organizational models to enhance efficiency (Wong et al., 2021). Early adoption of digitalization of HR functions includes automation of management systems that enabled greater accuracy and speed in storing and retrieving data (Amankwah-Amoah et al., 2021). Recent advanced technologies have allowed teams to work virtually and foster working relationships and

productivity. Before COVID-19, there were several digitalization opportunities for firms in communication and information storage. With COVID-19, most organizations adopted advanced technology to enable remote working and promote productivity (Wong et al., 2021).

The main driver of HR digitalization during COVID-19 was remote operations or remote working. Wang et al. (2021) define remote working as performing activities outside an employing firm from a remote virtual location. While several technologies that support remote working have been in operation, most companies decided not to use them or adopt them selectively for a few employees (Wong et al., 2021). According to Miele and Tirabeni (2020), some HR managers had concerns about losing control over employees and trusting employees to exercise autonomy remotely. Although HR managers were reluctant, COVID-19 forced several companies to implement new technologies to move towards remote working and operations. Multinationals accepted remote working to sustain their operations in response to quarantine measures and travel restrictions (Wilson & Chen, 2020). For instance, 90% of Morgan Stanley employees worked remotely during the pandemic (Amankwah-Amoah et al., 2021).

Digitalization posed opportunities and challenges in critical areas of organizational operations such as marketing sales, labor, social relations, and technology. There was a considerable transformation in social and labor relations during the pandemic as employees embraced new teleworking models (Almeida et al., 2020). While social changes accelerated digital processes, not all companies have the same resources and capabilities to face the opportunities and challenges of digitalization (Wilson & Chen, 2020). Smaller firms, particularly micro companies in the hospitality industry, could be affected by digital transformation because they lack sufficient resources to compete effectively with established brands. Furthermore, the pandemic accelerated the growth of the online business, primarily driven by movement restrictions and border closures (Almeida et al., 2020). Almeida et al. (2020) established that online business development comes with several opportunities. For instance, advanced technologies help to strengthen customer loyalty. It also assists companies in accessing new audiences in the global market. Digitalization will allow organizations to open new operations in different locations due to shared services and faster communication.

Most companies reorganized their production and adopted automation to ensure continuity of operations, improve production capacity, and offer prompt customer assistance. The reduction in human interaction saw the adoption of robots and drones in some sectors, such as automotive (Contreras, 2021). Since 2020, automation has accelerated investments in different industries, including logistics, health care, defense and security, automotive, and food and beverages. There was accelerated robot adoption in warehouses and healthcare facilities to observe social distancing (Contreras, 2021). Automation technologies allow companies to enhance customer experience (Wong et al., 2021). Notably, automation resulted in new business lines in the retail sector. Companies will continue to digitalize and invest in automation to strengthen their competitive advantage.

1.3 Sample

The key purpose of this research study was to find the general attitudes of Albanian employers towards compulsory digital and distance working during Coronavirus (COVID-19).

The sample of the study included 100 employee: 61 female and 39 male participants. All the participated in the survey had attend online working.

Attitudes	No	
What is your opinion on conventional working during Covid19?	Agree	55
	Somewhat Agree	13
	Disagree	32
Do you have the necessary equipment as pc/compute or internet access?	Agree	45
	Somewhat Agree	15
	Disagree	40
Which of the tools you know batter?	Blog	60
	Wikis	70
	Podcast	60
	Emails	90
	Web	80
	Office	90
	Statistical programs	60

What is your opinion online working?	Agree	15
	Somewhat Agree	23
	Disagree	62
Are you comfortable communicating electronically?	Agree	70
	Somewhat Agree	15
	Disagree	15
It is easy to complete work projects/assignments digitally?	Agree	43
	Somewhat Agree	23
	Disagree	44
Face-to-face contact with the co-workers was productive?	Agree	48
	Somewhat Agree	12
	Disagree	40
Work can be completed effectively through internet?	Agree	43
	Somewhat Agree	35
	Disagree	22
Online working is more motivating than Conventional working?	Agree	33
	Somewhat Agree	23
	Disagree	44
Conventional working is more motivating than Online working?	Agree	45
	Somewhat Agree	15
	Disagree	40
How do you rate your experience during covide19 online work?	Positive	45
	Negative	55
Will you consider to work online in the future?	Yes	43
	No	57

1.4 Data Analysis

The survey shows varied attitudes towards working online or conventional work. Based on 100 employees in the survey, a significant number leaned towards conventional rather than digital working. That means most of them felt that conventional working brought more productivity and motivated them as individuals, unlike the experience with online working during COVID-19. For

instance, many employees agreed to conventional working; however, many also disagreed that it is better. There is also the issue of whether they had Internet access or necessary equipment where a higher number had the equipment; however, still, a significant number needed the necessary access for doing their work remotely. Online work needs connectivity and the appropriate gadgets to operate successfully. Many employees claimed to know the office, email, web, and wikis tools better than others who seemed familiar with the blog, statistical programs, and podcasts. Regardless of a high number of employees agreeing that communicating electronically is comfortable for them, a high number disagreed with the opinion of online working, with a few who agreed that it is the better option for working. That shows that a lot of employees prefer to avoid online work. A higher number of individuals also disagree that it is easier to finish projects digitally. They also agreed that for most of them, having a face to face contact with their coworkers made them more productive than using the online working setup. More people agreed that conventional working is better than online, while a few felt divided about the situation. More individuals without conventional work are more motivated than those having an online job, which can be attributed to isolation and distractions at home. Generally, a higher number rated the COVID-19 online working as a negative experience, meaning they would have preferred the conventional working condition. A significant number claimed there would be no consideration for future online work; however, others also felt it was a possibility.

1.5 Conclusion

COVID-19 affected the management of human resources as organizations shifted to remote working. Most employees experienced considerable challenges working with technological tools and new business interactions. The impact of COVID-19 on HRM could be perceived as both positive and negative. The pandemic accelerated work digitalization, which was crucial in sustaining business operations. In particular, it enabled companies to adopt flexible approaches to managing work arrangements and business. Besides, there was improved remote working and internal communication in firms. Thus, digitalization will continue to make the workplace better for

innovations and improved performance in the post-pandemic. On the other hand, some companies struggled to digitalize their operations and keep employees motivated. Some firms with insufficient digital infrastructure laid off employees due to challenges in remotely managing a large workforce. Some employees also struggled to work from home. With high autonomy and less supervision, the performance of some employees dropped. HR managers generally experienced challenges in leading, controlling, and delegating activities to employees during the COVID-19 pandemic. Human resource management ensures that each employee can perform their work as delegated. The increase needs to digitalize due to COVID-19 gave human resource management more work in trying to monitor and supervise the performance of the employees. Since the employees did not physically go to the workplace, a significant drop in work performance arose, which meant the human resource had to address the matter effectively.

Working from home means the employees are more likely to face distractions or interruptions that make them less productive. Other distractions include the situation where they have young children who may be unaware of the boundaries they are supposed to observe, which creates interruptions for the employee throughout the day. Working remotely requires even more concentration or keeping the focus on one's target or aim in their job more than when one is physically present at their workplace.

For jobs that do not include creativity, there is a high likelihood of having the employee productive since they do not enjoy the work. Working remotely also created a sense of isolation, and created difficulty finding the proper routine, unlike in the workplace where there are proper work schedules. The employees could also be facing the trouble of setting up a space that can interrupt their convenience regarding movement and working ability. All these have created a great challenge for human resource management to control and to be able to monitor the activities of the employees to promote increased productivity.

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Questionnaire

Thanking you for your precious time reading this questionnaire, I would be very grateful if, after reading this questionnaire, you could complete it: circle your answer. I also guarantee you that its completion does not require more than 5 minutes and that the data you will serve will remain absolutely confidential. Thank you!

1	Your gender?	1 Male 2 Female
2	Your age?	1 -19 - 30years old 2 -30 – 40 years old 3 -40 - 50 years old 4 -50 - 65 years old
3	Your educational level?	1 Elementary 2 Secondary 3 University 4 Master degree
4	What is your opinion on conventional working during Covid19?	Agree Somewhat Agree Disagree
5	Which of the tools you know batter?	Blog Wikis Podcast Emails Web Office Statistical programs
6	Do you have the necessary equipment as pc/compute or internet access	Agree Somewhat Agree Disagree

7	What is your opinion online working?	Agree Somewhat Agree Disagree
8	Are you comfortable communicating electronically?	Agree Somewhat Agree Disagree
9	It is easy to complete work projects/assignments digitally?	Agree Somewhat Agree Disagree
10	Face-to-face contact with the co-workers was productive?	Agree Somewhat Agree Disagree
11	Work can be completed effectively through internet?	Agree Somewhat Agree Disagree
12	Online working is more motivating than Conventional working?	Agree Somewhat Agree Disagree
13	Conventional working is more motivating than Online working?	Agree Somewhat Agree Disagree
14	How do you rate your experience during covide19 online work?	Agree Somewhat Agree Disagree
15	Will you consider to work online in the future?	Yes No

INTELLECTUAL PROPERTY, CYBERCRIME, AND AI

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Abstract

The digital transformation of society has brought about numerous benefits in various aspects of life. These benefits include increased efficiency, convenience, and access to information, leading to improved productivity, enhanced communication, and greater access to goods and services. However, this transformation has also created legal challenges that require attention. One of the most significant challenges is privacy, as the increasing reliance on data has raised concerns around the collection, use, and storage of personal information. Cybersecurity is also a critical challenge, with cybercrime becoming an increasingly prevalent threat, and legal frameworks must be developed to ensure protection from these threats. Intellectual property is another area where digital transformation has presented legal challenges, as protecting intellectual property rights has become increasingly difficult.

Addressing these challenges is critical to ensuring that creators are appropriately rewarded for their work. Legal frameworks must be developed to protect privacy, security, intellectual property, and address cybercrime. These frameworks can help protect individuals, businesses, and governments from the negative consequences that can arise from the misuse of technology. By developing these frameworks, society can continue to enjoy the benefits of digital transformation while minimizing the risks.

In conclusion, while the digital transformation of society has brought about significant benefits, it is essential to address the legal challenges it presents to ensure that these benefits are not undermined by negative consequences. Legal frameworks play a crucial role in mitigating these challenges, and their development should be prioritized.

Keywords: Digital Transformation, Legal Challenges, Privacy, Security, Intellectual Property

1. Instructions

Digital transformation has brought about significant changes in almost every aspect of human life, including the legal landscape. While the internet, social media, and other digital technologies have facilitated communication, innovation, and economic growth, they have also presented unprecedented legal

challenges. The ability to collect, process, and store large amounts of data has created complex legal issues related to privacy, intellectual property, cybercrime, and artificial intelligence (AI) (Bamodu, 2020).

The purpose of this paper is to examine the legal challenges presented by digital transformation, with a specific focus on privacy, intellectual property, cybercrime, and AI. The paper aims to provide an overview of the current state of the law and identify potential areas of legal development as digital transformation continues to evolve.

First, this paper will discuss the legal implications of digital data collection and processing for privacy rights. With the rise of data-driven business models and the internet of things, individuals' personal information is being collected and shared on an unprecedented scale, presenting significant privacy concerns (Munro, 2018). These concerns have prompted the enactment of laws such as the European Union's General Data Protection Regulation (GDPR) and California's Consumer Privacy Act (CCPA) to regulate the collection, processing, and sharing of personal data (European Parliament, 2016; California Legislative Information, 2018).

Second, this paper will analyze the impact of digital transformation on intellectual property laws. The ease of copying and distributing digital content has challenged traditional notions of copyright and patent law, and has raised important questions about the balance between innovation and intellectual property protection (Lessig, 2008). As a result, many countries have enacted laws to address these issues, such as the United States' Digital Millennium Copyright Act (DMCA) and the European Union's Directive on Copyright in the Digital Single Market (United States Congress, 1998; European Parliament, 2019).

In conclusion, digital transformation has revolutionized human life in countless ways, but it has also created complex legal challenges. This paper has highlighted the legal challenges related to privacy, intellectual property, cybercrime, and AI, and has provided an overview of the current state of the law in these areas. As digital transformation continues to evolve, it is likely that the legal landscape will continue to change, and new legal challenges will emerge. Therefore, it is essential that lawmakers, academics, and other stakeholders stay informed and engaged with these issues to ensure that the law keeps pace with technological change.

Third, this paper will examine the growing threat of cybercrime, including hacking, phishing, and identity theft. As more and more sensitive information is

stored and transmitted digitally, the risks associated with cybercrime are increasing.

Finally, the paper will discuss the legal implications of AI, including issues related to liability, transparency, and bias. The growing use of AI in various industries has raised important legal questions about who is responsible when something goes wrong, and how to ensure that AI decision-making is fair and unbiased.

Overall, this paper seeks to provide a comprehensive overview of the legal challenges presented by digital transformation. By identifying key legal issues and potential areas of legal development, the paper aims to contribute to a better understanding of the legal landscape in the digital age.

2. Privacy

Privacy is a fundamental human right that is increasingly at risk in the digital age. [181]As personal data is collected, processed, and shared on an unprecedented scale, concerns about data privacy and security have become more prevalent. This has prompted the enactment of various laws and regulations to protect individual privacy, such as the General Data Protection Regulation (GDPR) in the European Union and the California Consumer Privacy Act (CCPA) in the United States.[182]

Despite the enactment of privacy regulations, privacy issues still persist in the digital age. One of the challenges is the difficulty of enforcing privacy regulations in the global digital environment. Companies that operate in multiple countries may be subject to different privacy regulations, making it difficult to ensure consistent privacy protection. This has led to calls for greater international cooperation on privacy regulation.

Another challenge is the use of third-party service providers and cloud computing services, which can make it challenging to ensure the security of personal data. For example, in 2017, Equifax, a credit reporting agency, suffered a massive data breach that compromised the personal data of approximately 147 million individuals. The breach was attributed to a vulnerability in a web application that was hosted on a third-party server.

[181] United Nations, International Covenant on Civil and Political Rights, Article 17, https://www.ohchr.org/en/professionalinterest/pages/ccpr.aspx
[182] GDPR, https://gdpr.eu/

In conclusion, privacy is a critical legal challenge in the digital age, and its protection requires a comprehensive and coordinated response. This response must address the challenges of enforcing privacy regulations in the global digital environment and ensuring the security of personal data, particularly when using third-party service providers and cloud computing services. By addressing these challenges, we can safeguard individual rights and promote ethical and responsible practices in the digital age.

3. Intellectual Property

Another legal challenge of digital transformation is intellectual property. The digital age has made it easier to create, distribute, and consume content, which has led to new challenges in protecting intellectual property rights. Copyright, trademark, and patent infringement are widespread in the digital age, and it can be difficult to enforce intellectual property rights in a borderless digital world.

Intellectual property (IP) refers to a category of legal rights that protect intangible creations of the human mind, such as inventions, artistic works, and symbols or designs used in commerce. These rights are designed to incentivize innovation by granting creators exclusive control over their creations for a limited period of time. The main types of IP rights include patents, trademarks, copyrights, and trade secrets.

One of the challenges with AI and machine learning is determining who owns the IP created by these systems. In some cases, the creator of the AI system may own the IP, while in other cases, the creator of the data used to train the system may own the IP. Additionally, there are questions about whether AI-generated works should be eligible for copyright protection and how to attribute authorship of such works.[183]

In recent years, there have been several notable legal cases related to AI and IP. For example, in 2019, the US Patent and Trademark Office (USPTO) issued new guidelines for the examination of patent applications that involve AI and machine learning.[184] The guidelines state that inventions that are "enabled by AI" or that "involve the use of AI" should be eligible for patent protection, but

[183] Lemley, M. A., & Volokh, E. (2020). Law, norms, and the algorithmic ecosystem: When should the law step in? Harvard Journal of Law & Technology, 34(1), 1-43

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that patents cannot be granted for inventions that are "directed to a mathematical algorithm."

Another area of concern is the use of AI in the creation of deepfakes, which are digital manipulations of audio or video that can be used to create convincing but fake media. In 2020, the US Copyright Office released a report on the legal implications of deepfakes and recommended that Congress consider expanding copyright law to address deepfakes and other AI-generated works.[185]

To address these challenges, various international treaties, such as the World Intellectual Property Organization (WIPO) Copyright Treaty, aim to protect intellectual property rights in the digital age. Additionally, companies can use technological solutions such as digital rights management (DRM) to protect their intellectual property rights. However, DRM has also been criticized for limiting consumers' access to content and for being susceptible to hacking and other forms of cybercrime.

Overall, the use of AI in intellectual property raises a number of complex legal issues, and it is likely that we will see continued development in this area in the coming years.

4. Cybercrime

Cybercrime has become a major concern in the digital age. Cybercriminals are constantly finding new ways to exploit weaknesses in digital technologies, and their actions can have severe consequences for individuals, businesses, and governments.[186] This section will provide a more detailed discussion of cybercrime, its types, and its impact.

Types of Cybercrime

Cybercrime can take many different forms, including hacking, identity theft, fraud, and ransomware attacks. Hacking involves gaining unauthorized access to a computer system or network, usually with the intention of stealing data or causing damage. Identity theft, on the other hand, involves stealing someone's personal information, such as their name, address, and social security number, for financial gain or other nefarious purposes. Fraud can involve various types

[185] United States Copyright Office. (2020). Copyright and the Future of Machine-Generated Works. Retrieved from https://www.copyright.gov/reports/future-machine-generated-works.pdf

[186] Rouse, M. (2020). Cybercrime. Retrieved from https://searchsecurity.techtarget.com/definition/cybercrime

of scams, such as phishing, in which a cybercriminal poses as a legitimate entity to trick someone into providing sensitive information. Ransomware attacks are a type of malware that encrypts a victim's data and demands payment in exchange for the decryption key.

Ransomware Attacks

Ransomware attacks are a growing concern for individuals and organizations alike. In these attacks, cybercriminals gain unauthorized access to a victim's computer system or network and encrypt their data, rendering it inaccessible. The cybercriminal then demands payment, typically in the form of cryptocurrency, in exchange for the decryption key, which will unlock the data. Ransomware attacks can have devastating consequences, causing significant financial losses and disrupting operations.[187]

Prevention and Mitigation

Governments, international organizations, and businesses have implemented various measures to prevent and mitigate cybercrime. For example, the International Criminal Police Organization (INTERPOL)[188] has launched initiatives such as the Global Complex for Innovation (IGCI), which provides training, support, and intelligence to law enforcement agencies worldwide. Governments and businesses can also take steps to protect themselves from cybercrime by implementing robust cybersecurity measures, such as firewalls, intrusion detection systems, and encryption. Additionally, individuals can practice good cybersecurity hygiene by using strong passwords, avoiding suspicious links and attachments, and keeping software up-to-date.

Conclusion

Cybercrime is a significant legal challenge in the era of digital transformation, and ransomware attacks, in particular, have become a growing concern. However, governments, international organizations, businesses, and individuals can take steps to prevent and mitigate cybercrime. By implementing effective cybersecurity measures and practicing good cybersecurity hygiene, we can protect ourselves from the consequences of cybercrime.

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[187] Gartner. (2021). Ransomware Defense Best Practices. Retrieved from https://www.gartner.com/smarterwithgartner/ransomware-defense-best-practices/

[188] INTERPOL. (n.d.). Global Complex for Innovation. Retrieved from https://www.interpol.int/en/About-INTERPOL/Structure-and-governance/INTERPOL-global-complex-for-innovation

5. Artificial Intelligence and Machine Learning

Digital transformation has raised new legal challenges related to the use of artificial intelligence (AI) and machine learning (ML). These technologies are becoming increasingly prevalent in various sectors, including healthcare, finance, and law enforcement. However, the use of AI and ML raises concerns about bias, accountability, and transparency.

Artificial Intelligence (AI) and Machine Learning (ML) are two of the most transformative technologies driving the digital transformation of society, with their usage expanding into various sectors such as healthcare, finance, and law enforcement. However, their rapid advancement has also raised new legal challenges that must be addressed to ensure that these technologies are used ethically, responsibly, and fairly. In this article, we will discuss some of the key legal challenges associated with AI and ML, including bias, accountability, and transparency.

Bias is one of the most significant challenges associated with AI and ML[189]. This is because AI and ML algorithms are only as unbiased as the data they are trained on[190]. If the data is biased, the algorithm will also be biased. This can lead to discriminatory outcomes, such as a hiring algorithm that inadvertently discriminates against certain groups. To address this challenge, it is essential to ensure that AI and ML algorithms are trained on diverse, representative, and unbiased data.

Accountability is another legal challenge related to AI and ML[191]. As these technologies become more autonomous, it can be challenging to assign responsibility when something goes wrong. For example, if an AI-powered autonomous vehicle causes an accident, who is liable - the manufacturer, the programmer, or the owner? To address this challenge, it is crucial to establish clear rules and regulations regarding the use of AI and ML, as well as liability frameworks to ensure accountability.

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[189] Caliskan, A., Bryson, J. J., & Narayanan, A. (2017). Semantics derived automatically from language corpora necessarily contain human biases. Science, 356(6334), 183-186. https://doi.org/10.1126/science.aal4230

[190] Bolukbasi, T., Chang, K. W., Zou, J., Saligrama, V., & Kalai, A. T. (2016). Man is to computer programmer as woman is to homemaker? Debiasing word embeddings. In Advances in Neural Information Processing Systems (pp. 4349-4357).

[191] PWC. (2018). The Responsible Use of Artificial Intelligence in the Public Sector. https://www.pwc.com/gx/en/industries/government-public

Transparency is also a legal challenge related to AI and ML[192]. It can be challenging to understand how an AI or ML algorithm arrived at a particular decision, especially if it is based on complex and opaque algorithms. This lack of transparency can erode trust in these technologies and hinder their adoption. To address this challenge, it is essential to ensure that AI and ML algorithms are transparent, explainable, and accountable.

To address these legal challenges related to AI and ML, various initiatives and frameworks have been established[193]. For example, the European Union's General Data Protection Regulation (GDPR) includes provisions related to automated decision-making and profiling, which require transparency and accountability in the use of AI and ML algorithms. The Algorithmic Accountability Act, introduced in the US Congress in 2019, proposes to regulate the use of AI and ML algorithms and establish liability frameworks.

To ensure that AI and ML are developed and used in a responsible and ethical manner, various guidelines and frameworks have been developed[194]. For instance, the European Commission has developed guidelines on AI ethics that aim to ensure that AI is transparent, accountable, and respects privacy and human dignity.

In conclusion, while AI and ML offer numerous benefits, they also pose legal challenges that must be addressed to mitigate risks. By training AI and ML algorithms on diverse and unbiased data, establishing clear rules and regulations, and ensuring transparency and accountability, we can harness the potential of these technologies while mitigating their risks.

6. Legal Liability and Responsibility

Another legal challenge of digital transformation is the issue of legal liability and responsibility. As more aspects of society become digitized, the lines of responsibility and accountability become blurred. For example, who is responsible for the consequences of an autonomous vehicle accident? The vehicle manufacturer, the software developer, the owner of the vehicle, or the regulatory body that approved the vehicle's use? Similarly, who is responsible

[192] European Commission. (2018). Ethics guidelines for trustworthy AI. Retrieved from https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai

[193] Algorithmic Accountability Act of 2019, S.1108, 116th Cong. (2019). Retrieved from https://www.congress.gov/bill/116th-congress/senate-bill/1108/text

[194] Floridi, L., Cowls, J., Beltrametti, M., Chatila, R., Chazerand, P., Dignum, V., ... & Luetge, C. (2018). AI4People—An ethical framework for a good AI society: Opportunities, risks, principles, and recommendations. Minds and Machines, 28(4), 689-707.

for the accuracy and reliability of medical diagnoses made by AI systems? The healthcare provider, the software developer, or the regulatory body that approved the system's use?

Legal liability and responsibility are crucial issues that arise when using artificial intelligence and machine learning systems. As these technologies become more advanced and are integrated into various industries, there is a growing need to consider how they may impact legal liability and responsibility.

One important concept to consider is the idea of "explainability" in AI and machine learning systems. This refers to the ability of these systems to provide clear and understandable explanations for their actions and decisions. If an AI system makes a decision that results in harm or damage, it may be difficult to determine who is legally responsible if the decision-making process is not transparent.

The legal liability and responsibility of AI and machine learning systems has been the subject of much debate and discussion in recent years. In some cases, courts have held that companies may be liable for the actions of their AI systems, particularly if they were negligent in their design or implementation.

For example, in the case of Herzberg v. Uber Technologies Inc.[195], a pedestrian was killed by a self-driving car operated by Uber. The victim's family filed a lawsuit against Uber, alleging that the company was negligent in the design and operation of its autonomous vehicle. In this case, the court held that Uber could be held liable for the accident, despite the fact that the car was being operated autonomously.

Similarly, in the case of McMillan v. NECC Telecom[196], a company was held liable for the actions of an AI system that sent unsolicited text messages to consumers. The court held that the company was responsible for the actions of its AI system, as it had not taken sufficient steps to ensure compliance with anti-spam laws.

There have also been efforts to develop guidelines and standards for the responsible use of AI and machine learning systems. For example, the European Commission has developed guidelines for trustworthy AI, which emphasize the importance of transparency, accountability, and explainability in AI systems.[197]

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[195] Herzberg v. Uber Technologies Inc., No. CV 18-2837-MWF (JEMx) (C.D. Cal. Mar. 5, 2019).

[196] McMillan v. NECC Telecom, No. 17-1083, 2018 WL 3419362 (D.N.J. July 13, 2018).

[197] European Commission, "Ethics Guidelines for Trustworthy AI" (April 8, 2019), https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai.

In terms of latest developments, there have been ongoing discussions and debates around legal liability and responsibility in AI and machine learning. Some experts have suggested that new legal frameworks may be needed to address the unique challenges posed by these technologies.

7. Environmental Impact

Digital transformation has also raised concerns about its environmental impact. The production, use, and disposal of digital devices and infrastructure can have significant environmental consequences, such as energy consumption, greenhouse gas emissions, and electronic waste.

As AI and ML technologies continue to advance and become more pervasive, concerns are growing about their environmental impact. In particular, the energy consumption of training and running large-scale AI and ML models can have a significant carbon footprint.

One study estimated that the carbon emissions associated with training a single deep learning model can be as high as 626,000 pounds, which is roughly equivalent to the lifetime emissions of five cars.[198] Another study found that the energy consumption of AI and ML systems is projected to increase by 10-20 times over the next few years.[199]

To address these concerns, researchers and industry leaders are exploring various strategies to reduce the environmental impact of AI and ML. Some of these strategies include:

1. *Energy-efficient hardware*: Researchers are working on developing energy-efficient hardware specifically designed for AI and ML workloads. For example, Google has developed a custom chip called the Tensor Processing Unit (TPU) that is designed to accelerate machine learning workloads while consuming less energy.
2. *Algorithmic efficiency*: Improving the efficiency of algorithms can also help reduce the energy consumption of AI and ML. For example, researchers have developed algorithms that can learn from smaller amounts of data, reducing the amount of energy required for training.

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[198] Strubell, E., Ganesh, A., & McCallum, A. (2019). Energy and Policy Considerations for Deep Learning in NLP. In Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics (pp. 3645–3650). https://doi.org/10.18653/v1/P19-1356

[199] Andrae, A. S. G., & Edler, T. (2015). On Global Electricity Usage of Communication Technology: Trends to 2030. Challenges, 6(1), 117–157. https://doi.org/10.3390/challe6010117

3. *Renewable energy*: Another strategy is to power AI and ML systems using renewable energy sources such as solar or wind power. Several companies have already committed to using 100% renewable energy to power their data centers, including Google and Microsoft.
4. *Carbon offsets:* Some organizations are also exploring the use of carbon offsets to mitigate the environmental impact of their AI and ML systems. Carbon offsets are credits that represent the reduction of one metric ton of carbon dioxide emissions elsewhere, such as through reforestation or renewable energy projects.

It is worth noting that there are still many unanswered questions about the environmental impact of AI and ML, and further research is needed to fully understand the extent of the problem and identify effective solutions.

As for recent developments, in 2021, the United Nations published a report titled "Playing for the Planet: How Video Games Can Deliver for People and the Environment," which highlighted the environmental impact of video games and the potential for AI and ML to help reduce this impact. Additionally, some organizations such as OpenAI have pledged to prioritize environmental sustainability in their research and development efforts.[200]

8. Conclusion and recommendations

The digital transformation of society has brought about numerous benefits, but it has also posed several legal challenges that need to be addressed. Privacy, intellectual property, cybercrime, and AI and ML are some of the key legal challenges that society is facing in the era of digital transformation. Governments, international organizations, and companies need to work together to develop effective solutions to address these challenges while ensuring that digital transformation continues to bring benefits to society.

In the realm of privacy, the General Data Protection Regulation (GDPR)[201] in the European Union and the California Consumer Privacy Act (CCPA)[202] in the

[200] Playing for the Planet Alliance & UN Environment Programme. (2021). Playing for the Planet: How Video Games Can Deliver for People and the Environment. United Nations Environment Programme. https://www.unep.org/resources/report/playing-planet-how-video-games-can-deliver-people-and-environment

[201] European Union. (2016). General Data Protection Regulation. Official Journal of the European Union, L119, 1-88. Retrieved from https://eur-lex.europa.eu/eli/reg/2016/679/oj

[202] California Legislative Information. (2018). California Consumer Privacy Act of 2018. Retrieved from

United States represent significant steps forward in protecting individuals' personal data. However, the difficulty of enforcing privacy regulations in the global digital environment remains a challenge. Additionally, new technologies like the Internet of Things (IoT) and Artificial Intelligence (AI) continue to raise new privacy concerns that must be addressed.

In terms of intellectual property, copyright, trademark, and patent infringement remain widespread in the digital age, and enforcing intellectual property rights in a borderless digital world is difficult. International treaties, such as the World Intellectual Property Organization (WIPO) Copyright Treaty[203], and technological solutions such as digital rights management (DRM) have been developed to protect intellectual property rights, but DRM has also been criticized for limiting consumers' access to content.

Cybercrime is a global problem that requires international cooperation and coordination to combat effectively. While technological solutions such as encryption and firewalls can help protect systems from cyberattacks, cybercriminals are also becoming more sophisticated, making it challenging to keep up with the latest threats. International organizations such as the International Criminal Police Organization (INTERPOL) play an essential role in promoting information sharing and collaboration among law enforcement agencies to combat cybercrime.

Finally, the use of AI and ML raises concerns about bias, accountability, and transparency. Guidelines and frameworks have been developed to ensure that AI and ML are developed and used in a responsible and ethical manner. However, the rapid pace of technological development means that ongoing dialogue and adaptation of these frameworks will be necessary to address the ethical concerns raised by AI and ML.

In conclusion, the legal challenges of digital transformation require ongoing attention and collaboration from governments, international organizations, and companies. By working together, these stakeholders can develop and implement effective solutions that protect individual rights and promote the responsible and ethical use of digital technologies. This will ensure that the benefits of digital transformation continue to be realized by society as a whole.

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https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB375Fetick

[203] World Intellectual Property Organization. (2002). WIPO Copyright Treaty. Retrieved from https://www.wipo.int/treaties/en/ip/wct/

9. Recommendations

1. Privacy: Governments should collaborate with international organizations to establish a comprehensive global framework for privacy regulations, including standards for data protection, data sharing, and data breaches. Additionally, the development and implementation of effective enforcement mechanisms should be a priority.
2. Intellectual property: Governments should continue to promote and sign international treaties such as the WIPO Copyright Treaty to ensure that intellectual property rights are protected in the global digital environment. They should also work to improve the enforcement of intellectual property rights through technological solutions such as digital watermarking and tracking, as well as legal penalties for infringement.
3. Cybercrime: Governments should work together to create international agreements and treaties that harmonize cybercrime laws and establish legal frameworks for international cooperation and information sharing. They should also provide adequate funding and resources to law enforcement agencies to enable them to effectively combat cybercrime.
4. AI and ML: Governments and international organizations should continue to develop and update guidelines and frameworks to ensure the responsible and ethical use of AI and ML technologies. They should also establish legal and regulatory frameworks that require companies to disclose how they are using AI and ML technologies and to obtain informed consent from individuals for the collection and use of their personal data.

By implementing these recommendations, governments, international organizations, and companies can work together to address the legal challenges posed by digital transformation while promoting the responsible and ethical use of digital technologies.

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LABOR PRODUCTIVITY, MINIMUM WAGE AND AVERAGE WAGE, THEIR INTERACTION IN ALBANIA FOR INCREASING WELFARE

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Abstract

Albanian society is currently experiencing an extreme increase in the prices of goods and services, which have reduced the real wage and increased the level of relative and absolute poverty. Government assistance programs are a redistribution, but in the final analysis they do not solve the problem of poverty. Currently, the decrease in consumption is accompanied by the increase in unemployment and the increase in inflation, in conditions where wages do not change or the changes are small. On the other hand, the limited government aid highlights the low Albanian productivity, which does not allow effective measures to be taken, if the strategy through government intervention does not change. This is how we are experiencing the stagflation of the economy. In this paperwork we will give a direction on how the government can and should intervene in the minimum wage and in the minimum living wage to achieve productivity growth. In fact, it resembles a shock therapy in the sense of some branches of the economy, but the current rates of economic growth do not promise an increase at the level of the region and the making of a competitive economy. Labor productivity is an essential element that enables the establishment of a minimum wage level. The results show that the level and fairness of legal minimum wages is determined by labor productivity.

Key words: Productivity, minimum wage, government, inflation, minimum wage, living wage.

2. Introduction

For years, Albania has been suffering from an emigration of the population, mainly of working age, which has put the existence of business in Albania at risk. The main reason for emigration is the economic reason and very few other reasons. The economic reason for leaving is related to the inability to find a suitable job with the right salary. In this paperwork, the aim is to introduce the facts that have influenced this situation, even though the situation does not seem so gray, and on the other hand, to present recommendations on how we should proceed.

3. Literature review

2.1 Labor productivity. Simply said: Labor productivity represents production efficiency; how much product is produced by a factor or group of production factors. Normally efficiency is seen as the ratio of the output to the factor used. So, productivity measures the unit of product produced per unit of a particular factor. The most common type, which is also for the purpose of this paperwork, is labor productivity which measures the amount of product produced by a unit of work. Even under conditions of the same technology, two or more producers may have different levels of productivity, due to the labor intensity and different price factors they face. According to Schumpeterian endogenous growth theory, productivity growth comes not only from the marginal rate of consumption (the rate of accumulation), but also from consumption, or that part of consumption that we spend on research and development. Countries with high levels of research and development also offer higher productivity. Aghion's work etc. (2001), shows that, even other factors such as the increase in the intensity of competition will tend to reduce the absolute level of profits made by a successful innovator, however it will tend to reduce even more the profits of an unsuccessful innovator. More intense competition can have a positive effect on the rate of innovation because firms will want to escape the competition they would face if they lost any technological advantage they have over their rivals. The fact that most of the cross-country variation in growth rates is attributable to differences in productivity growth rather than to differences in rates of capital accumulation, the endogenous growth theory aims to provide an economic explanation of these differences in productivity growth, and it is continuing to attract attention. Productivity is also dependent on living standards and their disparities in different parts of the world. The explanation of income differences between countries is based on differences in the accumulation of knowledge, however, there is a fundamental problem here known as non-rivalry of knowledge. The use of knowledge by one producer does not preclude its use by others. Thus, there is no inherent reason that producers in poor countries cannot use the same knowledge as producers in rich countries. If the relevant knowledge is publicly available, poor countries can be enriched by having their workers or managers read the relevant literature. And if the relevant knowledge is the knowledge produced by privately owned research and development, poor countries can be enriched by creating a credible program to respect the property rights of foreign firms. Reasoning that the difficulty countries face is not lack of access to advanced technology, but lack of ability to use technology. This implies that the main source of differences in standards of living is not different levels of knowledge or technology, but differences in whatever factors allow richer countries to take advantage of better technology. So, understanding of

differences in income requires understanding the reasons for differences in these factors. (David Romer 2012)

The large productivity gap between in developing countries and the current frontier implies that there is a potential for significant income gains in developing countries if one of these hypotheses exists. Historically, productivity gaps have remained entrenched, with most evidence showing that they are far from unconditional convergence. Although the decline in global poverty rates in recent decades is an encouraging sign that economies near the bottom of the distribution have brought productivity and income gains, reducing the proportion of the world's population living in extreme poverty from 36 percent in 1990 to 10 percent in 2015 (World Bank, 2018b). Most of the decline is concentrated in South Asia and East Asia and the Pacific, the two regions with the highest rates of productivity growth among developing countries. Faster productivity growth in recent decades does not itself imply convergence toward the advanced economy frontier, which has also continued to expand. Furthermore, if the unconditional convergence hypothesis stands, the gains in productivity should be broad-based.

Productivity growth slowed down following the global financial crisis and developing countries faced the effects of COVID-19 pandemic. The global recession driven by COVID-19 occurred during a period of increased debt, while previous pandemics and other natural disasters have been accompanied by a prolonged decline in the growth of labor productivity and investments.

Defining poverty is a difficult task for two reasons: conceptual and technical. Several treatments exist, none of which is perfectly suitable. The first treatment defines poverty in absolute terms: A family is poor if its consumption of safe basic goods falls below what is considered to be the minimum acceptable standard. This criterion is in principle multidimensional, but it is usually reduced to a single income criterion: Then a family is considered poor if its income does not allow it to purchase these minimum consumption levels. A relative European treatment has more to do with inequality than poverty. They first define consumption units to be the equivalent number of adults in the household, using an equivalence scale. The equivalence rate is 0.5 for an adult and 0.3 for each child. Then a family is considered poor if its income per unit of consumption is below half of the median (or sometimes the average) of income per unit of consumption. With this measurement, anyone can naturally imagine a situation where all families have more income per unit of consumption and still the percentage of the poor increases. This definition thus considers in a simplified way that poverty is a relative notion, which depends on the average income in society. Instant poverty indices should moreover be accompanied by

the measurement of income variability, which unfortunately are difficult to obtain. Poverty can be measured in several ways. The simplest way is the % of the family falling below the poverty line. A frequently used measure is the poverty gap, which measures the average amount of money that must be given to each poor family to bring it above the poverty line. This second definition takes into account the distribution of income among the poor. Some studies have provided other methods of measuring poverty through the poverty gap and the Gini index. If poverty and income distribution are identified, then everyone can use the social welfare function. If we compare two income distributions with the same average income, then distribution A is preferred to B for all symmetric nearly concave social welfare functions if and only if the Lorenz curve for A is more closed to the diagonal than the Lorenz curve for B. This is a common definition of an egalitarian income distribution; yet it clearly defines only a very partial order.

2.2 Minimum wage, average wage and real wage.

The phenomenon of the natural distribution of human capital is a starting point for the theory of the minimum wage, which should be sufficient to counterbalance the natural dilution of a worker's initial human capital. In practice, the legal minimum wage is fixed at different levels, and it is very low. Of course, a low minimum wage will result in a decrease in the demand for work, even though the invested capital does not promise an increase in income from work. Invested capital can be measured more simply by the net annual addition of added investment - minus the depreciation of investment for an economy.

This salary should cover all expenses for a normal life for all family members. For different countries, the composition of the family is different and Albania is in those countries where the family burden has decreased due to the drop in births and the mass departure of Albanians, but on the other hand we have a large increase in the form of spending which comes from the increase in the retirement age population. Statutory wage levels (minimum - author's note)) are the most direct policy lever that governments have to influence wage levels at the lower end of the distribution. Minimum wages have been justified as a measure for: i) ensuring a fair wage and counterbalancing the negative effects of firms' power in the labor market; ii) payment of work; iii) increase income tax and/or tax compliance by limiting the scope of wage underreporting; and iv) providing an anchor for collective bargaining, especially for vulnerable workers with low bargaining power. Moreover, a growing of evidence across OECD

countries has significant monopsony power, i.e. the power of firms to set wages unilaterally leading to inefficiently low levels of employment and wages, which have strengthened arguments for raising the minimum wage where it is too low, or introducing a minimum wage where it does not exist, especially when workers are not already covered by bargaining.

The growth of wages in Albania in relation to the total product does not correspond to the growth of the total gross production, questioning its sources of use of this additional production.(Source: Open Data(processin is done by the autor).

Title	Unit	2014	2015	2016	2017	2018	2019	2020	2021	2022
GDP	billion	1,394	1,428	1,472	1,551	1,637	1,692	1,644	1,890	2,058
Annual economic growth	%		2.39%	3.13%	5.31%	5.55%	3.37%	2.83%	14.95%	8.91%
Economic growth over the base year	%		2%	6%	11%	17%	21%	18%	36%	48%
Inflation	**%**	**1.6**	**1.9**	**1.3**	**2.0**	**2.0**	**1.4**	**1.6**	**2.0**	**6.7**
Nominal wages	ALL	45,539	47,900	47,522	48,967	50,589	52,380	53,662	57,190	
Percentage change	%		5%	-1%	3%	3%	4%	2%	7%	
Change over the base year	%		5%	4%	8%	11%	15%	18%	26%	
Real wages	ALL	44,799	46,992	46,916	47,994	49,563	51,641	52,792	56,022	
Change in percentage	%		5%	0%	2%	3%	4%	2%	6%	
Change over the base year	%		5%	5%	7%	11%	15%	18%	25%	

4. The ratio of the average wage and the minimum wage KAITZ indicator

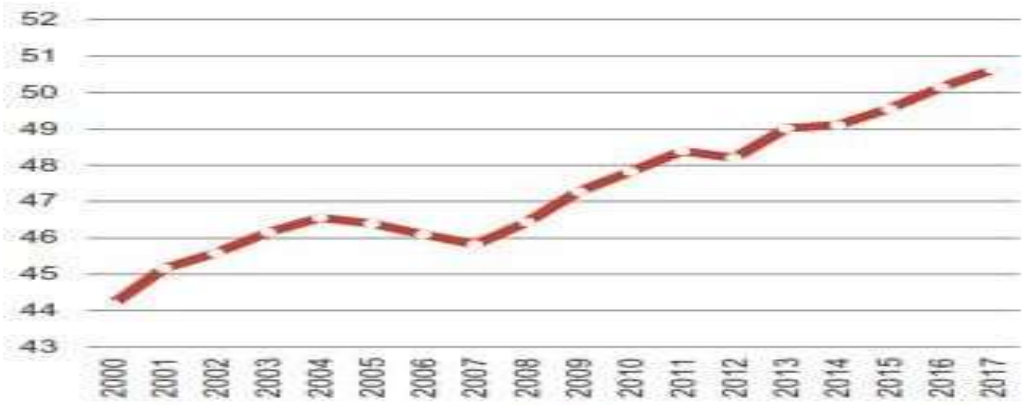
The progress of the minimum wage in Albania from 2014 to today is (source INSTAT), average wage and minimum living wage in Albania. Even the minimum wages during this period have increased and according to the KAITZ index they have been standardized between the values of 0.46 to 0.52, which is below the 60% standard required in the EU. But since Albania does not have a living wage, the indicator deteriorates a lot considering the fact that this ratio is again quite low. The upward trend is a good indicator but it does not show the whole pattern, and does not deny poverty.

Years	2014	2015	2016	2017	2018	2019	2020	2021
Average wages	45,539	47,900	47,522	48,967	50,589	52,380	53,662	57,190
Minimum wages	22,000	22,000	22,000	24,000	24,000	26,000	26,000	30,000
Living wage in Euro**				88	100	112	126	
Average exchange rate***				134.13	127.58	123.00	123.77	
Living wage in ALL				11,803	12,758	13,776	15,595	-
The KAITZ index	0.48	0.46	0.46	0.49	0.47	0.50	0.48	0.52
Ratio of the minimum wage to the living wage for a family with 1 person				0.49	0.53	0.53	0.60	-

Finally, let's analyze the data complement between productivity and the minimum wage, to understand why people leave. The first thing to understand is that countries are being compared with purchasing power parity and not how much money they get.

In EU countries this indicator is as follows:

Source: Schulten and Lübker 2019.



Their predictions extend as far as 2020, this indicator will be around 60% (Torsten etc 2020). The cost of living in the Balkan region shows that the 60% threshold is not enough to afford living. The main reason is the general low level of most salaries and consequently the average salary is also low. This threshold is not meaningful in countries that have high level of work poverty and poverty rates in general, where average wages are also very low and do not provide a decent standard of living; does not reflect the actual cost of living. Average income as a measure of poverty can only be applied in countries with some welfare and level of industrial relations, where average wages are enough to lead a decent life. (Ljarja etc. 2020).

5. **The theory of human capital**

The view of human capital in Albania includes employees from 18 years of age and older with at least one skill for work and who has a skill for work whether or not with professional education. So, in the benefit of the minimum wage the individual is without professional education and without a work experience. The source of human capital is only the flow of expenses of an employee in the society. The initial capital C_0 and time t are the essential factors of the compound interest formula $Ct = C_0e^{rt}$. The real challenge is rate theory (r). As stated by Dobija 2011, the initial capital growth rate has a three-factor structure. That is, $r = p – s + m$, so the initial capital C_0 is affected by the following three factors and the flow of time t. (s- is the rate and spontaneous and random distribution of the initial capital; s is a central part of the discount rate, e^{mt} is an input of capital and can save the potential for growth by changing it to benefit the work of natural forces (-s) and which can inhibit distribution (m)). Note that

the variables s and m represent assets. Considering s=m, the human capital model H(T, p) = K(p), where H(T, p) - indicates human capital, the number of a person with T = 0 years of professional work; and p = 0.008[204] is the economic constant which serves as the capitalization rate. K(p) - shows the capitalized cost of living (future value) during the period, ending at the moment when compulsory education ends. To illustrate how the model works, we apply human capital calculations for the calculation of a fair minimum wage to the case of Albania. Let's assume that a child was born in an Albanian family (2+2 people). This child would die soon if the parents and society did not take care of him. Fortunately, the capital inflow (ratio m) compensates s. at least. Therefore, the child's human capital can grow at a rate of p = 8%. In the course of life, human capital has been financed by expenses for living costs estimated at 23,721 ALL per month. We can calculate the cost of living for him for 18 years until he finishes high school as follows: in ALL

No.	*Year*	*2017*	*2018*	*Value*
1	*Monthly cost KM*	*ALL*		*23721*
2	*Annual cost KV*	*ALL*		*284652*
3	*Future value of outflows for 18 years at an 8% VFA rate of return*	*ALL*		*10,660,274*
4	*The annual value of the diffusion of human capital employed s*	*ALL*	*PD=sxKVA*	*852,822*
5	*Monthly salary*	*ALL*	*PM=PD/12*	*71068.5*
6	*The rate of social and health insurance paid by the employer*	*%*	*16.7*	
7	*Labor cost paid*		*PMx1,167*	*82,937*
8	*Minimum wage*	*ALL*		*30,000*
9	% of sustainability between minimum wage and monthly labor cost	*%*		*36.17*

[204] According to INSTAT, a family with 4 members consumed 94,884 ALL or 23,721 ALL per month in 2021.

We can now calculate it for all the periods under study, and it turns out as follows:

Year	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*	
Monthly cost KM	19,679	19,864	20,474	20,218	21,435	23,067	23,307	23,721
Annual cost KV	236,148	238,368	245,688	242,616	257,220	276,804	279,684	284,652
Future value of outflows for 18 years at an 8% VFA rate of return	8,843,79 0	8,926,929	9,201,065	9,086,018	9,632,940	10,366,365	10,474,222	10,660,274
The annual value of the diffusion of human capital employed s	707,503	714,154	736,085	726,881	770,635	829,309	837,938	852,822
Monthly salary	58,959	59,513	61,340	60,573	64,220	69,109	69,828	71,069
The rate of social and health insurance paid by the employer	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167
Monthly labor cost	68,805	69,452	71,584	70,689	74,944	80,650	81,489	82,937
Minimum wage	22,000	22,000	22,000	24,000	24,000	26,000	26,000	30,000
% of sustainabilit y between minimum wage and monthly labor cost	31.97%	31.68%	30.73%	33.95%	32.02%	32.24%	31.91%	36.17%

As can be seen, its values are even lower than Ukraine in the 2010s, where its main phenomenon was emigration, while the USA was at 100% levels.

6. The relationship between Labor Productivity and Minimum Wage

So far, we have focused on the minimum wage and labor productivity seen separately, but there is also a relationship that connects labor productivity with

the minimum wage. For this we start from the equation P = WXQ where W is the wage and Q is the labor productivity. P is the production function. Labor productivity depends on the capacity to generate market value, (ROA), the technical equipment to perform the work (technology), the turnover of the equipment and the rate of remuneration for the work. By replacing P with GDP the equation becomes GDP = QxW where Q= GDP/W. The ratio Q expresses the performance of the companies themselves, but it can also express at the national level the economic performance as a whole. The relationship between the salary and the value of Q are positive, but the problem is what should be the minimum level of Q that guarantees the preservation of human capital of employees. For this reason, the values of Q in the countries where Albanians emigrate should be compared with those that result in Albania, and here we are considering Italy, Germany and Great Britain as an example, for the reason that Albanians emigrate massively in these countries. The average monthly GDP per capita is as below (source euro stat):

Countries	**Currencies**	**Year**								
		2014	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
France	Euro	2,702	2,752	2,786	2,853	2,920	2,998	2,832	3,056	3,217
Italy	Euro	2,248	2,290	2,351	2,412	2,465	2,507	2,328	2,519	2,699
Germany	Euro	3,013	3,088	3,173	3,294	3,383	3,483	3,413	3,608	3,846
UK	GBP	2,403	2,457	2,532	2,611	2,770	2,767	-	-	-
Albania	ALL	40,247	41,492	42,664	44,970	47,584	49,398	48,278	56,012	-

Comparison of minimum wage, average income per capita and cost of labor in 2020. Data before processing by euro stat:

State	Currencies	The annual family cost	The annual personal cost	The cost to go to work	The fussion cost	monthly salary	% social and health insurance	Cost of work payable	Minimal wage	The rate
Franca	Euro	21,902	5,476	205,059	16,405	1,367	0.4500	1,982	1,555	0.784
Italia	Euro	27,283	6,821	255,438	20,435	1,703	0.3000	2,214		-
Gjermania	Euro	32,116	8,029	300,688	24,055	2,005	0.1988	2,403	1,585	0.660
Shqipëria	ALL	1,118,736	279,684	10,474,222	837,938	69,828	0.1670	81,489	26,000	0.319

For these years, these reports also show the labor cost and the ratios with the gross product, which is clearly visible.

Country	Currenc y	Minimu m wage	Labor cost	Minimum wage/labor cost ratio	Product per capita for the year 2020	The ratio of labor cost product to product per capita
France	Euro	1,555	1,982	78%	2,832	70%
Italy	Euro		2,214	0%	2,328	95.1%
Germany	Euro	1,585	2,403	66%	3,413	70.41%
UK	GBP	2,403	0		-	
Albania	ALL	26,000	82,397	32 %	56,012	147.1%

This shows that Albania survives either from evasion, which comes after the deviation of official statements of financial statements, or from remittances, which know growth, or illegal flows from criminal activities.

7. Conclusions

1- The minimum wage is being used as a way to ease the growing inequality in wages and income. Much of the debate over this policy centers on whether

raising the minimum wage causes job losses, as well as the likely magnitude of those losses. The evidence suggests that it is appropriate to weigh the cost of potential job losses from a higher minimum wage against the benefits of increased wages for other workers. The fact that employment has increased even in conditions of an increase in the minimum wage, which is greater than the increase in the average wage, shows that the increase in the minimum wage should continue.

2- The minimum wage should not be analyzed with an approach that increases efficiency, minimizes cost and maximizes profit. The minimum basic needs (food, shelter, travel to work and school) of workers should not be the subject of large and voluminous economic analysis. It is not only to favor the most powerful people in the labor market where the bargaining and bidding power of employers is much greater than that of employees.

3- The Kaitz index, despite being quite low, cannot be the subject of a good report. It cannot be viable, as long as there is no decent current average salary.

4- The indicator of the cost of labor in Albania is greater than the product per capita of the population, which shows that we are in the phase where we consume more than we produce (or rather we declare) and as it also appears from the conclusion of Mr. A. Naqellari in liquidity trap where the consumption rate is greater than 1.

5- Albania should take every measure that accelerates economic growth by emphasizing investments for research and development, as a second alternative that connects investments with consumption.

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[1] The model of capital explains its dynamic nature and it is deeply implemented in the fundamental laws of reality, Ct is as follows $Ct = C_0 e^{pt} e^{-rr} e^{mt}$, p = E(s) = 0,08 ë1/year] Here t-is coordinating time (calendar) measured by selected cyclical movements, especially of the Earth. The e pt factor is the growth factor of the natural capital potential determined by the potential growth constant p = 0,08. The e^{-st} factor is the thermodynamic arrow and time; where s is the rate of spontaneous random diffusion of initial capital C_0. The e mt factor is an impact of human labor and management, which can be compensated for some the natural diffusion of capital s si extends. In addition, work changes the real growth potential. The truth is that from work (m) dispersion (-s) is reduced so that (p) becomes a source of income. Many estimates were made in many economic fields to establish the value of the constant. It was valued in the capital market as the risk premium ë6], as the return on assets of a company ë7], and human capital calculations ë8-11]. The constant plays an important role in various economic evaluations and in setting discount rates as well.

E-TOURISM DEVELOPMENTS: TECHNOLOGIES ADOPTION IN THE ALBANIAN HOSPITALITY SECTOR

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Abstract
Information and communication technologies (ICTs) have completely changed the travel industry. E-tourism illustrates the digitalization of all value chains and processes in the travel, tourism, hospitality, and catering industries. In particular, the tourism and hospitality industries have benefited from information and communications technologies (ICTs), reengineering the sector to increase customer satisfaction, while simultaneously bridging suppliers, intermediaries, and end consumers. This study examines the relationship between information and communication technology and e-tourism development in the Albanian hospitality sector. In Albania, the hospitality sector is growing and is a key driver of the country's tourism industry. The study specifically looks at the rate of ICT diffusion in hospitality businesses. The dataset for this study comes from a survey of hotels in Albania. The findings show that although the Albanian online hospitality market is still in its early stages of e-commerce deployment, it has a lot of potential for future e-tourism developments. Overall, the empirical findings show that the development of ICT and infrastructure has created enormous opportunities for expanding and bolstering Albanian hospitality sector. Utilizing technology has benefited hospitality businesses in a number of ways, including lower costs, increased revenues, simpler marketing research and database development, and customer retention. The importance of the study consists on the lack of any similar research that looks at e-tourism and technologies adoption in the Albanian hospitality sector. As a result, the findings of this study may serve as a starting point for other studies in the Albanian tourism sector.

Keywords: E-tourism, Information Communication Technologies, Albanian hospitality sector, Tourism Industry.

1. Instructions

The process of the economy's digitalization is reshaping the tourism sector in terms of market competition, cost optimization, marketing, and distributional chain (Assaf and Tsionas, 2018). Taking in consideration that the tourism sector contributes 10% to the world's GDP and employment, the tourism sector can be regarded as one of the biggest in the world (WEF, 2020). The hospital sector

was a pioneer in embracing digital technologies and platforms (Buhalis and Law, 2008). Technology has advanced significantly over time and now makes it easier and more affordable to purchase travel-related services. Information and communication technologies (ICTs) are rapidly altering the world of tourism. The internet and other expanding interactive multimedia platforms have far-reaching effects on the promotion of tourism that change the way the sector is organized. The ability to access trustworthy information, facilitate the creation and sharing of knowledge among large populations, and increase efficiency while lowering costs are the main benefits of ICTs (Mihajlovi, 2012). ICTs appear to offer new opportunities for business, most notably in four areas: gaining a competitive edge, enhancing productivity, enabling the emergence of new industries, and enabling new management styles (Gruescu et al., 2009). Modern information technology's introduction enables a hotel business to make better use of its resources, but due to their rapid advancement, businesses must be reorganized and money must be raised. The primary advantage of ICT is the establishment of more efficient connections between various processes and supply chain links by providing simple access to data processed in the specific chain components in real time (Porter, 2001). Tourism and hospitality businesses can achieve the ICT-based competitive advantages through unique internet marketing campaigns, ongoing effective communication with numerous organizational stakeholders, and a variety of other strategies (Michalic, et al., 2015). There have been no studies that demonstrate the effect of ICTs (such as Internet usage, secure Internet servers, mobile cellular subscriptions, high-technology export, communications as well as computer, and fixed broadband subscriptions) on the Albanian hospitality industry, despite the fact that ICTs have revolutionized the travel, leisure, and hospitality sectors around the world. The digital presence is like an agent working 24/7 for the promotion of the accommodation unit. This study set out to investigate the effects of ICTs, and the internet in particular, for the future competitiveness of the hospitality sector because is a significant component of the tourism industry that according to AIDA institute in 2022 makes 10.6% of GDP, positioning the tourism as one of the main contributors to economic development. Currently, ICT is one of the main economic driving forces worldwide. ICT priorities at the European level are outlined in Europe 2020, a plan for sustainable and all-encompassing growth that aims to position the EU economy for the challenges of the coming ten years. The field of information and communication technology is directly related to the Digital Agenda for Europe (DAE). There is no question that after COVID-19 things will never go back to the way they were, and the hospitality industry's future will be marked by significant structural change. In the post-COVID-19 world, we can anticipate changes to how tourists use tourism

services and an increase in the use of virtual reality. The cessation of tourism activities has increased use of digital technologies. The current study looks into how new technologies are affecting the hospitality sector in Albania. The paper discusses an investigation into how information and communication technology is being used and applied to the growth of the hospitality industry. This study looked into the management of hospitality businesses and how ICT can be used. Increased technology, safe Internet servers, and distinctive platforms for the hospitality industry all appear to have a positive impact on traveler arrivals, according to the results.

The structure of the work presented in this paper is as follows: A brief review of the literature is presented in Section 2, the work's methodology is described in Section 3, the survey analysis is described in Section 4, and the work is concluded and recommendations for developing ICTs for Albania's hospitality industry are provided in Section 5.

2. Literature Review

The context for the study was provided by reexamining academic studies and publications in the fields of innovation diffusion, information communication technologies, e-commerce, strategic management and marketing, as well as tourism management and tourism in Albania. Therefore, the literature review concentrates on the effects of ICTs on tourism and hospitality sector. A brief section on Albania tourism is also included, which provides the background information needed to understand the conditions for the development of e-tourism in the nation. Additionally, advertising hotel services online is more effective than in published brochures or catalogs. Customers can learn a lot about the product by doing an internet search for it. According to Daria Jaremen (2016), businesses rapidly lose their competitive position by failing to make information about their offer available on the virtual market because the Internet is a significant source of information about products. Since the Internet entered our lives, communication opportunities have increased, giving the messages delivered by advertising a new level of functionality.

2.1 Information and communication technologies in tourism and hospitality sector

The term "information and communications technology" (ICT) is used to refer to a variety of electronic devices that can transmit data and information over a network. ICT is a broad category of communication technologies that includes telephone signals, computers, software, data storage, and audio-visual equipment that enable access to, transmission of, storing of, and modification of

information. 1993 (Peppard). The importance of ICT in an economy has been extensively studied (Evans, 2018; Wang, 1999). However, with the exceptions of Ankomah and Larson (2018), Firoiu and Croitoru (2013), Ma et al. (2003), Ukpabi et al., most analyses in the literature have largely ignored the significant relationship between ICT and tourism. Studies such as Bethapudi (2013) have argued that ICT plays a major role in tourism development and has become an inevitable contributor to the expansion of the tourism industry. The structure and operations of the travel and tourism industries have undergone significant changes as a result of the dynamic growth of ICT use. ICT tools play a significant role in business operations, customer management, and marketing. ICT tools allow for more creative marketing techniques. The industry's potential use of ICT tools is shown in the table below (Morrison et al., 2001).

Table 1: Potential use of ICT tools in Tourism industry

Different aspects of industry	Application
Site development	GIS used for identification of Tourist site and destinations
Marketing	Advertisement, promotion
Operations	Buying and management of supplies and services
Customer services	Management of customer relationships through booking travel lodges etc.
Monitoring	GIS and GPS are also used for managing and monitoring tourist sites

Source: Own laboration based on Morrison,2001

The way that tourism organizations manage their distribution function and interact with clients have changed noticeably. ICT plays a crucial role in accelerating economic growth, particularly through the generation of new competitiveness in the tourist management, destinations and organizations (Benckendorff et al., 2019; Fernández et al., 2020). ICT appear to have many advantages for the hospitality sector. Aaccording to Buhalis and Main (1998), "the internet is gaining commercial viability and is particularly suited to the hospitality sector, where it enables them to keep doors open 24 hours a day, at a minimal cost to customers (and providers) all over the world" (Baggio, 2005). In terms of working performance and transaction cost, managers who use ICT in their hotel operations are significantly different (Law et al., 2014). Additionally, it produces efficiencies and adds a new level of operational complexity for the organizations and stakeholders (Salguero & Espinilla, 2018). Due to a lack of ICT literacy, a lack of understanding, and financial limitations to implement

such systems, the hotel industry does struggle to adopt ICT (Main, 2002). ICT is regarded as one of the most economical marketing channels for helping providers of tourism and hospitality services successfully and effectively reach customers. E-marketing or online marketing is the name given to this type of marketing. (Sardar, S., et al., 2020). E-marketing is a crucial component of product promotion today, and as information technologies advance, promoting your brand online is becoming increasingly important.

The e-tourism theory covers all business operations, including e-commerce, e-marketing, e-finance and e-accounting, e-HRM, e-procurement, and e-production, as well as e-strategy, e-planning, and e-management for all tourism-related sectors, including travel, transportation, leisure, hospitality, principals, intermediaries, and public sector organizations. The combination of business management, information systems and management, and tourism constitutes e-tourism (Mupfiga, 2015). Information and communication technologies have generally increased in use in the tourism sector, creating a more competitive environment and becoming an essential part of trade development (Berne et al., 2015). E-tourism revolutionizes all business processes, the entire value chain, as well as the strategic partnerships between tourism organizations and all of their stakeholders, on a strategic level. Through the internet, tourism businesses can communicate with all of their stakeholders, including current and potential customers, local organizations, and public authorities. Organizations can reengineer internal processes by utilizing intranets (internal systems that employees can access), while extranets can support the growth of close relationships with dependable partners that may result in online transactions, the expansion of the distribution channel, and the extension of the value chain. Consequently, the competitiveness of the organization will be increasingly determined by e-tourism (Buhalis, 2003). Business productivity is dramatically increased by the use of ICT. Because they employ specialized software, some hotel managements appear to operate with such ease and adaptability. It is impossible to increase visitor numbers unless a country advertises its tourist attractions to the rest of the world, claim Abir & Khan (2022). One can draw the conclusion that appropriate cases necessitate the integration of well-designed ICT solutions. Because of this, Albania's ICT solutions need to be improved; doing so will give the country a strong push toward international competition.

2.2 Tourism and hospitality sector in Albania

Tourism is one of the key industries and a significant contributor to the Albanian economy's wealth and employment with an optimistic outlook for future expansion. (AIDA Institute, 2022). According to the data published by INSTAT in 2021, the tourism sector was a major contributor to economic growth in 2020, which recorded a direct contribution of 169.7 billion ALL and a total contribution of 10.6% of GDP. The tourism industry contributed 17.5% of Albania's total employment in 2020, adding about 194,600 new jobs. Until 2026, tourism is expected to reach a contribution of 27.2% of the country's GDP. (World Travel and Tourism Council, 2017). Despite the initial uncertainties caused by the war in Ukraine and inflation, Albania experienced a record-breaking tourist season in 2022. In 2022, UNWTO ranked it as the nation with the best post-pandemic recovery globally among nations with more than 5 million tourists each year. According to estimates of UNDP in 2022, more than 70% of non-resident visitors are of Albanian descent, including diaspora Albanians as well as those from the area (Kosovo, Montenegro, North Macedonia, Italy, Greece, USA, UK, Germany etc.) With 45% of all international arrivals, Kosovo is Albania's top destination for tourists. As a result, visitors from Kosovo are crucial to the nation's tourism industry. Tourism in Albania is currently characterized by two main elements: i) the sector is highly dependent on tourists of Albanian origins, with Kosovo tourists alone constituting 45% of the entire market ii) the main tourist product is highly correlated with “sea, sand and sun”, despite the vast opportunities for a rich product mix. Hotels, resorts, tourist communities, guesthouses, guesthouses, and other categories of accommodation facilities are available everywhere in the nation. In Albania, accommodation facilities and other tourism service providers are not classified according to the standards for the services they provide. A total of 350 new structures have been finished in the last four years. According to the obstacles facing the medium- and long-term growth of the Albanian economy, the tourism industry is regarded as one of the most promising areas for achieving higher economic growth and having a favorable impact on employment growth and real income. The prediction of the Albanian government say that the tourism sector is anticipated to contribute only 8.8% of the GDP in the next two to three years, but by 2028, it may contribute as much as 9.3% of the GDP, indicating a significant increase in the sector's economic impact over the next ten years. As a result, it is predicted that the direct and indirect effects of the tourism sector will account for about 1/3 of Albania's total GDP by 2028, considering this upward trend. Additionally, the tourism industry currently employs about 7.7% of Albania's total labor force, but by 2028, that percentage is expected to rise to 8.8%. (National Tourism Strategy 2019-2023)

Innovation in tourism has improved in Albania. In the last 5 years, investments in digitization have started, but Albania is last in the region compared to Greece, Montenegro and Croatia, or other countries in the region. According to the Tourism and Hospitality in Albania 2022 Report of UNDP, the competition in the hospitality industry has significantly increased along with increases in the number of visitors. Global booking sites like Booking.com and AirBnB are increasingly featuring hotels and other lodging options in Albania. Mostly of the actors in the hospitality sector have created a profile in the AIRBNB and Booking, but this is only the tip of the digitalization iceberg. Many accommodation units do not have the website which is the elementary basis of digitization. With the development of the digital world, travelers' expectations have changed globally. Instead of selecting accommodations with a few clicks, they now expect to receive detailed information on the lodgings, reviews, activities, opening hours, etc. On the other hand, hotels are concentrating on streamlining processes and creating the technical tools needed to operate more efficiently. It appears that Albanian hospitality companies are still navigating the frontier of digitization, though. Despite the enormous importance of ICT in the tourism and hospitality sectors, many nations, particularly developing nations like Albania, have not yet implemented practical ICT use. Mostly there are 4-5 star accommodation facilities that have invested heavily in digitalization and have implemented ICT. In order to broadly engage the population in ICT services and increase the number of ICT professionals, the Digital Agenda of Albania 2021–2025, envisions one of the core pillars to be dedicated to enabling and developing basic and advanced digital skills. The program views the ICT and e-services development as closely related to the economic and social development of the country. Albania is still well below the average level of not only the EU countries but also the regional nations in terms of access to infrastructure and broadband services, despite advancements in the ICT sector. According to a study made in Albania, examining the effects of ICT in Albanian tourism business it was shown that is an obviously important role of digital technologies in Albanian tourism. (I.Gjika & N. Pano, 2020). The purpose of my study is to determine the level of ICT usage among Albanian hospitality sector and to investigate the impact of ICT in the hospitality sector. The current study discusses an investigation into how information and communication technology is being used and applied to the growth of the hospitality industry. This study looked into the management of hospitality businesses and how ICT can be used.

3. Methodology

A variety of techniques were applied to achieve the goals of this research. There have been no studies that demonstrate the effect of ICTs (such as Internet usage, secure Internet servers, mobile cellular subscriptions, high-technology export, communications as well as computer, and fixed broadband subscriptions) on the hospitality industry in Albania, despite the fact that ICTs have revolutionized the travel, leisure, and hospitality sectors around the world.

This study looks at whether and how ICTs affect tourism development in Albania, specifically the hospitality industry. Since there had never been any investigation into e-tourism in Albania, exploratory research was used. Therefore, it was crucial to have both primary and secondary data. Secondary data included: Publications from a variety of sources, including academic literature, sector regulators, industry experts, international organizations, and foreign governments, among others. Multiple primary research approaches were used, including both qualitative and quantitative techniques, due to the dynamic nature of the subject area (Phillip, 1998). According to Bryman (1998), the two approaches work better together, particularly for exploratory research.

The main hypothesis of the research is:
H0: ICTs have a positive impact on hospitality sector in Albania
As a result, this study seeks to answers the following major questions:
Question 1: What is the level of adoption of the ICT on the hospitality sector in Albania?
Question 2: Does the level of adoption of ICT influences the hospitality sector in Albania?

In order to test the hypothesis and to answer the research questions, I conducted a perception survey, in which representatives of hotels provided their opinions on the usage and potential effects of ICT on the country's hospitality industry, including operational and financial results. Interviewees who would be knowledgeable and reflect their unique experiences and perspectives on the research area were included in the sample. Feedback was also gathered from high level management through telephones interviews.

The population size of hotels and similar accommodation structure that includes: Hotels, Resorts, Apartment Hotel, Motels are 1250 subjects that operates in Albania according to INSTAT (2021). When the population size is

known, Cochran (1977) is one of the formulas that may be used to determine the sample size. For small populations of a known size, it uses Cochran's equation together with a population correction to calculate sample size as demonstrated in table 2:

Table 2. Calculating the sample sizes of the study through Cochran's test:

Precision Level	±5%
Confidence Level	95%
Estimated Proportion	0.5
Hotels and similar accommodation structures that operates in Albania	1250
Sample size	295

Source: Own Elaboration

The appropriate sample size given the population size and specified combination of precision, confidence and variability is 295. Simple random sampling was used, which ensures approximate independence of observations. Table 3 presented bellow represent the characteristics of the sample.

Table 3. The characteristics of the sample

Demographic of the sample	**Number of firms (n = 295)**	**Percent (%)**
(a) Firm age		
0–2 years	25	8.5
3– 5 years	106	35.9
6–8 years	92	31.2
9–11 years	44	14.9
Above 12 years	28	9.5
(b) Respondents' position		
CEO, Entrepreneurs, Business owners, managers, or other top or middle positions	295	100
(c) Type of accommodation		
Hotels	199	67.5
Resorts	9	3
Apartment Hotels	6	2
Motels	81	27.5

Source: Own elaboration

Data were collected during the period February-March of 2023 using the telephone survey. The questions were design in based for both the supply side and demand side of ICT application. Chaffey (2003) model for the supply side identifies five tiers of ICT use: (1) No online sourcing or electronic supplier integration; (2) Review and selection of competing suppliers using intermediary websites, B2B marketplaces, and supplier websites. Orders placed conventionally; (3) Orders placed electronically through supplier or intermediary websites. Systems at the organization and the supplier are not integrated. Rekeying necessary orders into accounting or procurement systems; (4) Electronically placed orders with full integration of the company's procurement, manufacturing requirements planning, and stock control systems; (5) Electronically placed orders with full integration of these systems.

Ditto and Pille (1998) identified three distinct levels of development for the demand side, the marketing component of service-led enterprises: informational, transactional, and relational: (1) The informational fundamental level, where a website provides the same data that can be obtained through conventional marketing through a one-way process; (2) The transactional level, where communication with the customer who identifies with options like the "virtual tour" is made possible. In addition to two-way communication via email, phone, or postal mail, there is also relational level interaction with the customer that enables the continuation of the initial online transaction-based relationship. The internet is currently a crucial component of the management of the business (Milne et al., 2005). Then, results were extracted and analyzed.

Table 4. The questioners design based on the ICT application based for both the supply side and demand side from different aspects of the hospitality industry.

Different aspects of industry	ICT application based for both the supply side and demand side
Site development	GIS used for identification of Tourist site and destinations Have a website Listed in Google Maps Have a google my business account Website integration with Online Reservation
Marketing	Online Advertisement, Internet Marketing Social Media Relationship and Partnership marketing: Listed in different platforms like: Booking, Airbnb, local platforms, international platforms. Influencer Marketing Content Marketing The use of Search engine optimization (SEO)
Operations	Buying and management of supplies and services Usage of the Internet and computer in their daily operation

	Intranets for managing its internal processes Online Reservation Computer reservation systems (CRS) Electronically placed orders with full integration of these systems. The Internet for interaction with all its stakeholders
Customer services	Management of customer relationships through booking travel lodges etc. Level of online interaction with the customer: Online Chat, online feedback etc. Customer Relations Management (CRM)
Monitoring	GIS and GPS are also used for managing and monitoring tourist sites Use of Google Analytics Business performance monitoring Automatic Reports from softwares

Source: Own elaboration based on the work of Chaffey (2003), Ditto and Pille (1998) for ICT application based for both the supply side and demand side and the work of Morrison,2001

4. Findings

According to my research findings, many businesses adopted few ICT practices. The hospitality sector in Albania have used more of the ICT practices in the aspects of Marketing and site development. Only few subjects have implemented the ICT in the customer serveries and monitoring. There it appears that the size of the hospitality business affects the ICT approach used. Larger hospitality business used ICT more frequently in different aspects in their businesses (site development, marketing, customer services and monitoring) than smaller ones who were more focused to use ICT in the supply side in the dimension of site development and marketing with social media. Nonetheless, many businesses did not adopt ICT practices such as the use of website integration with Online Reservation, Search engine optimization (SEO), content marketing, influencer marketing, Intranets for managing its internal processes, computer reservation systems (CRS), Customer Relations Management (CRM), automatic reports from software, business performance monitoring. Because of the high cost of ICT and the low information about the benefits and how could ICT boost their business, most businesses did not adopt these technologies practices.

When asked about their methods for luring customers, hospitality businesses overwhelmingly admitted to using social media. However, it appears that the size of the hospitality businesses affects the marketing approach used. Larger hotels claim to use VIPs, influencers, bloggers, or tour guides much more frequently than smaller hotels. When asked to name specific travel packages they had introduced in recent years, 42% of the hospitality businesses responded, "Better prices for early reservations," followed by, "Free products for longer stays," (15%), "Special holiday packages," (25%) and “Price based on customer loyalty” (12%). It's interesting to note that, regardless of their size or location, only 15% of the hospitality business offer "loyalty programs" and only 10% track the customer transaction automatically in their CRM system. My findings

showed that Computer reservation systems (CRS) and Customer Relations Management (CRM) are also poorly used in hospitality sector of all sizes for managing capacity, inventory control, and yield management capabilities by maximizing room occupancies. These systems also feature database features for hotel management in general, including forecasting and financial management. In Albania, the hospitality sector does poorly in online searches for hotels and lodging. The site owner must put more effort into developing Search Engine Optimization (SEO) strategies that can help this happen. However, if the site is to perform better in online searches, a redesign of the current version will be expensive for the hospitality industries. Additional video content on YouTube and the production of more moving and graphic images for online distribution could be beneficial to the hospitality industries. The company could increase its online sales conversions by working more closely with other middlemen in the tourism industry, like theaters, attractions, and flight providers. After making significant advancements in recent years, the tourism and hospitality industries still have a lot of room to grow their online presence. The website for the hospitality sector is functional, but it could be made more usable by adding language and customization options. A sitemap and additional links to internal and external websites can help with navigation.

My study's goal was to determine the level of ICT Adoption in the hospitality sector in Albania. The extent of adoption of ICT was measured by the number of practices adopted in different aspects of the businesses. According to my findings, 136/295 businesses (46%) had adopted at least one practices of ICT of adoption in different aspects of their business which is consider low extent), while 29/295 businesses (10%) had adopted more than 70% of the ICT practices which is consider higher extent. As a result, the level of adoption of technologies practices among hospitality businesses in Albania was low, with 86 percent of businesses adopting less than 5 practices of the ICT practices tested. This could be due to capital constraints and low government incentives to favor company that uses ICT practices.

5. Conclusion

ICT has a positive and statistically significant effect, according to empirical evidence in this study, which means that the region's hospitality demand will increase as ICT levels rise. This finding suggests that ICT can help tourist destinations improve their offline connectivity (such as collaboration, clustering, and intersectoral linkages) and online presence (such as visibility on the Internet) so they can compete in the global tourism market. The necessary tools and applications for more effective tourism management can be provided by ICT. Only a small number of hotels in Albania are aware of the modern marketing modules, which include social media marketing, affiliate marketing, and content marketing. These modules are used around the world where some ICTs are in use. They have acknowledged that the use of ICTs in the hospitality industry is unavoidably necessary for these contemporary marketing models. Hotels must

specifically bring and adopt ICT tools like computer hardware and software in order to fully utilize content marketing.

ICT should be viewed as essential to the successful development of hospital sector in Albania because it has demonstrated a positive and significant relationship with tourism, in the path of tourism development. To ensure that the potential benefits are fully realized, policymakers and private actors in the tourism sector need to pay close attention to ICT trends. In order to extend the advantages of ICT to every hospitality enterprise in Albania, it is the responsibility of all stakeholders to work together to develop policies and applications. The results of this study could provide the Albanian hospitality industry with new information about how to improve service delivery and satisfy customers. The hospitality industry depends heavily on data, such as reservation rates, inventory levels, and room status, so making that data accessible and readily available is of the utmost importance. Despite the fact that the entire industry must adjust to new technological advancements, reevaluate plans, and change how they conduct business and offer services, it is crucial for policymakers to support tourism businesses of all sizes to successfully engage with the digital transformation. Because there is a dearth of readily available tourism-related data in hospitality sector in Albania, new efforts must be made to better utilize both established and emerging data sources (transaction data, user-generated data, data from devices), as well as to shift toward data-driven decision-making.

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THE RELATIONSHIP BETWEEN E-GOVERNMENT AND ECONOMIC GROWTH. CASE OF ALBANIA

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Abstract
The importance of E-government as an essential tool for communication and cooperation between policymakers, the private sector, and societies across the globe is increasingly being amplified, especially after the Covid-19 pandemic. This makes E-government a cornerstone for building effective, accountable, resilient, and inclusive institutions at all levels. In this context, this paper aims to evaluate the empirical relationship between E-government and the economic growth of Albania. Specifically, the impact of the online services index, the telecommunication infrastructure index, and the human capital index on the economic growth of Albania will be evaluated. The data covering the period 2003-2022 were sourced from the World Bank and the United Nations. The least squares method was employed for the empirical evaluation. The results show a positive statistically significant relationship between the online services and human capital indexes on economic growth and a negative statistically significant relationship between the telecommunication infrastructure index and economic growth. This analysis can help policymakers and investors foster the growth of all E-government components.

Keywords: E-government, Economic Growth, Empirical Relationship, Albania

1. Introduction

One of the government's main tasks is to provide public services in the most efficient and transparent manner. The development of new communication technologies and the emerging importance of the internet oblige governments to provide a growing number of online services. This, in turn, means that citizens require the infrastructure and the skills to take advantage of the electronic services on offer.

The digital transformation process has long started in Albania, where since 2014 it has changed citizens' perception regarding electronic communication with state institutions. Today, about 95% of services are delivered online, compared to only 1% of services that were delivered online in 2014. This leads to a reduction in the costs of receiving services, easing bureaucratic procedures, and reducing time to receive services, also improving the transparency and quality of their provision. The Albanian Government has invested in establishing and improving electronic systems of public institutions, which are the basis for enabling electronic services for citizens, businesses, and the administration itself, as well as facilitating, improving, and automating the work of administration employees. This entire transformation process is based on a special legal framework, which has gone parallel to all the processes of technical implementation of procedures for the development of e-government in the country. The unique governmental platform e-albania.al serves as a centralized portal through which any interested person can receive electronic services provided by public institutions in Albania via the Internet. Through this platform, digitalization has affected almost every sector such as health, culture, agriculture, education, etc. However, nowadays Albania's weakest point is the information and communication technology infrastructure, in particular Broadband (high-speed) infrastructure, both in terms of availability and quality (speed), where Albania is below the world average mainly due to fixed networks.

This paper aims to empirically investigate the relationship between e-government and the economic growth of Albania from 2003 to 2022. The research hypotheses of this paper are:

- H1: Online Service Index is statistically significant and positively related to Albania’s GDP per capita growth rate.
- H2: The telecommunication Infrastructure Index is statistically significant and positively related to Albania’s GDP per capita growth rate.
- H3: Human Capital Index is statistically significant and positively related to Albania’s GDP per capita growth rate.

The Least Square regression model was employed as a statistical technique to test the hypotheses. Data covering the period 2003-2022 were sourced from the World Bank and United Nations.

Section 2 consists of the literature review, where findings of the different related studies done in the past are presented. Section 3 refers to the data and methodology presentation, while Section 4 gives the empirical results of the relationship between selected variables. Lastly, in Section 5 are summarized the main conclusions and recommendations are given.

2. Literature review

There are several definitions for e-government, however, referring to the World Bank (2023), "E-government" refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. The aim of E-government is to provide efficient dissemination and management of information to the citizen; better service delivery to citizens; and empowerment of the people through access to information and participation in public and policy decision-making. To measure the development of national e-government capacities, the United Nations has generated the United Nations E-government development index which is a composite indicator that consists of three indices (online service index, telecommunication infrastructure index, and human capital index) that are equally weighted. Gustova (2017) revealed a positive significant effect of e-government implementation on GDP growth. However, in order to have a more specific assessment of the relationship between e-government and economic growth, the relationship of each component of e-government with economic growth will be analyzed. In this regard, findings of studies related to the e-government components and their impact on economic growth are presented in this section.

With regards to **online services,** Myovella et al. (2020) found that digitalization has a positive contribution to economic growth in both Sub-Saharan African (SSA) and OECD countries. However, the effect of broadband internet is minimal for SSA compared to OECD countries, whereas the impact of mobile telecommunications is higher in SSA compared to the OECD counterpart. Zhang and Danish (2019) documented that countries with better human development indexes and mobile phone usage promote economic growth. Rana et al. (2022), and Sridhar and Sridhar (2009) showed in their analysis the existence of the significant and positive impact of the online service index on the GDP growth rate.

Concerning the **telecommunication infrastructure,** Zahra et al. (2008) revealed that telecommunication is both statistically significant and positively correlated to the real GDP per capita. Röller and Waverman (2001) concluded that increases in telecommunications infrastructure could create higher growth

effects in OECD countries than in less-developed non-OECD countries. While Jacobsen (2003) indicated that telecommunication development has larger growth effects in developing countries than in developed countries which are explained through the indirect effects of telecommunication in other sectors which are more significant in developing countries. Sridhar and Sridhar (2009) revealed a significant and negative impact of the telecommunication infrastructure index on the GDP growth rate.

Referring to **human capital** is described as the skills, training, and health acquired through on-the-job training and education. Pelinescu (2015), Keji (2021) and Altiner and Toktas (2017) revealed a positive relationship and statistically significant between human capital and economic growth. Wilson and Briscoe (2004) demonstrated that higher educational investments have had a significant impact on national economic growth. While Salleh et al. (2022) found no significant relationship between the human capital index and economic growth.

3. Data and Methodology

The data sources and the method adopted in the analysis will be presented in this section. Data from 2003 to 2022 were collected from multiple sources and multiple regression was employed to explore the relationship between explanatory variables and the economic growth of Albania.

3.1. Data and Measurement

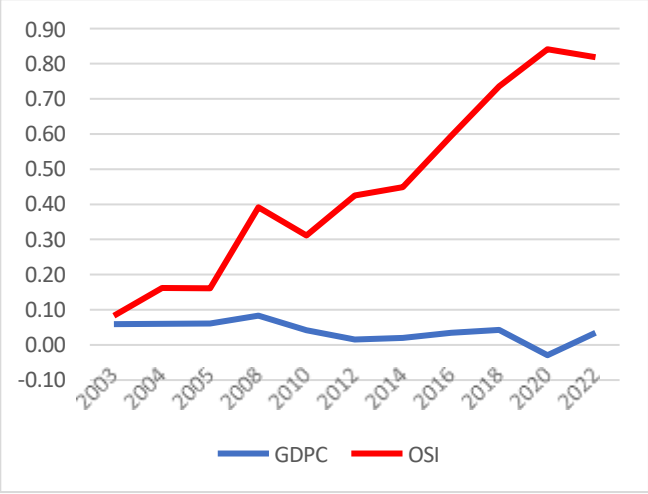
This study aims to examine the relationship between E-government components and economic growth in Albania. The data covering the period 2003-2022 are sourced from World Bank for the dependent variable (except the data for 2022 which was not available at the time of research and the 2022 forecast is used, and from the United Nations E-Government Survey for the independent variables (components of E-government). Since the United Nations E-Government Survey is conducted biennially, the data have biennial nature.

Economic growth – The **GDP per capita growth rate (GDPC)** is used as a proxy to measure the economic growth of Albania. Albania's economic growth has been stable with slight fluctuations throughout the years due to different factors. In the years 2009-2014, there was a decrease due to the effects of the global financial crisis of 2008, while in 2020, a significant decrease in GDPC is noted due to the earthquakes that hit Albania in 2019 and the Covid-19 pandemic.

In order to have a more specific assessment of the impact of E-government on the economic growth of Albania, the three components of the E-government development index will be used as explanatory variables.

The Online Service Index (OSI) component is a composite indicator measuring the use of information and communications technology (ICT) by Governments for the delivery of public services at the national level including the technical features of national websites, as well as e-government policies and strategies applied in general and by special sectors in delivering services. The OSI is calculated based on five weighted sub-components, specifically, services provision (45%), technology (5%), the institutional framework supporting e-government development (10%), content provision (5%), and e-participation (35%).

Graph no.1. Trend of GDPC and OSI of Albania



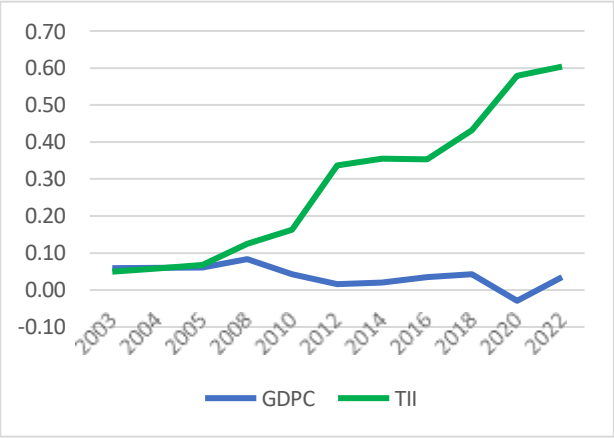
Graph no. 1 presents the trend of both variables, GPPC and OSI. For each variable there are fluctuations throughout the years, making the relationship between them unclear. Albania has made considerable progress with regard to institutional framework and content provision of the services, but there is room for improvements in relation to service provision, technology, and e-participation. Online services provision should be combined with investments in enhancing the telecommunications infrastructure and/or boosting digital

Source: World Bank and UN (2023)

literacy, as stressed in the E-government UN Survey 2022.

The Telecommunication Infrastructure Index (TII) measures the national telecommunication infrastructure's ability to enable citizens to participate in all forms of e-government. TII is an arithmetic average composite of four sub-components: internet users, fixed-broadband subscriptions, active mobile-broadband subscriptions, and mobile cellular subscriptions.

Graph no.2. Trend of GDPC and TII of Albania



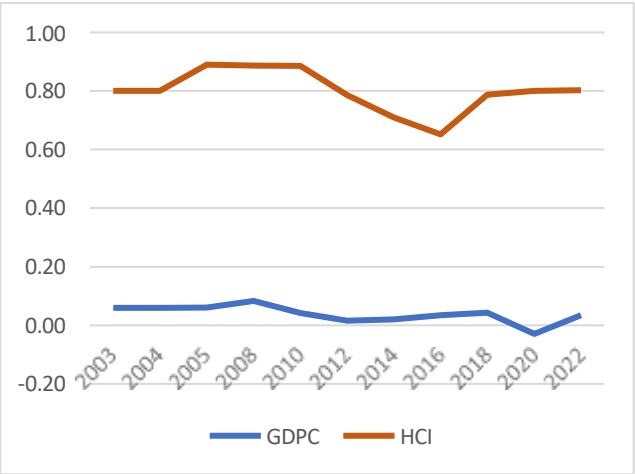
Graph no. 2 presents the trend of both variables, GPPC and TII. For each variable there are fluctuations throughout the years, making the relationship between them unclear, however, a negative relationship is observed between them. Telecommunication Infrastructure has had considerable development over the years, especially after the approval and implementation of the plan for digital development in Albania in 2013. Meanwhile, in 2020, the National Plan for

Source: World Bank and UN (2023)

the Sustainable Development of Digital Broadband Infrastructure 2020-2025 was approved aiming to ensure sustainable development of broadband infrastructure, reduction of the digital divide, and the provision of comprehensive broadband services.

The Human Capital Index (HCI) measures citizens' ability to use e-government services. HCI is a weighted average composite of four sub-components: adult literacy, gross enrolment rate, expected years of schooling, and mean years of schooling.

Graph no.3. Trend of GDPC and HCI of Albania



In graph no. 3 is presented the trend of both variables, GPPC and HCI. For each variable there are fluctuations throughout the years, however, however, the positive relationship between them is evident. A marked decline in HCI was observed in 2016, as a result

of the migration of young people during this period, the downward trend of government spending on education, the lack of investments in research and development, and the challenges encountered by the implementation of the changed curriculum.
Source: World Bank and UN (2023)

3.2. Empirical Model, Method, and Limitations

The multiple regression equation can be presented as follows:

$$\mathbf{GDPC_t = \beta_0 + \beta_1\ OSI_t + \beta_2\ TII_t + \beta_3\ HCI_t + \varepsilon_t} \quad (1)$$

where ε_t is the error term.

This study employed the Least Square regression model as a statistical technique to analyze the relationship between the components of E-government (OSI, TII, and HCI) and the GDP per capita growth rate in Albania.

The model has several limitations such as (a) a small number of observed time series data (11 observations) due to the lack of data before 2003; (b) The data have biennial nature due to the missing data for each year of the paper time period. All necessary statistical tests are conducted and adjustments are made before running the regression, in order to have accurate results. The statistical test performed were:

- *Functional form test* - Ramsey RESET test was run to find the best functional form of the equation. It resulted that the best model based on the Ramsey RESET test was the linear form.

- *Autocorrelation test* – Durbin-Watson test statistic is used to detect the autocorrelation of residuals. The Durbin-Watson test value was 2.77, far from the value of 2, which indicates that the residuals do not suffer from autocorrelation. To remove autocorrelation, the first difference of the dependent variable is added to the equation. After performing the regression, the value of Durbin-Watson resulted in 2.37, close to the value of 2.

- *Stationarity test* – unit root test is performed for each of the variables and it resulted that any of them suffers from the unit root.

- *Normality test* - determines whether sample data has been drawn from a normally distributed population. The residuals of the model are normally distributed (probability = 0.88 > 0.05).

– *Heteroskedasticity Test* - Breusch-Pagan-Godfrey test is used to determine whether or not heteroscedasticity is present in a regression model. It resulted that the heteroscedasticity is not present in the regression model.

4. Empirical Results

This section presents the results of the multiple regression analysis of the components of the E-government and Albania's GDP per capita growth rate as shown in Table No. 1.

Table no.1. Multiple Regression Results

Variables	**Coefficient**	**Standard Error**	**T−Statistic**	**P value**
Constant	0.022290	0.042023	0.530431	0.6185
GDPC (-1)	-0.890866	0.176846	-5.037529	0.0040
OSI	0.181335**	0.046490	3.900519	0.0114
TII	-0.416433***	0.066183	-6.292153	0.0015
HCI	0.110124*	0.052699	2.089662	0.0909
$R^2 = 0.94$	F-statistic = 19.84		Prob(F-statistic) = 0.0028	

Note: The symbols *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Source: Authors calculation (2023)

Table 1 shows that the model has satisfactory explanatory power with $R^2 = 0.94$ and significance with F-statistic = 19.84.

Hypothesis 1. Online Service Index is statistically significant and positively related to Albania's GDP per capita growth rate.

As presented in the regression table, the OSI has a statistically significant and positive impact on the GDP per capita growth rate of Albania, which is in line as well with the literature. In this line, an increase of 1 point percentage (pp) of OSI, leads to an increase in the GDP per capita growth rate with 0.18 pp. According to UN Survey 2022, Albania has achieved very high OSI levels by capitalizing on very high levels of human capital development. Albania ranks 22nd out of 193 UN member countries for e-participation, however, further efforts should be directed towards e-participation, as well as service provision and technology.

Hypothesis 2: Telecommunication Infrastructure Index is statistically significant and positively related to Albania's GDP per capita growth rate.

Referring to the regression table, the TII has a statistically significant and negative impact on the GDP per capita growth rate of Albania, which is not in line with the literature. An increase of 1 pp of TII, leads to a decrease in the GDP per capita growth rate of 0.41 pp. The negative impact can be attributed to the lack of the development of broadband, especially fixed networks in Albania, as well as the gap in fixed internet-broadband penetration between urban and rural areas. According to the European Commission (2022), in 2021, rural areas account for 40 % of the population, but only 109,652 subscribers are connected to fixed broadband, while in urban areas 449,472 subscribers were connected. As mentioned in the Economic Reform Program of Albania 2023-2025, the lack of investment in rural areas is related to the lack of low returns on investment. The development of digital and broadband infrastructure requires large investments and the creation of synergy between all infrastructure projects and projects related to digitization at the central and local levels. Broadband development is one of the key priorities in the strategic documents in Albania. Albania has approved a new National Plan for Sustainable Development of Digital Infrastructure, Broadband 2020-2025 in 2020, and the Digital Agenda of Albania 2022-2026. The aim is to set goals for the coming years by following modern data platforms and digital technologies to respond to the growing needs of citizens, overcome the lack of resources, and further advance the digitalization of government services and the development of cyber capabilities. In this context, and referring to the Digital Agenda of Albania 2022-2026, the goal of progressively digitizing governmental services during 2022 - 2026 is to receive an online answer with an electronic signature or seal for all services in e-Albania that are only applications. Additionally, emerging technologies like blockchain and artificial intelligence will be included to enhance the standard of service delivery. It is planned to keep making investments in the digitization of physical archives and the expansion of the number of electronic systems that communicate with one another in the Government Interaction Platform in order to increase the number of services that are received in real-time with an electronic stamp. The government network GovNet will be expanded in order to lower the cost of internet connectivity for state entities and improve data security. To make it easier for people to move around and conduct business with the Western Balkans and later with the EU countries, one of the national obstacles is getting the electronic signature and seal recognized. The e-Albania platform will also be modified to make it more accessible to users with varying levels of ability, who now have trouble accessing online public services. It will be sought to enhance the ranking of the nation in international evaluation

reports in the field of e-government by putting all the aforementioned actions into action, with a specific aim to increase the ranking in the UN Report on e-Governance by at least 15 positions compared to 2020.

Hypothesis 3: Human Capital Index is statistically significant and positively related to Albania's GDP per capita growth rate.
Referring to the regression table, the HCI has a statistically significant and positive impact on the GDP per capita growth rate of Albania, which is as well in line with the literature. An increase of 1 pp of HCI, leads to an increase of the GDP per capita growth rate of 0.11 pp. Education plays a very important role in creating human capital and is one of the preconditions for a country's economic and social development. On the other hand, the more educated the citizens of a country are, the greater the possibility for them to benefit from digital technology development and the provision of online services. Although Albania has promise in the ICT sector and more broadly, the lack of digital skills might be a significant development impediment. In contrast to the EU average of 56%, just approximately a fifth of Albanians (21%) had basic or above-basic skills in 2019 (Eurostat 2023). Meanwhile, referring to the data of the Ministry of Education and Sport and the Ministry of Finance and Economy of Albania, it can be seen that the budget allocated for education is very low compared to other sectors (about 2.3% of GDP in 2021). More alarming is the negligible amount of the budget allocated for research and development, about 0.02% of GDP in 2021, ranking last in Europe. Meanwhile, a larger amount allocated for education and research and development in the election years is observed. However, more in-depth analyses are needed to see if only education and research and development expenditures were increased, or if expenditures for all categories have been increased, as well as the factors that may have influenced such a result.

5. Conclusions and recommendations

The impact of the component of E-government and economic growth was investigated in this paper, specifically the online service index, telecommunication infrastructure index, and human capital index. It resulted in a positive and statistically significant correlation between OSI and HCI with GDPC. This means that a 1 pp increase in OSI and HCI leads to a 0.18 and 0.11 pp increase in the GDP per capita growth rate of Albania respectively. As emphasized in the E-government UN Survey 2022, online services provision should be coupled with investments in improving the telecommunications infrastructure and/or strengthening digital literacy. While the relationship between the telecommunication infrastructure index and economic growth was

negative and statistically significant. This means that a 1 pp increase in TII leads to a -0.41 pp decrease in the GDP per capita growth rate of Albania. The negative impact can be related to the lack of the development of broadband, especially fixed networks in Albania, as well as the gap in fixed internet-broadband penetration between urban and rural areas.

Empirical results are in the same line with the challenges identified in the digital agenda document where the general situation of broadband development, in particular of fixed networks and the noticeable digital divide between urban and rural areas shows the high need for important investments for the development of broadband digital infrastructure. The development of broadband is expected to increase the number of employees and create more possibilities for online working for gender, so the Government of Albania should ensure the implementation of the action plans and other important documents in which E-government components are addressed. No matter how developed a country is in providing online services to its citizens, they do not benefit from them if they do not have the skills and knowledge to use government services. The study concludes that interventions are needed to improve the education of Albanian citizens, in terms of increased governmental budgetary allocation and to encourage innovation in order to capture internet-related growth and support for research and development.

In the future, it is recommended to analyze the weight of expenditures for education and research and development, and if their increase during election years goes more for operational or capital expenditures. Since the explanatory variables of this paper present the relative position of Albania in utilizing e-government for the delivery of public services and may vary from the development of other UN member countries, the research can be further extended by analyzing the level of e-government components on economic growth, not only for Albania but as well for the Western Balkan Countries.

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ALBANIA'S APPROACH FOR JOINING EU

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Abstract
The European Union has developed policies to address issues that national governments cannot successfully manage on their own in a more globalized world, in addition to fulfilling its founding commitments to peace and prosperity. That clarified why Albania in particular and the Western Balkans as a whole, were so eager to join the European Union. Albania appears to be following this road, concentrating on adaptation difficulties and change management initiatives during the development and execution of significant reforms within the context of speeding up European integration. Albania consistently makes investments in its statutory and structural framework to meet the high standards of the EU.
This paper offers a deeper understanding of the impact of contextual elements on Albania's path of European integration. It offers a thorough overview of the significant changes made in the nation to satisfy the criteria for the nation's admission to the European family. The focus in this paper with be the impact that EU provide to Albania. The EU is the biggest donor to Albania but is not only about the amount, but it is also the strategic use that EU makes of the financial resources available. Although the Western Balkan countries are similar, they are at different stages of the process of integrating into Europe. The results of this study should be interpreted in light of Albania's economic, social, and historical circumstances, but they can also be readily applicable to other Western Balkan nations that are comparable to Albania. The paper is based on a case study approach as a research methodology. It draws on archival data as well as search review of legal framework, international reports and academic papers.

Keywords: Albania, Europe integration, process, challenges, financial support

1. Introduction

The European Union is unique and cannot be explained by just one of the EU theories, but at the same time, all these theories can explain partly the European

Union. Of course, there are theories more important than others in the European Union[205].

The relationship between Albania and the European Union (EU) has evolved over several decades. The goal of Albania's government is to complete the country's integration into the EU, which is seen as the most important strategic national objective. The love story between Albania and Europe Union dated back in 1992 when Albania submits its application for EU membership. Then in 2000, it was signed The Stabilization and Association Agreement (SAA) between Albania and the EU, marking the beginning of a structured relationship. After, more than e decade the European Commission grants Albania candidate status for EU membership, acknowledging the country's progress in meeting the criteria for accession.

The European Commission recommended starting accession talks with Albania in April 2018. The path toward launching accession negotiations in June 2019 was laid out in the conclusions that the Council adopted in June 2018. In them, it agreed to respond favorably to the advancements made by Albania and outlined the progress that must be made in a number of crucial areas, such as judicial reform and the fight against organized crime and corruption.

In 2020, EU adopts a revised enlargement methodology, aimed at making the accession process more credible, dynamic, and predictable for candidate countries like Albania. The application of the new methodology was not difficult for Albania. In 2021, The European Council reconfirms its commitment to the EU perspective of the Western Balkans, including Albania, and stresses the importance of reforms for progress in the integration process. On 19 July 2022, the EU opened accession negotiations with Albania.

Since more than three decades ago, has given up on self-isolation and begun the process of emulating Europe. Although great progress has already been made on many fronts, there are still many obstacles to overcome. In fact, a wide range of issues, including a misleading picture of democratization, a polarizing political climate, not solid institutions, and a slow growing economy, are noted during the years of transition. Albania's application for EU membership was a significant milestone for its aspirations, but the long-awaited question that needs to be answered is whether Albania can meet the minimal requirements for EU membership. In light of the aforementioned framework, this article focuses on EU’s support to Albania compared also with the other WB in these last 15 years which are very decisive for the integration process. This paper makes a

[205] Troitino, David & Chochia, Archil. (2012). Theories of European Integration.

significant contribution to the debate of Albania's course toward achieving EU membership, by analyzing the financial support provided for the country. The following question are the ones opening every debate or discussion related with the country integration process: When will Albania join EU community? How Albanian course might be like in the future? *In this direction Albania has invested time, efforts, expertise, and money. Although the EU is Albania's largest donor, it's not just about the money***.** EU has directly contributed to how strategically the country uses the existing funding. By examining EU support in the country, I have identified some lessons learned so far from this demanding process. These findings will be suggested as recommendation for the upcoming steps on Albania's trajectory. The public administration will gain from these prospective suggestions in order to move society as a whole closer to European integration. This essay attempts to provide an overview of how particularly the relationship between the general public and state officials have developed over the years while also analyzing how other social actors, such as business community, citizens, political parties, civil society, academia etc have an impact on the development of a real powered government. Understanding the many stakeholders is crucial when expecting European integration. But most important the readiness of the public administration reform to inform all these stakeholders and to smooth their role in this momentous process. All of these variables have in the past influenced a country's route toward an EU future, and they will undoubtedly continue to do so in the future.

2. Methodology

Numerous research has been done to investigate the Europe integration process for the Western Balkans countries and many researches for Albania. The paper is based on a case study approach as a research methodology. It draws on archival data as well as search review of legal framework, international reports and academic papers.

The author reviewed the literature related to the topic in order to gain more in depth understanding in the process of accession in EU for Western Balkans in general and Albania specifically. The support that the EU has provided and plans to provide for Albania in the context of increasing capacities, strengthening the responsible structures and investing strategically in order to ensure a smooth integration into the EU community will be the main focus of this paper. To achieve this, the author collected quantitative data by analyzing the financial data provided by EU and Albanian institutions and qualitative data presented in the international and national reports.

The study is not only relevant for Albania, but also for other Western Balkan Countries which are progressing at almost the same rate as Albania. The conclusions of this study can be applied for Kosovo and Bosnia-Hercegovina which are one step behind in the accession process, but some of the recommendations are also applicable for country as Montenegro and Republic of Serbia which are one step ahead. Yet, generally speaking, any recommendation should take into account the local context and the country's specific conditions.

3. What should be Albania's focus?

Albania maintained its focus on reforms related to the countries EU path, despite of the challenges of economic and social consequences of the triple shock, the 2019 earthquake, the pandemic, and the Russian war in Ukraine, and continued displaying its firm determination to proceed swiftly with all the reforms and progressing with European integration process. The results on reforms laid the ground for the First Intergovernmental Conference [206] and starting officially the negotiations in July 2022, quite an historical moment for Albania and the Albanians**.** All Albanian political and technical structures are energized and focused on the negotiation process by presenting Albania as fully committed to move forward in the accession negotiations based on continuing reform progress.

Such process has started with a screening in September 2022 and is going on. Both teams from Europe Commission and from Albanian authorities are making the efforts with the screening so far. Albania has successfully completed the screening of the first cluster: The fundamentals, in January 2023, and the second cluster, Internal Market, in March 2023. Albanian structures are looking forward to the approval of the "screening reports" for both clusters and continuing the screening for the remaining four clusters. Albania is progressing on the drafting of the Rule of Law Roadmap and the Public Administration Reform Roadmap. Albania is waiting to the potential assessment by the Commission on these two opening benchmarks during 2023, aiming for the opening of the negotiations for the fundamental cluster within 2023.

Albania is getting ready for the screening of all remaining clusters and their potential opening in the future. A self-assessment on other clusters opening

[206] First Intergovernmental Conferences with Albania and North Macedonia to kick-start the accession negotiation on July 19, 2022, https://neighbourhood-enlargement.ec.europa.eu/news/first-intergovernmental-conferences-albania-and-north-macedonia-kick-start-accession-negotiation-2022-07-19_en

readiness is under way. European Union financial assistance for Albania has increased from year to year but now it seems that by starting the negotiations, the European Union support is crucial for the process. It seems there is a proactive approach on these matters. But what should be the Albanian next focus?

A more direct and stronger steering from the responsible structures – In the past years there are established many structures in order to enable the integration process in both direction: from financial point of view by absorbing more structural funds and from the other side by increasing independence of knowledge from external expertise and building capacities of the country public administration. The most important structures are National IPA Coordinator (NIPAC), National Authorizing Officer (NAO), IPA unit, Central Finance and Contracting Unit CFCU, Nation Fund etc. which have seriously improved harmonization with other assistance providers and in this respect, the coordination amongst structures has noticeably increased connecting even tighter with the Instruments of Pre-accession. These bodies have proved such strong will and support showed for the negotiations and integration process, with an excellent collaboration and synergy by strengthening such collaboration with European Union Delegation in Albania as well. The First Intergovernmental Conference in July 2022, as well as the organization of EU-Western Balkans Summit in December 6, 2022 in Tirana are decisive milestone in Albania's path towards EU integration. Both are examples of strong leadership and ownership from Albanian structures. Even in the upcoming phases, a more direct and stronger steering from the responsible structures is required.

Further increase the policy dialogue - Holding for the first time in the region, especially in Tirana, of the Summit of the European Union and the Western Balkans successfully conveyed very important messages, which showed not only an increased geostrategic attention of the EU, but also the need to accelerate the process of European integration for the Western Balkans region. Also, for the first time, on March 16 and 17, 2023, respectively in Tirana and Skopje, the respective Stabilization and Association Councils [207] for each country were organized, which brought an added value in terms of positive and encouraging messages from EU institutions for the advancement of countries on their way to European integration, for recognition as promoters and active

[207] Website: https://www.eeas.europa.eu/_en?s=214

countries in regional cooperation and for their single-minded approach with the EU in foreign and security policy.

Being smart when programming the next financial support from EU - Actually, IPA III program [208] is under implementation. For Albania the IPA financial agreements for the first three years are already finalized, in particular, it can be noticed the extended and continued support on the flagship justice reform and the functioning of a new justice institutions and other key areas as identified in the first intergovernmental conference, such as the fundamentals rights, economic governance, good governance, green agenda, innovation, etc. EU integration facility continuity may be in short and horizontal measures in all areas as relates to the negotiations are needed. This is crucial, for the support needed on the capabilities of the negotiation process, especially at start, strengthening capabilities on bilateral through the screening, the potential opening benchmarks and negotiating positions to create the conditionalities of opening the negotiations for each cluster horizontally.

Lessons for structural funds implementation system, because of introduction of rules and procedures in line with EU legislation - the purpose of the financial assistance provided by EU is not only to promote various reforms in the country, and to support financially their implementation but specially to set EU standards for the processes and the procedures. After implementation of IPA projects during the last years, it is noticed that the main goal is to provide to support in the establishment of the administrative framework and operational systems. Transposition of the EU acquis is only the first step. More demanding is the implementation/enforcement process. The EU acquis's transposition is merely the first stage. The procedure of implementation and enforcement is more difficult. The execution is more demanding.

Attention should be granted to the broader link of capabilities on the approximation of the EU acquis, by increasing such capabilities for the national approximation mechanism – Albania focuses on the impact assessment of the acquis to be approximated, ex-ante and ex-post, and particularly on acquis implementation. Acquis implementation measures may be introduced including acquis implementation tools. As Van Den Brink[209] (2017) finds in his scientific

[208] https://neighbourhood-enlargement.ec.europa.eu/enlargement-policy/overview-instrument-pre-accession-assistance/albania-financial-assistance-under-ipa_en

[209] Van Den Brink, T. (2017). The Impact of EU Legislation on National Legal Systems: Towards a New Approach to EU – Member State Relations. *Cambridge Yearbook of European Legal Studies, 19*, 211-235. doi:10.1017/cel.2017.2

article “The legal perspective on the relationship between the EU and its Member States has been dominated by a focus on the principles of conferral and subsidiarity, as well as on the delineation and use of EU powers. Such an approach makes it equally difficult to identify the actual and concrete impact of EU legislation”. If this is difficult for the member states, Albania should be prepared for this challenge during the accession process. The mechanism should be improved in responding to the need for qualified skills on EU legal and policy areas either at the ministries and local level but also supporting the role of the parliament, strengthening on the other side also the implementation grounds. On the role of the parliament, attention should be given to the Economic and Finance Commission, and EU Affairs Commission. There is a need to strengthen the implementation grounds of the acquis also in local level. It seems that from the first assessments performed so far, around 70% of the acquis will be implemented in local level. On the other side, focus is needed to address the preparedness of structure on upcoming structural funds. Now on the prospect of Chapter 22, the regional policy, it is important such capabilities be advanced in building tighter public institutions at the level of business and social actors, who may be main beneficiaries and key players to socio-economic transformation in the integration to the single market process.

Albania is encouraged to make the most of group of experts - It is important to be highlighted the remarkable level of appropriation that Albania have assured the EU on the quality of the documents that have been submitted so far and also the substantial level of co-financing that is proposed. So now looking again at the next steps, the Albanian authorities are stimulated to take full advantage of the team of experts that are there to help for preparing the action documents that need to be submitted to EC within the deadlines. Also, it is suggested that Albanian authorities share as soon as possible further information on the institution setup that they are planning to put in place for the operational programs.

Preparations may include also capabilities building, as regards to the partnership’s regulation and the inclusion of the civil society in programming and monitoring. Thus, IPA may anticipate the formation of capabilities in socio-economic actors by introducing pre-structural type funds and measures. The public partnership platform should be supported to be strengthened, especially in the roots in direct support to the stakeholders’ capacities such as civil society, businesses and groups of interest, for them to better understand the acquis and their potential implication on their area of interest and for them to follow its contributions when dialoging with the negotiating structures, solid and concrete contributions. Representatives of the civil society have wanted to take their

floor as well as the other key stakeholders. The relationship between state and non-state actors is characterized as non-hierarchical and mutually dependent (Hix 1998: 39; Jachtenfuchs 1997: 40).[210]For these reasons, it is expected to have a more open and proactive approach.

There is a need to increase also the visibility of EU in Albania, either by increasing visibility of the EU projects but also the visibility on the integration benefits for citizens and businesses - As decision-making in policy area after policy area has moved up to the EU level, European integration has increasingly encroached on issues at the very heart of national sovereignty and identity. The problem for national democracies is not that EU policies have encroached on national ones, but that citizens have had little direct say.
In these regards, the participation and visibility may be broadly supported either by including the visibility as a component in each IPA support and stressing repeatedly so far, the importance by designing an approach on main beneficiaries as EU for citizens, EU for business, EU for civil society, including media, etc.

Participation of all important and minor stakeholders, especially civil society organizations - As it is mentioned by Shahini and Dollani (2011) [211], more than a decade ago, some of the issues still persist. In order to take advantage of the integration process and protect its own interests of the national economy, a lot of hard work from the Government, institutions, companies and citizens is required in order to surmount the difficulties. Now that the enlargement is becoming a reality, the country's leaders must educate the public about all the important aspects of the integration process. Actually, with the adoption of Prime Minister Order[212] on the Partnership Platform for European Integration, meetings have been held within the framework of consultations and information on the processes of European integration. The main purpose of the Partnership Platform is communication and advice on the process of European integration between the responsible institutions and the main actors of the Albanian society, having a special importance for the process of membership negotiations.

[210] Hix, S. (1998) 'The study of the European Union II: the "new governance" agenda and its rival', Journal of European Public Policy, 5(1): 38-65. Jachtenfuchs, M. (1997) 'Conceptualizing European Governance', in K.E. Jørgensen (ed.) Reflective Approaches to European Governance, New York: St. Martin's Press, 39-50.
[211] Shahini, Besa & Dollani, Petrit. (2011). Costs and benefits of European integration - the Albanian case. Wrocławskie Studia Politologiczne 1643-0328. 12. 200-208
[212] Order of the Prime Minister, no. 113, dated 30.8.2019, "On the forms of participation, operation and institutional structure of the Partnership Platform for European Integration"

The screening process is clearly an instrument that can be used to identify the needs - It is evident that EU stands ready to work on further and elaborate for the upcoming financial aid. This is certainly an exercise which from one side the gap assessment is performed and from the other side to identify some of the strategic engagement that can be foreseen for the future. It should be considered as a possibility that come from the accelerated integration. The EU is the biggest donor to Albania but is not only about the amount, but it is also the strategic use that EU makes of the financial resources available. This should be discussed in view of some new instruments (the operational programmes). The new framework of cooperation stemming from the priorities setting should be linked with the negotiations. The use of the some of the new instruments not only create new opportunities for how Albania is implementing EU assistance but also are in itself an important instrument of preparation for becoming a member state because the operational programmes, are essentially aiming at anticipating what is to be done for the future structural funds.

Last but not least, in the framework of the accelerated integration, new possibilities should be explored and supported by the EU, and reforms regulated to convergence of the country with the Union leading standards - During screening, the accelerated integration opportunities are being met, and Albania will ask for those to be applied where possible aiming in particular social and economic accelerated integration with actions of direct benefits for citizens, social groups and businesses and convergence. Investing now, throughout the accession process, makes more sense than investing later after the accession.

For the implementation of financial support provided from EU, initially it was needed to start with the update of the IPA framework. Considering the programming, the new partnership agreement of IPA III was adopted in October 2022. The IPA 2021 International Agreement entered in force in December 2022 with 5 action documents with total amount of 64.9 million euro. IPA 2022 was signed by NIPAC on March 2023 and there are 7 action documents, for total amount of 82.6 million euro. IPA 2023 which also was signed in March 2023, it was converted as part of 1 billion package that EU provided to the Western Balkan countries. The other IPA packages are in process of negotiation.

It is evident that there is a very intense partnership over the past year, and a very successful corporation as well. There is the legal framework agreement in place and it is already start contracting, for the IPA 2021. It is recognizable that the EU strong commitment of EU member states that have actually agreed and

made this happen as well, by agreeing as well to very short deadlines, to make sure that this decision could be taken to the implementation of that program.
As it is cited in "The Schuman Declaration" [213]in May 1950 "*Europe will not be made all at once, or according to a single plan. It will be built through concrete achievements which first create a de facto solidarity*", Albania is aware of the challenging path to European integration, but this inspiring objective can get through the challenges. European integration is the most important political and strategic goal of Albania, and for this and for this there is a broad support of country citizens.

4. Conclusions

This article serves among others to have an overview of the Albania journey toward Europe Union, and its valuable contributions to the county's economic and social development. These discussions take place in a new context for Albania. The first intergovernmental conference together with the significant decision for opening the negotiation for Albania and North Macedonia marked a significant moment. Now, Albania faced new challenges and needs in her course toward EU community. An important message for Albania conveyed from this long demanding process is as follows: Decision to extend the core European Network and Response to the consecutive crisis that Europe is facing. It is highlighted the new context in which the negotiation process is taking place and clearly, Albania is in a completely different situation now in terms of the relations with EU and Albania following the opening of the accession negotiations on July 2022. This paper is definitely an opportunity to take stock on one side of what has been achieved so far but also to look a little bit at the next steps with the perspective of the future needs and the need of course that come from the accession process.

With three consecutive crises that Albania economy has faced, it is expected the negotiation process between Albania and EU involves multiple complex issues. Progress in these complex areas will determine the pace and success of Albania's integration into the EU, subject to ongoing assessments and continuous evaluation by the European Commission and EU member state.

This essay analyzes various aspects related to Albania's integration process with the EU. It highlights the importance of strong leadership and coordination within responsible structures. The article emphasizes the need for increased

[213] The Schuman Declaration was presented by French foreign minister Robert Schuman on 9 May 1950.

policy dialogue and attention to the implementation of EU standards and procedures. It suggests that Albania should focus on improving capabilities for EU acquis approximation and implementation, both at the national and local levels. Strengthening the role of parliament, particularly the Economic and Finance Commission and EU Affairs Commission, is recommended. The importance of engaging civil society organizations and other stakeholders is highlighted, along with the need to enhance the visibility of the EU in Albania.

Further, it is analyzed the importance of smart programming, strategic use of resources, and the inclusion of civil society in programming and monitoring. The screening process is viewed as an instrument to identify needs and strategic engagement for the future. It also suggests exploring new possibilities and supporting reforms that promote convergence with EU standards.

The paper concludes by emphasizing the commitment to accelerated integration and the benefits it brings to citizens, social groups, and businesses. The overall objective of European integration is regarded as crucial and enjoys broad support among Albanian citizens.

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UNDERSTANDING THE PROCESS OF INTERNATIONALIZATION IN HIGHER EDUCATION

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Abstract
Internationalization in the higher education institutions in Albania has been for some time the center of discussions and initiatives from the main education authorities and HEIs themselves. Internationalization also comes as an imperative from the law "On Higher Education in the Republic of Albania 80/2015" right from the start, Chapter I, Article 1, paragraph e) states: Higher Education is a public responsibility and service whose mission is to support international cooperation in the field of higher education.
Following the fall of the communist regime, the entire landscape of higher education started to change. New universities were formed and they were faced with the immense task of applying standards required. While in 2007, Albanian universities became part of the Bologna Process. One of the challenges they were faced with was the internationalization. Lack of experience and many other elements are the key factors why universities are struggling regarding internationalization.
Despite some efforts undertaken to cooperate with universities abroad, the real sense of internationalization came through the Erasmus+ program back in 2014. Universities in Albania were part of the exchange programs but with limited numbers in the beginning and with an outgoing tendency while the numbers of incoming students remain low due to lack of programs in English.

Keywords: internationalization, law, higher education institution, Erasmus+, students, programs.

1. Introduction

Albanian higher education institutions are facing several challenges when it comes to internationalization. These challenges are closely connected with the developments of the entire higher education system in the country following the collapse of the communist regime back in the early 1990s. Until then, the country had only one university while the education sector, like all other aspects of the life in the country were under the tight control of the regime and highly

politicized.

The country started its deep reforms following the end of the 45-year long communist rule and education sector had to go deep reforms. Besides the many legal, structural, infrastructural, and financial challenges, internationalization was another aspect which though came at a later time. And the law on higher education sector had to be changed and reviewed time by time, also taking into consideration not only the systemic functioning of the universities but also the reforms needed for the country's drive towards EU integration. And higher education was a sector that was impacted. Indeed, internationalization took momentum after the year 2010 and started to get articulated in the strategic documents and leadership of the higher education. Universities started to establish specific international relations offices after 2010 and before that there were no proper offices, with exception to some cases, when a member of staff was tasked to deal with international relations. The Erasmus+ program and the previous tempus programs consequently had their impact on the need for internationalization of higher education.

2. Legal Framework

The current legislation framework was adopted back in 2015 after the previous one which was adopted some eight years earlier, in 2007. The law "On higher education and scientific research in the Republic of Albania 80/2015" right from the start, Chapter I, Article 1, paragraph e) states: Higher Education is a public responsibility and service whose mission is to support international cooperation in the field of higher education.

The law doesn't include any specific articles on internationalization to further provide any details but mentions several forms of collaboration such as double and joint degrees and cooperation regarding scientific research. The law will provide a key term references but mentions nothing on definition of international cooperation or referring to it as internationalization. In order to explore the issue of internationalization of higher education, first of all, it is necessary to understand what internationalization means, its, roots, forms, development, and current situation. On the other hand, to date, the Ministry of Education in Albania is yet to release any official strategic document to clarify how int. But in order to explore the issue of internationalization of higher education, first of all, it is necessary to understand what internationalization means, its, roots, forms, development, and current situation.

3. What does the word itself "Internationalization means"?

In the Oxford Dictionary internationalization is defined as: the act or process of bringing something under the control or protection of two or more nations; the act or process of making something international, while translating the term into Albanian language that is "Ndërkombëtarizim". The word in Albanian has the following meaning referring to the official present day Albanian language dictionary: It is related or has to do with relations among countries and peoples throughout the world, international relations, international arena, and international cooperation.

The meanings in both languages refer to the same idea, and what is interesting is that internationalization of higher education institutions in Albania is stipulated and encouraged by the law "On Higher Education in the Republic of Albania 80/2015" right from the start, Chapter I, Article 1, paragraph e).

4. Defining and Understanding Internationalization in the Context of Higher Education

According to Hans de Wit, (2013), a globally recognized scholar in the internationalization of higher education, previously working as professor at the Amsterdam University of Applied Sciences and the Universitá Cattolica del Sacro Cuore in Milan, currently at Boston College, the notion, term and concept of "Internationalization" date from the 1990s. In that publication, De Wit states that there was already a substantial tradition of research and practice on the international dimension of higher education, in general under the term "international education" or under the terms that reflect some kind of international activity.

Another globally renowned scholar in the field of internationalization of higher education, John K. Hudzik, a Professor, Michigan State University and NAFSA Senior Scholar for Internationalization, also a MSU Dean and Vice President of International Programs and Global Engagement 1995 to 2010, and Acting University Provost in 2005, in his publication "Comprehensive Internationalization" (Hudzik 2015) states that higher education internationalization is not a new concept. According to him, its roots and guiding principles can be tracked back thousands of years to higher-learning ideas centers which attracted scholars and students from diverse places. Hudzik mentioned the fact that such centers, among them the Confucius Schools in China (6th century BC), the Platonic Academy of Athens (5th century BC), the

Library of Alexandria (4th century BC), Nalandia in India (5th century AD) and Renaissance in Italy (14th century AD) were intellectual hubs drawing mobile scholars and curious from afar.

He underlines that the movement of people in search of new ideas and the movement of ideas to influence people in new places, as well blending of diverse cultures and epistemologies formed the inner core of early higher learning. He noted that the above centers provided the root stock for contemporary forms of internationalization of higher education. Hudzik argues that in ancient periods as well as with more contemporary idea centers such as universities, cross-border and cross-cultural influences impact the core missions of higher learning.

Hans de Wit (2013) in an introduction to internationalization of higher education on the issues of why, how, and what stated that international dimension and the position of higher education in the global arena are given greater emphasis in international, national, and institutional documents and mission statements than ever before. According to him, Philip Altbach, Liz Reisberg, and Laura Rumbley (2009, 7) in their report to the UNESCO World Conference on Higher Education note: "Universities have always been affected by international trends and to a certain degree operated within a broader international community of academic institutions, scholars and research. Yet, 21st century realities have magnified the importance of the global context. The rise of English as the dominant language of scientific communication is unprecedented since Latin dominated the academy in medieval Europe. Information and communication technologies have created universal means of instantaneous contact and simplified scientific communication".

De Wit (2013) notes that everything has changed over the past 10 years with regards to the internationalization of higher education and that this change is primarily from a more cooperative model to a competitive model. Based on this statement by De Wit (2013) it sounds that it is quite normal that the nature of internationalization changes over the time.

There has been no static model throughout the history of internationalization of higher education, something which can be considered as a benchmark. Nonetheless, there still should be common features and traits in addressing internationalization issues among higher education institutions. Quite understandably, the nature, size, profile, geographical location, heritage, and local and national traditions vary from one university to another therefore the approach and needs towards internationalization differ too.

Indeed, the movement of people to learn new ideas and the effect of the new ideas introduced to new places affecting more and more people is an early movement that has accompanied at least the community of scholars, researchers, and learners throughout the history. It becomes quite obvious that the main drivers behind the movement of people and ideas was the endeavor to do more, to reach new heights, and in other words to translate that knowledge into benefits for personal and more broader gains. The fact that such phenomena has a global character, this reinforces the idea that internationalization of higher education institutions is not a recent one but dating back many and many years ago. While some ideas have flourished from one place to another, transmitted thanks to the mobility of scholars and learners, it is an indication of the early forms of international cooperation and globalization with an impact on the overall global development.

Therefore, the context of the internationalization of higher education derives from such early forms. Still, in essence the drivers for internationalization are at the core the same though new motivations, rationales, and drivers continuously shape it by not giving it a clear-cut definition. However, with the ongoing rate of globalization, fast communication, development of universities and research centers, national and international needs and drivers, it is understandable that the nature of internationalization is ever becoming more and more complex and in different shapes and substance.

In analyzing the meanings of internationalization and in an effort to define internationalization, the definition was provided by one of the most renowned scholars in internationalization of higher education, Jane Knight (2004) from University of Toronto argued that the challenging part of developing a definition is the need for it to be generic enough to apply to many different countries, cultures, and education systems. This statement by Knight once again highlights the need for internationalization of higher education to be defined in the broadest, widest, comprehensive, cross-border, and cross-cultural way as possible. Knight added that although it is not necessarily the intention to develop a universal definition, it is imperative that it be appropriate for use in a broad range of contexts and for comparative purposes across countries and regions of the world. According to her, what is critical is that the international dimension relates to all aspects of education and the role that it plays in society.

Normally, the internationalization of higher education institutions should be viewed with the objective of adding value to the core missions of the higher education institutions improving it in an all-round aspects approach. The improvements and added values deriving from an all-round internationalization

approach of the institutions should be reflected on better skills, cross-cultural and cross-boundary competencies of the students helping them better integrate in an ever more global job market.

Furthermore, Knight (2004) Internationalization at the national/ sector/ institutional levels is defined as: "the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education."

Referring to Knight (2004), the following sections attempt to describe why specific terms and concepts have been carefully chosen for the proposed working definition of internationalization:

"1. Process; the term process is deliberately used to convey that internationalization is an ongoing and continuing effort; 2. International, intercultural, and global dimension; these terms are intentionally used as a triad, as together they reflect the breadth of internationalization; 3. Integrating; the concept of integration is specifically used to denote the process of infusing or embedding the international and intercultural dimension into policies and programs to ensure that the international dimension remains central, not marginal, and is sustainable; 4. Purpose, function, and delivery; these three concepts have been carefully chosen and are meant to be used together; 5. Delivery is a narrower concept. It refers to the offering of education courses and programs either domestically or in other countries.

While the above definition and all the sections explaining it as provided by Knight (2004), it becomes clear the overall objective of the internationalization as a process. Now focusing on the key words she opted to define internationalization, it seems that such definition is affected by other developments.

In a world that is becoming more global in all senses, affected mostly by technological developments and ease of travel, the internationalization of the higher education institutions will cater better to the needs of the students to be prepared to access an even more international job market. The rapid exchange of information in almost all areas of society, has also affected the world of business and culture while the movement of people from one place to another has increased significantly. Therefore, the companies are looking for a workforce that it is ready to respond to all global developments, a workforce with cross-cultural acquaintance ready to adapt to all foreseen and unforeseen changes at global level.

The higher education institutions should see the internationalization process around the definition described by Knight as a tool and an instrument to provide better inputs to the society. A more international a higher education institution, its graduates will normally have cross-cultural skills, new competencies, and a more global view of any perspective. Even the use of the word "purpose" by Knight in defining internationalization refers to the main core objectives and goals of the very existence of the higher education institutions. Seeing the main core objectives and goals of a higher education institution in a given country of the world, being in complete isolation or with very little exposure to the international, intercultural and global dimensions, it is obvious that they would serve to a narrow audience with very local impact to the society while its graduates will struggle in the future to adopt to new global developments and requirements for cross-cultural competencies in the job market.

5. Internationalization in Albania

Currently, education authorities in Albania are pushing a lot on internationalization of universities. The accreditation processes both at institutional and at the program level, require a strong position in internationalization. The process itself (internationalization) is left entirely in the hands of each higher education institution to develop their own strategies based on the requirements of the law that supports international cooperation. There is no specific official document issued by education authorities to define what internationalization process in universities is. Also, internationalization strategies of higher education institutions do not present a clear statement or definition on internationalization.

Considering that until 1991, Albania was under the communist regime, it is common sense to understand that the entire higher education sector had to go through massive changes. While the focus was on deep structural reforms, internationalization was still in its very early stages, mostly in the form of the signing of bilateral agreements. Albania had its national Erasmus+ office formed in 2014, mostly a structure inherited from the previous Tempus office. It was through the Tempus and Erasmus+ exchange program that universities saw a flux of staff and student mobility taking place, although with a absolutely strong outward mobility rather than incoming.

While Albania is advancing towards its strategic goal of EU integration, the Council of the European Union, on its official document dated April 6, 2022, stated on conclusions on a European strategy empowering higher education

institutions for the future of Europe, which supports the above mentioned and the strive for more internationalization among higher education institutions: “Transnational cooperation between European HEIs adds to their attractiveness to international students, researchers, and global partners and increases the quality of educational offers and research and innovation potential." The report stated that existing European programs, such as Erasmus+, the Union’s external action instruments and Horizon Europe, should be used within the remit of the actions included in their legal bases and evaluated according to their respective evaluation criteria to support alliances of HEIs such as the ‘European Universities’ and the Knowledge and Innovation Communities (KICs) in developing joint internationalization activities and strategies across higher education, research, and innovation. (Skendaj 2024)

Albania currently does not have a specific national strategy on internationalization, while higher education institutions have each an institutional strategy dedicated to it. When thinking about higher education, internationalization strategically is mainly a developed country phenomenon (Crăciun, 2018a). If we look at the Organization for Economic Cooperation and Development (OECD) membership—which is an intergovernmental organization with 35 member countries founded in 1960 to stimulate economic progress and trade—we find that 77% of the countries that have a higher education internationalization strategy are OECD members (n = 17) (Crăciun, 2018a).

At the time of writing this article, authorities had not approved any national strategy for the internationalization of higher education in the country. Thinking about higher education internationalization in a strategic manner at the national level is a relatively new phenomenon that is not as widespread as the literature might suggest (Crăciun, 2018a). Strategic thinking about internationalization is mainly concentrated in developed countries more generally and European countries more specifically (Crăciun, 2018a). Around 41% of all the international students worldwide are received by just nine of the countries that have an internationalization strategy in place (Crăciun, 2018a). Two-thirds of the countries with a national strategy for internationalization also have English as one of the language(s) of instruction (Crăciun, 2018a).

In Europe, the Erasmus program, which in 2022 celebrated 35 years of its existence, played a crucial role in supporting the internationalization processes and mobility of students and staff. The approach towards internationalization took pace under the influence of the Erasmus+ program in Europe but also considering the pressures from the globalization process. Van der Wende (2001)

stated that internationalization in a globalized environment when combined with the requirements of knowledge economies had in the view of some led to an environment that is inherently competitive across institutions, region, and among countries. It is clear that the globalization did not affect the same regions and countries the same, with some of them seeing a rapid influence under the pressure and forces of globalization whereas the others affected not at all or at a lesser extent. Therefore, the drive to push forward and develop internationalization strategies influenced more the higher education institutions in those regions and countries affected at large by globalization.

Albania has around 12 public universities and a more than a dozen non-public universities. As the country has a population of just a little bit more than 2.5 million inhabitants, as according to the most recent national census, one can expect to have universities with a lower number of students than universities in countries with a large population. For the purpose of this article, I took into scrutiny data on international students and programs from three public universities, University of Durres, University of Elbasan, and University of Korca, large, medium, and small universities. Still, having international students and programs at university is not an indication of an institution following the right track in internationalization, as the process is very diverse, but nonetheless that is one of the main indicators or the first steps to internationalization.

Data from these universities indicated that they received less than 30 international students in a combined overall starting from the academic year 2018-2019 until the academic year 2022-2023. These students were for a semester, or two in some cases, and all exchange students in the Erasmus+ program. The numbers of international students deciding to follow a full degree program were even lower. For example, one of the universities reported only 7 international students for the five-year period from 2018-2023. Only one of the universities, the University of Durres, reported to have only 6 English language programs while the number of international students is even lower than the number of programs in English. This situation also brings forward several key issues, such as what is the point of having English programs when all your students are Albanian speaking students, as this is alo related to the costs of running that specific program.

The three universities reported that they had no specific strategy for recruitment of international students and teachers/researchers while their internationalization strategy contains elements such as international students and researchers but without indicating how they would specifically realize that goal.

6. Conclusion

Albania does not yet have a national internationalization strategy. Universities have their internationalization strategy but none of them had a specific a strategy for recruitment of international students and teachers/researchers. International programs and a friendly environment as a magnet for international students and teachers are at the core of any internationalization strategy. The universities referred to the process of recruitment of international students to an order of the Ministry of Education outlining the procedures for the enrollment of international students. Other countries in the region such as in Greece and Italy have established an online platform system through which international students are enrolled and both countries have a national internationalization strategy.

While the lack of international programs seems to be a main contributor to the extremely low numbers of international students, the main challenge here is the lack of a national strategy on internationalization of higher education. Such a strategy would definitely provide a clear picture at what internationalization is, its impact, how the efficiency of internationalization could be measured, what are the implications, etc. As it is, higher education institutions have their own internationalization strategies but still, no strategy, at least referring to internationalization strategies of HEIs published on their website include an evaluation and assessment report.

Another issue which needs attention is lack of clear data on internationalization of higher education. Universities in Albania do not provide a regular information feed on their website on internationalization. Besides on some cases where you can find copies of internationalization strategy there is nothing else you can extract from them on internationalization. There is a lack of evaluation documents on the internationalization where universities present a key analysis of their strategies, figures and data. Currently, for someone doing a research on internationalization of universities in Albania gathering of reliable data is one of the key challenges. This is an indication that internationalization of higher education it is still in early stages and needs to be further shaped both in form and content.

And despite having an institutional internationalization strategy, no institution has included data on the funding needed for the implementation of the strategy. Normally, almost all universities included objectives such as internationalization of research, building double or joint programs, participating in international organizations, no university reported a specific budget for implementation of strategy. For sure, implementation of any strategy in higher

education has financial costs, while in Albania no university included a chapter on financial costs for the implementation of the strategy let alone specific pathways into the implementation of the strategy. This is an issue which need an immediate reaction by the universities otherwise implementation of internationalization strategies remain fragmented and spontaneous.

Above all, even though internationalization takes several forms and includes many components, Albania still needs to have a clear legal framework and regulatory instruments to define internationalization, measure, evaluate and consecutively build its national strategy. This strategy would help universities to better ,internationalize not only in terms of international students and academic staff but an internationalization strategy with clear concepts, vision, and mission.

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