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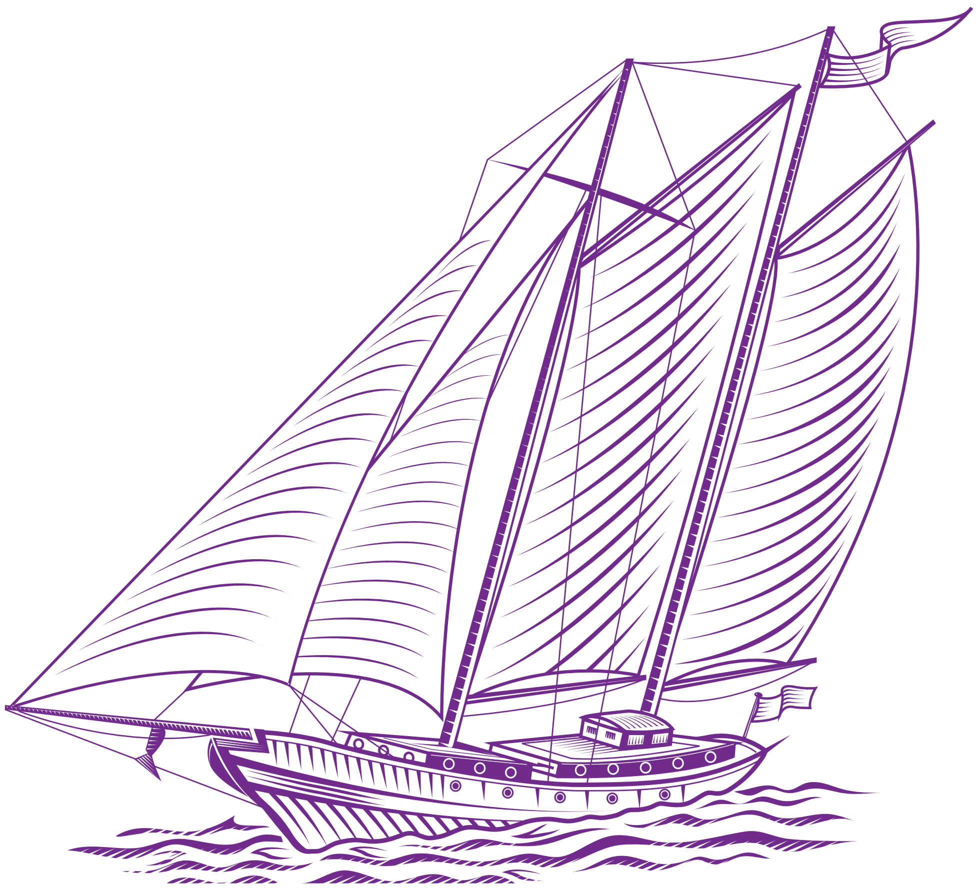

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DIGITAL CURRENCIES: IS AFRICA READY?

Favourate Y. MPOFU[1]

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ABSTRACT. Digital currencies are likely to modify the way businesses, people and governments transact in Africa. Nonetheless, several factors need to be assessed before the wide adoption of digital currencies in the continent. These factors include the regulatory environment for fintech, the condition of digital infrastructure and the degree of financial inclusion. This paper assesses the readiness of African countries for the issuance of digital currencies. The paper gives an overview of the African countries that have implemented or are considering implementing digital countries. It discusses the issues to be considered for a conducive environment to launch digital currencies. It explores the opportunities and challenges of developing and issuing digital currencies in Africa. The paper finds that although the developed mobile money network infrastructure, high mobile money penetration, the growth of the digital economy and high degrees of financial exclusion position Africa well for the adoption of central bank digital currencies (CBDCs), several challenges need to be addressed. These encompass lower levels of financial inclusion, digital exclusion, the digital divide, poor digital infrastructure and regulatory uncertainty. The paper provides recommendations for improving the prospects of digital currencies in Africa. These include the creation of a legal and regulatory framework for digital currencies, investing in digital infrastructure, improving internet connectivity and educating citizens on digital currencies. Digital currencies can lead to improved economic growth, increase cross border payments, promote financial inclusion and sustainable development

Keywords: Africa, Digital Currencies, Digital Infrastructure, Financial Inclusion, legal, regulatory environment.

JEL Classification: F39

1 Post-Doctoral Research Fellow, College of Business and Economics, University of Johannesburg, Auckland Park, Johannesburg, South Africa. E-mail: fsfsebele@gmail.com

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Introduction

The growth of the digital economy globally has been associated with the expansion of e-commerce activities as well as the widening of the supply of and access to digital financial services (DFS). Fintech has been driving the use of advanced technologies in the provisioning, access, and use of digital financial services. Industry 4.0 in finance has seen the utilisation of the Fourth Industrial Revolution technologies in the financial services industry in both developed and developing countries. Several types of DFS products have been rolled out and these include digital currencies such as bitcoin, mobile money, and Central Bank Digital Currency (CBDC). Ahiabenu (2022) refers to a CBDC as a central bank-offered digital currency that has similar characteristics as cash except for the tangibility feature. CBDCs can be account-based or token-based or interest-bearing instruments. Ozili (2023a) defines a CBDC as a central bank liability with cash-like attributes. Digital currency is money only in this case it is in electronic form (Ozili, 2023b). Digital currency can either be public (eNaira) or private (Ethereum, Bitcoin, Litecoin) based on whether they have been issued by a central bank or a central private entity. Central Banks take full responsibility for issuing and managing the public digital currency. Some of the reasons for the issuance of CBDCs include ensuring an improvement in currency functionality safety of payments, reducing inefficiency in financial systems, and improving the welfare of citizens. Digital currencies could help reduce tax evasion and encourage tax compliance (Ahiabenu, 2022). The objectives of issuing CBDCs are described as the expansion of financial inclusion, improvement of monetary policies, and facilitation of the efficiency of digital payments among other objectives that vary from country to country (Ozili, 2023a). Digital currencies and financial technologies (fintech) can expand financial inclusion in emerging economies (Sapovadia, 2018). Several central banks around the world are researching digital currencies. The interest in digital currencies comes at a time when economies are still recovering from the aftermath of the Covid-19 pandemic, which reduced the projected economic growth of many economies globally (Foster et al., 2021).

African economies are also experiencing the digital transformation that is occurring globally. The countries are exploiting the prospects of digital technologies to facilitate economic inclusion, growth, and development in the financial sector and economy-wide (Madichie & Hinson, 2022). Masela (2021) asserts that several Sub Saharan African countries' central banks are working towards developing and adopting CBDCs. Digital transformations are also modifying international trade and the operations of the financial sector, the nature of money as well as how people interact with money (Enaifoghe, 2021; Westermeier, 2020). One topical digital transformation in the financial sector is the evolution of money to the issuance of digital currencies (Ozili, 2023c). Africa has not been left out in embracing DFS and this has been evident in some countries launching the CDBCs and some in the advanced stages of implementing the currency while others are proposing. Ozili (2023b) states that the issuance of digital currencies in Africa is slow- paced with 14 countries have exhibited an interest in digital currencies (CBDCs) and 13 having conducted some form of research on the currencies and only four have been at the level of piloting digital currencies. Igoni et al. (2020) attribute the reluctance to adopt digital currencies in Africa to the low acceptance of the currency and the possible risks linked to digital currencies. Nanez Alonso et al. (2021) consider South Africa as the most optimal area for implementing CBDCs in Africa. Ozili (2023b) posits

> "The literature shows that there is a strong case to issue a central bank digital currency in developing countries. For example, it can spur development in areas where paper money has failed to spur development, can increase financial inclusion, it can increase remittance inflows, can increase tax revenue, can improve welfare allocation decisions, can reduce financial crime, and reduce cash-based money laundering, it can eliminate tax evasion when CBDCs are used widely, and it can improve monetary policy functions".

Suggesting a cautious and well-assessed approach to the issuance and adoption of digital currencies, Foster et al. (2021) argue that developing countries might be vulnerable due to weak financial systems. Therefore, the interesting questions are as follows: What factors characterise a conducive environment for the launch of digital currencies? Is the African continent ready for digital currencies? What are the opportunities and challenges connected with the issuance of digital currencies? What could be done to harness the opportunities offered by digital currencies and to ameliorate the negative externalities associated with these currencies in Africa?

Sethaput & Innet (2023) describe CBDCs as an active research area among central banks around the world. Barontini & Holden (2019) affirm many central banks around the world are planning to issue digital currencies. Advocating for more research on digital currencies, Pieters (2021) submits, "Whether a novel tool for monetary policy or supply of a new factor in domestic and global markets, digital currencies present central banks with opportunities and challenges that are not well understood". By focusing on the African continent, this critical literature review sought to contribute to the theoretical discussion on digital currencies by addressing the questions outlined above. The review sought to provide informative insights into the possibilities, constraints, and implications of digital currency adoption to researchers, policymakers, academics, and developmental bodies.

A Conducive Environment for Launching a Digital Currency

In assessing the suitability of an environment for the issuance of a digital currency, Nanez Alonso et al. (2020) factors such as the development of the financial sector, the digitization of the economy as well the levels of digital literacy must be considered. Pieters (2021) states that when considering the issuance of digital money aspects as privacy and anonymity concerns, decentralisation and centralisation issues, the competition between physical and digital money as well as other legal issues must be taken into analysis. To critically assess the African continent's positioning or readiness to issue or adopt digital currencies, this section reviews the literature on the conditions that are conducive to promoting digital currencies. The section also refers to the success stories of some developed and developed countries in the issue of digital currencies. Several factors influence the productive issue and adoption of a digital currency. Figure 1 gives a summary of some of the factors gleaned from the review of related literature as prerequisites for the successful launch of a digital currency. Success stories and the applicability of the factors will also vary with the contextual environments of the different countries.

From Figure 1 it is evident that several factors generally influence the successful launch of a digital currency. These factors include clear and effective regulations, a conducive regulatory environment, robust technological infrastructure, demand and acceptance of digital currency (Ahiabenu, 2022; Ozili & Nanez Alonso, 2024), a stable economic environment, and government support. Additional factors include public awareness and education, industry collaboration, persuasive value propositions, adequate and effective marketing of the digital currency, the experience and knowledge of those spearheading the launch, a clear road map as well effective partnerships and collaborations with other stakeholders. The technology used to support digital currencies must be modern, current, and continuously evolving, in addition to being efficient, scalable, and secure. The regulatory environment must be consistent, predictable, and clear. Some of the factors are reviewed individually.

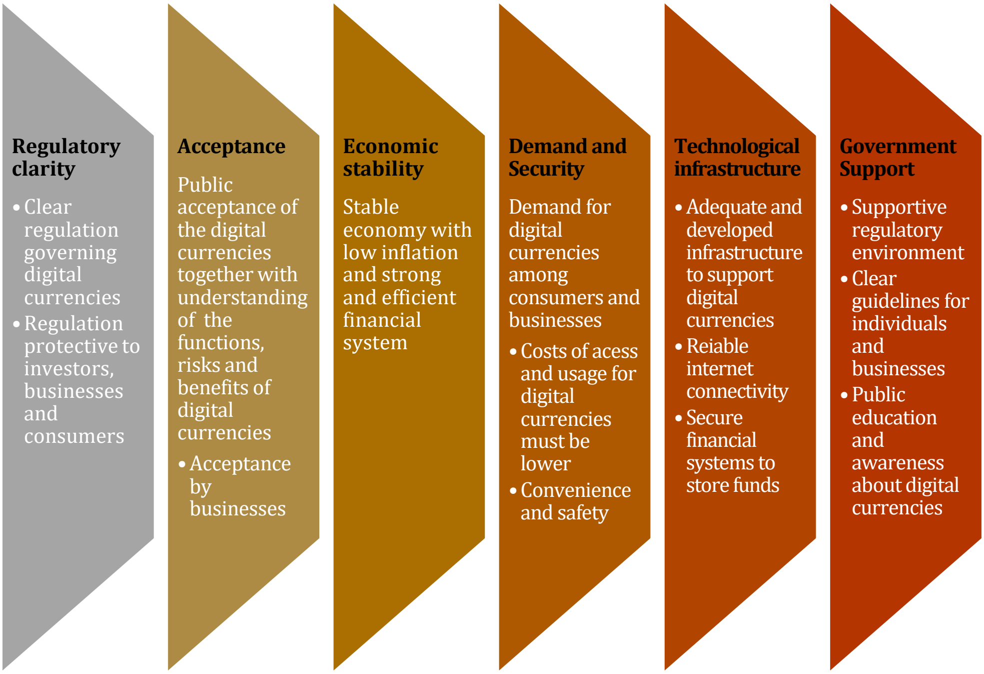

Figure 1: Factors affecting the Issuance and Adoption of Digital Currencies
Source: Author's compilation from different sources
(Nanez Alonso et al., 2020; Pieters, 2021)

- ***Clear roadmap or strategy***

The success of the launch of a digital currency hinges on the design, characteristics, objectives, and implementation of the digital currency. To foster the confidence of businesses, consumers, and investors, the digital currency launch must have a clear road map. The roadmap for the issuance of digital currency can be an intricate process. In coming up with a successful, sustainable, and beneficial roadmap, countries could consider the potential economic impact of the digital currency, the technological infrastructure, the regulatory environment, and the social and environmental impact. This roadmap could differ according to country but a general five-step roadmap is expected to address the digital currency issuance journey. The first stage is the policy development stage. Governments must construct a clear policy framework for the launch of digital currency. The policy must have a clear focus on the purpose or objectives, the target users, the legal and regulatory framework, and the technical infrastructure of the digital currency. The policy development stage could be done in conjunction with technical development, which could focus on the development of and investment in the requisite technical structure to support the issuance and use of a digital currency. Such technical infrastructure could include blockchain networks, digital wallets, and putting in place security measures. Secondly, the roadmap must address the pilot program stage. This is the stage where the government through the central bank would test the digital currency to identify the potential opportunities and challenges and to assess whether the currency can be issued for wider adoption. The third stage involves public engagement and consultation. Once the piloting stage is completed, public consultations can be done to gather opinions and feedback from various stakeholders such as businesses and the public on their perceptions and experiences concerning the digital currency. This feedback could then be used to improve the digital currency before its ultimate launch to the public. Fourthly, the launch stage. This is the stage at which the currency is presumed to be ready for use after the necessary feedback that is informed by the views from the piloting stage and public consultation. The currency will be launched to the general public. This stage must be accompanied by education and awareness programs to garner support and acceptance for the currency by giving stakeholders enough information on the use, risks and rewards connected to the digital currency. Lastly, the final stage is the monitoring and evaluation. This stage is critical after the issuance of the digital currency, to monitor and evaluate the performance of the currency. This stage is pivotal in the identification of problems, assessing the acceptance and use of the currency, evaluating whether it’s achieving its objectives, risk management, and taking corrective action if negative externalities are identified.

- ***Effective partnerships and industry collaboration***

In launching digital currencies, governments must collaborate with businesses and other organisations (Ozili & Nanez Alonso, 2024). Industry collaboration could be exploited to tap into industry experience and expertise as well in developing standards and best practices. Stakeholder consultation and engagement is key throughout all the stages of the process of launching a digital currency. Consultative and collaborative engagements with various stakeholders will increase the transparency of the launch process, create a sense of ownership, bring acceptance, and subject the whole process to evaluative and diverse assessment. All the different types of criticism, both negative and constructive are necessary to increase the adoption and usage of digital currency among informed users.

- ***Compelling or attractive value propositions***

Auer et al. (2021, 2023) point out that the design of digital currency is an important factor in fostering acceptance, demand, and trust. The researchers point to resilience, safety, accessibility, and convenience as key features of a digital currency. To stimulate demand and acceptance, features of digital currencies must be motivating. These characteristics could include low transaction costs, fast and reliable transactions, security of transactions, preservation of privacy, and anonymity among other features. The usability, understandability, and accessibility of digital currencies are fundamental to their wide acceptance and usage.

- ***Effective, transparent, and ethical marketing and outreach***

To ensure long-term success, stimulate trust and acceptance, and generate awareness of digital currencies, the currencies must be marketed aggressively to both consumers and businesses. When users are aware of the currency, its functions, benefits, risks, and limitations (Ozili & Nanez Alonso, 2024), they become more knowledgeable about the currency and can make informed financial decisions as well as take precautions when using the currency. Solberg Söilen & Benhayoun (2021) emphasise the importance of institutional trust as a driver for the acceptance of CBDCs by consumers of financial services. This builds trust and acceptance, which are vital elements of increasing demand for a product, promoting the adoption of and building a community of users for the digital currency in this case.

- ***The experience and knowledge of the team***

To successfully launch a digital currency, the team spearheading the launch must have the requisite knowledge, experience, and technical expertise

- ***Timing of the launch***

The timing of the launch of the digital currency is a critical factor. The launch must be at a time when there is demand for it. The timing of digital currencies must address the costs and benefits as well as the long-term and short-term implications of issuing and using digital currencies (Ahiabenu, 2022). For example, launching the CBDCs towards the election period would just be considered to be a political strategy to gain the support of citizens. This might cause distrust and lack of acceptance by citizens.

By taking into consideration the above factors and their applicability to relevant national contexts, countries exploring the possibility of issuing out digital currencies and those that have launched the currencies could enhance the chances of successfully launching them or increase the acceptance respectively.

Objectives of Launching a Digital Currency

According to Ozili (2023d) a CBDC "is a non-physical or the digital equivalent of physical money issued by a central bank". The design must address the objectives of issuing the currency (CBN, 2021). It can be designed in such a way that it lowers transaction costs (Baker et al., 2023), and interest-bearing, and has increased security characteristics to foster the efficiency of payments or to promote economic stability. Auer et al. (2021, 2022) argue that while CBDCs are receiving more significant attention than previously, different motivations drive different countries and accordingly technical designs and policy orientations towards digital currencies differ. While focusing on Uruguay and South Africa, Kochergin (2021) posits that the consideration of digital currencies was motivated by the desire to control money circulation in the economy. Bilotta & Botti (2021) observe that technological innovations and consumer preferences were driving digital transformations in payment systems and the management of money; hence, CBDCs issuance prospects were gaining momentum. Nanez Alonso et al. (2020) assert that the objectives of issuing digital currencies range from finding secure alternatives to cash to improving monetary policy. Singh et al. (2023) posit that growing interest in CBDCs is driven by the revolutionary transformation of money. The researchers argue that the payment-related objectives were the most dominating objectives for issuing CBDCs. The other secondary objectives are increasing financial inclusion and improving efficiency in payments (Nkomo, 2021). Onumoh et al. (2023), suggest that CBDCs can be issued to reduce inflation, simplify transactions and reduce cash usage, though corruption, internet accessibility, and financial illiteracy can be some of the challenges that can constrain the attainment of the intended objectives. Duho et al. (2022) adduce that the Fourth Industrial Revolution, technological advancements, the need for climate change finance, and economic resilience and recovery are the other reasons for the interest in CBDCs in addition to monetary policy, efficiency, and financial inclusion objectives. Masela (2021) posits that the key considerations towards the attainment of the objectives of launching digital currencies include understanding the likely benefits and risks of CBDCs, building capacity and in-depth understanding of the digital currencies, assessment of the feasibility of their issuance, modernisation of financial services and how to increase control of monetary policy.

From the review of related literature, the objectives of issuing digital currencies differ from country to country, but some converging goals encompass those summarised in Figure 2. Further to the general objectives presented in Figure 2, different countries might have their unique objectives for issuing digital currencies. Examples include India, where the government outlined that the main objective of issuing a digital rupee was to facilitate a cashless economy as well as to ensure a payment system that is secure and safe. In China, the main goal of creating a digital yuan is to enhance the efficiency of payments. Sweden is considering how digital currency could be used to minimise the cost of managing cash. The Central Bank of Nigeria issued the eNaira with the objectives of increasing financial inclusion and promoting economic growth in the country.

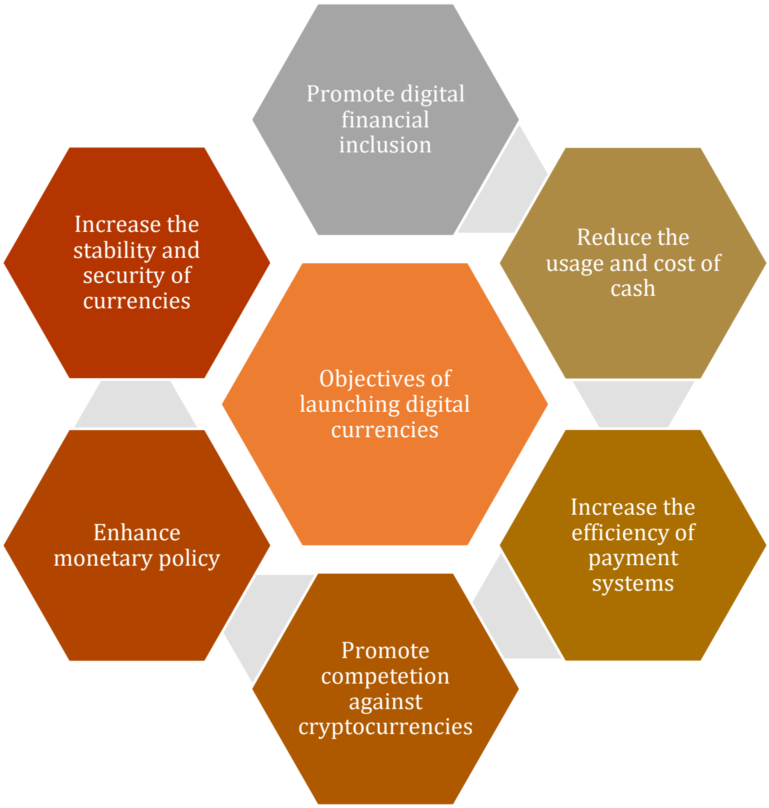

Figure 2: General Objectives of Issuing a Digital Currency
Source: Authors Compilation from different sources such as Ozili (2023b) and Ahiabenu (2022).

- ***Promotion of financial inclusion***

By improving access and affordability of financial services digital currencies can help promote financial inclusion (Kiff et al., 2020; Ozili & Nanez Alonso, 2024), specifically digital financial inclusion of those with no bank accounts. This is attributable to the fact that these currencies can be stored, spent, and transferred electronically, hence eliminating the need for intermediaries such as physical financial institutions. This could be more relevant, especially in developing countries where the levels of financial exclusion are observed to be high.

- ***Reduction of the costs of using and managing cash***

Generally, the cost of printing, storing, and distributing cash is substantial together with the costs of maintaining the security for cash. Therefore, by eliminating the need for cash digital currencies help to minimise the costs of cash handling and management (Bordo, 2021; Mpofu, 2023b). Financial resources that are often dedicated to cash management could be channeled to other areas such as the development and promotion of contemporary financial services and products.

- ***Enhance the efficiency of financial systems***

Digital currencies can be processed electronically and thus eliminating the need for intermediaries. This makes the payment system more secure, cheaper, and faster. Digital currencies could help improve the efficiency of cross-border payments. According to Ahiabenu (2022), most African banks face foreign currency challenges that stifle cross-border trade and payments, hence digital currencies can be explored as a lever to alleviate the foreign currency scarcity problems that affect cross-border transactions. Similarly, Naboulsi & Neubert (2018) contend that BitPesa was introduced to reduce the cost of remittances and fees for international payments.

- ***Increase the stability and security***

The fact that digital currencies such as CBDCs can be issued and managed by central banks can help contribute to their security, transparency, and stability. CBDCs could enhance monetary policy and complement existing financial products and services (Bordo & Levin, 2017; Davoodalhosseini et al., 2020). Digital currencies could help minimise the occurrences of fraud and theft. Through their ability to leave digital footprints that can be traced and tracked, digital currencies can help in the reduction of financial crimes such as terrorism financing, money laundering, and illicit financial flows among other illegal financial activities.

- ***Enhance monetary policy***

Ward & Rochemont (2019) argue that the development of CBDCs was a response to the emergence of crypto currencies and it has both positive and negative implications for the central government, the financial intermediation role of financial institutions such as banks as well as for monetary policy. Digital currencies could help ameliorate the transmission of monetary policy interventions (Bordo & Levin, 2017; Davoodalhosseini et al., 2020). Relying on the fact that digital currencies are held, transferred, and used electronically, making it easier for central banks to track, monitor and control their circulation, this allows central banks to control the money supply as well the interest rates. This is especially critical for African countries where inflation, illicit financial flows, corruption, and money laundering are some of the biggest challenges to economic stability. Ahiabenu (2022) argues that CBDCs could achieve the objective of promoting citizens' welfare if governed by financially inclusive policy frameworks within the central bank's welfare functions, thereby broadening the bank's traditional role. Policymakers should construct adaptive legal and policy frameworks to deal with the uncertainties connected with the adoption of CBDCs.

- ***Reduce competition from private digital currencies***

Central banks have the role of promoting economic stability, and the sustainability of payment frameworks, regulating the flow of money in the economy, and issuing out currencies. For a long time, central banks enjoyed this monopoly. Fintech and the development of cryptocurrencies such as Bitcoin have unsettled many governments and their central banks. CBDCs have been explored as a way to deal with the growth of cryptocurrencies by introducing a competing currency that people can trust as it is central bank-supported (Ahiabenu, 2022). Digital currencies can also culminate in the development of new financial services and products that include peer-to-peer lending and other microfinance products.

The Launch of Digital Currencies in Africa

Currently, some African countries have implemented or are exploring the implementation of digital currencies. The digital currencies in Africa include the eNaira (Nigeria), the BitPesa, and the Sango Coin (Central African Republic) Nigeria was the first African country to implement a CBDC called the eNaira (Ozili, 2022). This currency is a digital version of the Nigerian naira. The objective was to facilitate a currency that is secure and efficient in making payments. South Africa is currently assessing the possibility of launching a CBDC, with the country's reserve bank assessing the risks and benefits of CBDCs to make an informed decision on the launch or non-launch. Ghana is currently piloting its CBDC, the e-Cedi. The objective is to widen financial inclusion in the country and to facilitate efficiency in making cross-border payments. Table one gives a summary of the African countries. As technology continuously evolves and the business environment continues to be dynamic, coupled with digital transformation and globalisation, African countries will continue to explore and make use of digital currencies in the future.

Table 1: Summary of African Countries Implementing or Exploring Digital Currencies in Africa

Country	**Implemented/ exploring digital currency**
Nigeria	The country launched the eNaira on 1 October 2021. Considered the world 's second CBDC. Adopted by millions of people in Nigeria.
Ghana	Piloting CBDC (e-Cedi) from March 8, 2022, expected to be adopted in 2023
Kenya	Exploring the possibility of launching a CBDC. M-Pesa has driven the country to a cashless country. M-Pesa is used for various financial services such as sending, and receiving money, accessing loans, and paying for insurance, health, and education
South Africa	Exploring the Possibility of Launching a CBDC
Botswana	Exploring the possibility of issuing a CBDC
Ethiopia	Considering the possibility of adopting Bitcoin
Zimbabwe	Exploring the possibility of launching a CBDC
Cote d' Ivoire	Exploring the possibility of issuing a CBDC
Egypt	Considering the possibility of issuing a CBDC
Rwanda	Exploring the possibility of issuing a CBDC
Uganda	Exploring the likelihood of issuing a CBDC
Central African Republic	Adopted Bitcoin as a legal tender in April 2022

Source: Ozili (2023b)

Ozili (2023b) suggests that the issuance of digital currencies in Africa must be accelerated as these could contribute to driving economic inclusion in the continent. The researcher attributes the slow journey toward launching digital currencies to several factors. These factors include the lack of interest in CBDCs by some central banks, preference for cash, low uptake of digital financial services, absence of robust payment frameworks and systems, lack of government support as well as concerns about the risks and security of digital currencies in Africa. Despite these concerns, the continent offers potential for the launch and adoption of digital currencies.

The African continent has a young and expanding population. The continent is observed to have a considerable size of the underbanked and unbanked population. This point to low levels of financial inclusion. Digital currencies could help reduce the financial exclusion gap and promote digital financial inclusion of the underserved and unserved segments of the continent's population. Digital currencies could provide people with an easy, safe, and convenient way to invest, store, transfer, and spend money. The African continent is considered to have high mobile phone penetration rates globally, with more than 60% of the population having mobile phone ownership, signalling a significant potential user base for digital currencies in the continent. E-payments increased in the African continent since 2000, just as they did globally (The Africa Report, 2021). There was an acceleration in e-payments during the COVID-19 pandemic. In 2020, Africa's domestic and cross-border e-payments realised nearly $24 billion in revenues (with $15 billion attributed to domestic electronic payments). In Nigeria, the volume of mobile money transactions was estimated at approximately 800 million in 2020, while in South Africa e-commerce transactions increased by about 40 percent in the years 2020 and 2021. Notwithstanding this, the expansion is likely to differ across the countries, depending on mobile money usage, infrastructure readiness, e-commerce development, and legal frameworks and regulation, in addition to other determinants, in each market (McKinsey, 2022; African Business Information (2023)). Countries such as Kenya, Egypt, Nigeria, Ghana, and South Africa could embrace digital currencies more easily due to the development infrastructure and existing policy frameworks to deliver that support electronic-payments ecosystem.

It could then be deduced that most people in Africa are familiar with the use of digital technology and have a higher probability of embracing digital currencies. Owing to an already well-established mobile telecommunication, infrastructure in most African countries, the costs of setting up and maintaining infrastructure to support digital currencies are anticipated to be low. The mobile money infrastructure could be harnessed and further developed through PPPs to support the adoption of digital currencies. This status quo makes the continent an ideal market for digital currencies as these offer several benefits when compared to traditional currencies. Government support for development of the digital currencies among African countries is one positive factor that can be exploited to the content's advantage. This avails a supportive regulatory environment that can be enabling for the launch of CBDCs and the adoption of fintech and industry 4.0 technologies in general. Additionally, most African countries are already embracing the Fourth Industrial Revolution technologies such as blockchain, artificial intelligence, the Internet of Things, and Big data among other technologies (Mpofu & Mhlanga, 2022). These technologies could be a foundation for the development and issuance of digital currencies in Africa. Denecker et al. (2023) contend that research should also consider the possible impacts of CBDCs on innovation and the role of commercial banks. Sidorenko et al. (2021) adduce that the legal and economic implications of CBDCs should inform the adoption and non-adoption of CBDC decisions. These arguments need to be critically evaluated to consider both sides of the coin. Even though there are positive factors that could be advantageous to African countries when issuing out or adopting digital currencies, there are some risks that the continent's readiness to deal with them needs to be assessed in-depth. These risks include cybersecurity risks, volatility, and regulatory and operational risks.

Opportunities and Challenges Associated with Digital Currencies in Africa

Acknowledging the possibility of a double-edged sword impact of digital currencies in emerging economies, Edwards (2021), suggests that while CBDCs could lower the costs of international remittances, they could also lead to currency substitution and depreciation as well as to lower seigniorage. The researcher calls for macro-prudential regulations to be implemented for the productive rollout of CBDCs in emerging economies. Masela (2021) adduces that the development of financial technologies avails opportunity that can be harnessed by regulatory authorities and the financial sector to improve the efficiency and operations. Masela (2021) further states that while exploiting these opportunities regulatory authorities must be aware of possible risks linked with the developments and advancements in fintech. It is critical to reconcile the developments in fintech (such as the launch of CBDCs) and attainments of public policy objectives, for example how the new technologies support existing and new business models that are crucial for the achievement of the needs of businesses and consumers who use financial services. The success of CBDCs depends on several factors such as trust, perceived risks, technological capabilities, skills and competencies, and the assessments of costs such as operational and transactional costs. The assessment of the opportunities and challenges linked to the issuance of digital currencies in the African continent is a complex but important area of research. While African countries generally share similar economic conditions, challenges, and opportunities, some circumstances are unique to certain countries, hence each country would need to carefully evaluate its unique conditions and make a contextual consideration of the risks and rewards. Given these variations in economic, social, and political conditions among countries, Ozili (2022) and, Alberola & Mattei (2022) advocate for well-informed approaches, that incorporate the country or regional-specific environments and factors. Factors that the contextual evaluation should take cognisance of include the level of economic development, the state of the financial system, the degree of technological development and availability and the robustness of the technological infrastructure, the quality of the regulatory environment and frameworks as well the public's awareness and acceptance of digital currencies. Notwithstanding this observation, there are certain opportunities and challenges connected to digital currencies that can be common to African countries. Additionally, factors such as the level of digital and financial literacy as well the political and economic stability of the country as well as the level of the public's trust in the government and digital financial services.

Opportunities Connected to the Issuance of Digital Currencies in Africa

Ozili (2022) suggests that the advantages of using digital currencies include the improvement of monetary policy strategies, increased efficiency and convenience in payments as well as a growth in financial inclusion levels. While acknowledging the opportunities for greater financial inclusion and improvement of efficiency in payments, Alberola & Mattei (2022) point out the African continent could face several problems linked to higher degrees of informality, cross-border spillovers, and cybersecurity risks. Foster et al. (2021) portend that digital currencies in Africa are critical as "a means to promote regional trade and economic integration within countries in the region". This is especially relevant now that the continent is working on the African Continental Free Trade Area (AfCFTA). Concerning the Nigerian e-Naira, Adegbite & Aremu (2022) posits

> "It is concluded that eNaira will have a positive significant effect on the economy in Nigeria in terms of employment generation, economic stability, easy facilitation of transactions, security of money, direct welfare disbursements enablement, Revenue, and tax collection Increment, cost of processing cash reduction, resilient payment system supports, Central Bank currency usability improvement, and economic activities enhancement. It will also serve as a medium of exchange, secured store of value, and a stable unit of account".

Igoni et al. (2020) allude to the likelihood of tax advantages arising due to the use of digital currencies. The possibility in the reduction of tax evasion through the use of digital currency is critical for African countries as they are heavily dependent on tax revenue to fund public expenditure. Domestic revenue mobilisation is weak in these countries due to the presence of a large informal economy that represent a significant portion of the countries' GDP (Sebele-Mpofu & Mususa, 2019). African countries also face the challenge transfer pricing abuse by multinational enterprises (Wealth et al., 2023) and fragile tax administration as well as overgenerous tax incentives (Sebele-Mpofu et al., 2022). Fabian et al. (2022), while focusing on the eNaira in Nigeria, submit that the digital Naira had a significant relationship with the financial performance of listed money deposit banks in Nigeria. In a similar vein, Ekong & Ekong (2022) assert that digital currency adoption was found to be a positive driver of financial inclusion in Nigeria. According to Ekong & Ekong (2022), "cumulatively, the effect of digital finances on financial inclusion in Nigeria was approximately 7% positive". In concurrence, Gopane (2019), concludes that digital access as a proxy for digital currency, had a positive correlation with financial inclusion, but the relationship was negatively affected by digital inequalities. Elderly people benefit less from digital access due to digital vulnerabilities. Esoimeme (2021) observes that the eNaira could foster financial inclusion, strengthen the measures to reduce money laundering and mitigate the financing of terrorism. The researcher further points out that a "poor culture of compliance", employee fraud, and money laundering could be some of the factors that could impede the effectiveness of the eNaira in promoting financial inclusion and combating money laundering and terrorism financing. The different benefits that can be enjoyed from the issuance of digital currencies in Africa include those presented in Figure 3. The summary of the possible benefits foregrounds the discussion of the advantages.

- Broadening of financial inclusion
- Improvement in the efficiency of payments
- Driving innovation and development of new products and services
- Increased transparency
- Reduction in transaction costs
- Spurring trade, e-commerce, investment and economic growth
- Implementation of monetary policy interventions
- Improvement in revenue mobilisation
- Increase in international remittances

Figure 3: Opportunities associated with the issuance of digital currencies in Africa

Source: Author's Compilation from Ozili & Nanez Alonso (2024) and Kiff et al. (2020)

- ***Widening of financial inclusion***

Digital currencies are likely to increase financial inclusion in Africa, where the levels of financial exclusion are significant. It is also important to note that introducing digital currencies without addressing challenges such as the digital divide, digital infrastructure challenges, gender divide, and unreliable internet connectivity as well as financial literacy challenges might perpetuate the financial exclusion of the vulnerable population. The financially excluded might even face greater social, financial, and digital exclusion. Mpofu (2023b) while focusing on mobile money in Africa portends

> "While the contribution of mobile money services in Africa to financial and social inclusion as well as sustainable development is indisputable, concerns about the objective of wealth maximisation overshadowing the financial and social inclusion efforts is equally persuasive Very little is done to address challenges such as inequalities, infrastructural deficiencies, lack of connectivity and literacy challenges".

Therefore, CBDCs could strengthen the use of digital financial services in Africa, thus indirectly promoting digital financial inclusion which has become critical in the digitally transforming business world. Additionally, while the adoption of CBDCs in Africa is a topic of debate, discussions should also focus on addressing the problems linked to infrastructure, inequalities, gender digital divide and internet connectivity.

- ***Improvement in the efficiency of payment systems***

Digital currencies could help smoothen the payment systems in Africa (Bordo, 2021; Calle & Eidan, 2020). For example, cross-border payments can be made easily and using ways that are safer, quicker, and affordable. The fact that digital currencies are not subjected to regulation is similar to those governing traditional currencies, which are generally cumbersome, expensive, excessive, and time-consuming. The ability of digital currencies to contribute to the reduction of transaction costs and operational costs for consumers and service providers is linked with the broadening of financial inclusion as well as the enhancement of the functioning of the financial system. Basing on the fact that digital currencies can be electronically supplied and accessed contributes to the lowering of transactional and operational costs, making digital currencies easy to access, affordable and convenient. Digital currencies could aid in boosting competition in the financial services industry in Africa by availing more options for people to make transfers and payments. This will not only lower transaction costs but also improve service delivery for customers, broaden financial inclusion, and stimulate economic growth (Kiff et al., 2020; Mpofu & Mhlanga, 2022). Demirgüç-Kunt et al. (2021) emphasise the role played by digital financial services and transactions in promoting financial inclusion and the resilience of payment systems during the COVID-19 pandemic period. It is essential to note that while digital currencies may improve efficiency in financial systems, they could lead to currency substitution. People might choose to use foreign currency as opposed to local currency, thus diminishing the value of local currency. This might make it more challenging for the central bank to control monetary policy.

- ***International remittances***

International remittances are a major source of funds for most African countries (Mpofu, 2023c). For example in countries such as Zimbabwe. Digital currencies can help promote international remittances by facilitating more cost-effective ways of transmitting them.

- ***Increase in trade, investment, and economic growth***

By allowing payments to be made through digital currencies that are faster, cheaper, and more secure. African countries could promote trade and investment and these in turn could drive economic growth (Baker et al., 2023; Kiff et al., 2020; Ozili & Nanez Alonso, 2024). Digital currencies could expand the digital economy, attract investment, promote infrastructural investment and boost economic growth in Africa. Digital currencies could help create new opportunities and businesses. These opportunities could contribute to the empowerment of women and the reduction of inequalities in Africa.

Even though there several positive implications associated with the launch of digital currencies in African countries as outlined in Figure 3, there are also challenges that need to be dealt with in order to create an enabling environment for the issuance and adoption of digital currencies in Africa. Otherwise, the future of digital currencies is marred with uncertainty and controversies in many African countries. Figure 4 presents a synopsis of the general challenges that can be linked to African economies in their quest to issue digital currencies.

- ***Increase in revenue mobillisation***

Digital currencies have the possibility of influencing revenue mobilisation in Africa in several ways. Firstly, digital currencies could enhance tax compliance, which is critical for domestic revenue mobilisation in the continent. The electronic nature of digital currencies and the way they are used could make it simpler for governments to track and trace financial transactions following the digital audit trail; this could help improve tax administration, enforcement, and compliance. The improvement in tax revenue mobilisation is already evident in countries that have introduced taxes on digital financial services. For example in Zimbabwe the Intermediate Monetary Tax on Transactions that is pegged at 2% increased revenue mobilisation. The tax head contributed ZWL 182 775 260 708 in 2022 up from ZWL 45 292 288 567 in 2021. This represents 303.55% nominal growth and real growth of 45.05% (ZIMRA, 2022). Digital currencies could ultimately lead to a reduction in tax evasion by businesses and individuals. Transactions could be recorded on a public blockchain, which makes it difficult to conceal income and profits (Mpofu & Mhlanga, 2022). Digital transactions could also simplify tax audits. Secondly, digital currencies could lead to the creation of new sources of revenue. For example, governments could levy taxes on digital currency transactions or other digital currency-supported financial activities and from the mining of digital currencies. Thirdly, digital currencies could help minimise corruption associated with the use of cash. This is emphasised by Bordo (2021) who argues that CBDCs could promote the reduction of money laundering, fraud and other financial crimes. In affirmation, Calle & Eidan (2020) posit that CBDCs could increase financial innovation and traceability of transactions. In affirmation Li et al. (2023) describes CBDCs as one of the most fundamentally innovations in the financial sector globally. Therefore, the use of CBDCs would not only increase the transparency of tax officers but that of government officials. The fact that digital currencies are electronically stored and recorded on the public ledger makes their tracking easier and the audit trail visible could discourage corruption and embezzlement of public funds. Fourthly, with the envisaged increase in financial inclusion level in Africa, tax revenue mobilisation could be increased from the benefits of financial inclusion such as reduced poverty, an increase in international trade, improved economic growth, and a rise in international remittances. These activities would stimulate economic growth that could see an increase in the different tax heads such as digital financial services taxes, value added tax, excise taxes, customs duty, corporate tax, and income tax such as pay as you earn. Mpofu (2022a, b) and Pushkareva (2021) described the link between increased revenue mobilisation possibilities and financial inclusion when focusing on mobile money taxes in Africa.

Challenges Associated with the Issuance of Digital Currencies in Africa

Nanez Alonso et al. (2021) describe a CBDC as "an electronic variant of cash issued by a central bank which combines cryptography and digital ledger to offer this digital money". Therefore, challenges could be faced in the use of technological ledgers such as blockchain in the issuance and use of digital currencies. Kochergin (2021) points out that technological and financial changes and challenges as well as high operating costs would make it difficult for countries with underdeveloped financial market structures to support the implementation of digital currencies. Bilotta & Botti (2021) posit that it is important to have a deeper comprehension of the benefits, risks, potential costs, and implications of CBDCs. These could be could cover data privacy, financial inclusion or exclusion, and other macroeconomic consequences. Ozili (2022) asserts that there are risks linked to the issuance of digital currencies in Africa which include, data invasion and theft, an increase in cyberattacks, digital illiteracy, and the changing role of banks.

Nanez Alonso et al. (2020) raise challenges to environmental sustainability linked to digital currencies. The researchers point to the consumption of electricity implications associated with the mining of digital currencies such as

Bitcoin. The problems linked to electricity consumption require due consideration for African countries that are currently experiencing the energy crisis (Mpofu & Mhlanga, 2022) and its implication for green growth and environmental sustainability (Mpofu, 2022b). Duho et al. (2022) observe that while there are positive outcomes associated with CBDCs, there are also possible disruptions and risks that could emerge. These include disruptions in financial systems, negative effects on the use of cash, and unfavourable implications on the role and performance of banking services. Mishra & Prasad (2023) articulate, "Central banks already face threats to their independence and credibility and legitimacy. The more extensive the functionality of money they use, the greater the political pressures they will be exposed to. At a minimum, such innovations pose risks to the integrity of the central bank money". Therefore, while the objective of digitising money by rolling out CBDCs might be an innovation tool that is relevant in a digitally transformed business world, the opposite effect might be true. The result could be a weakening of the very characteristics that make central bank money more credible and trustworthy. Mishra & Prasad (2023) further state that CBDCs can lead to citizens being more inclined to use digital money as opposed to cash. In times of economic distress with only CBDCs money, remaining, increased demand for the money might discourage savings, and money in CBDCs wallets might be considered secure as opposed to bank deposits. This could drive substantial amounts of money into CBDCs wallets putting pressure on central banks and putting limits on CBDCs wallets might be challenging to sustain. Additionally, Mishra & Prasad (2023) observe that CBDCs can be viewed as the government's attempt to solidify its position and have more control over citizens' money. CBDCs could be viewed with political connotations or as a way to increase surveillance and law enforcement. This could breed a lack of trust or increase the existent distrust towards central banks in African countries such as Zimbabwe. While CBDCs could allow the central bank to easily monitor how the currency is used and could hinder the purchase of socially undesirable materials such as drugs, they could be seen as an invasion of people's privacy.

Several challenges associated with the adoption of digital currencies in the African continent collated from the review of literature are presented in Figure 4. Researchers allude to different types of challenges which include lack of scalability (Darbha & Arora, 2020), risk of structural disintermediation of banks, and increased cybersecurity risks and data breaches (Tian et al., 2023).

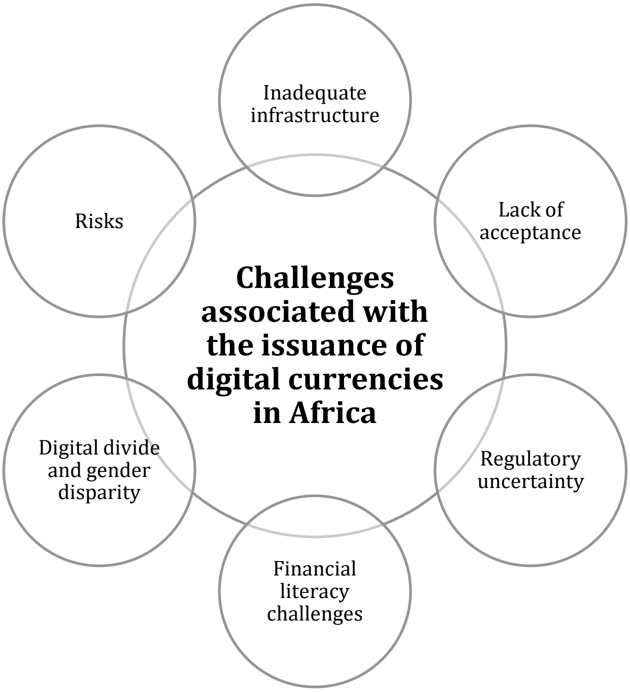

Figure 4: Summary of general challenges associated with the issuance of digital currencies in Africa
Source: Author's Compilation from Ozili & Nanez Alonso (2024) and Auer et al. (2023).

- ***Risks***

Regulatory risks. The regulatory environment and frameworks governing digital currencies are still uncertain (Ahiabenu, 2022; Ozili & Nanez Alonso, 2024), which could make it challenging for businesses and individuals to confidently adopt digital currencies

Volatility risk. Digital currencies are generally subject to speculation, which can result in their volatility (Ahiabenu, 2022). The value of the digital currency could be fluctuating and this volatility could affect people's savings and earnings if the value declines resulting in financial losses. In this case, people could consider them unreliable and risky for investments or storing value.

Cybersecurity risks. Since digital currencies are stored and transferred through digital networks, they are susceptible to cyberattacks, hacking, and financial fraud, which could lead to financial losses (Kiff et al., 2020; Tian et al., 2023). Tian et al. (2023) emphasise the possibility of heightened cybersecurity risks due to the launching and use of CBDCs, while Darbha & Arora (2020) allude to the likelihood of the loss of privacy and confidentiality in financial transactions. These risks might have adverse impacts on consumers, financial institutions and the economy at large, hence their adequate assessment is critical.

- ***Regulatory uncertainty***

The absence of a global regulatory framework for digital currencies creates a lot of uncertainty for both developed and developing countries. This also makes African countries reluctant to issue digital currencies that might be difficult to regulate. The status of regulatory frameworks on digital currencies is still hazy, undeveloped, and underdeveloped in most African countries. This could point to the possibility of legal risks that might discourage investors, businesses, and consumers from using digital currencies. About the CBDC regulatory frameworks for the eNaira in Nigeria and the e-Cedi in Ghana, Ahiabenu (2022), adduces "Surprisingly neither country has articulated the detailed legal and regulatory framework for CBDC… Policymakers should focus on the adoption of legal and policy frameworks to address uncertainties associated with CBDC". The lack of clear regulations is a fundamental risk that must be considered as it has both legal and practical implications for CBDCs users and financial institutions.

- ***Lack of digital infrastructure***

Most African countries do not have the requisite robust digital infrastructure to support the issuance of digital currencies (Ozili, 2023b). Such infrastructure includes the necessary software and hardware as well as reliable internet connectivity. The inadequate digital infrastructure is likely to be a constraint for the launch and use of CBDCs in Africa. Limited financial resources also impede investments in infrastructural development projects. These challenges are also compounded by rampant corruption in government projects in most African countries as well as overpricing and non or poor completion of certain infrastructural development projects.

- ***Lack of acceptance***

There is still a lot of uncertainty surrounding digital currencies in Africa. This uncertainty could be linked to the novel and unfamiliar nature of the currencies. It could also be associated with the lack of trust in digital financial services as well the suspicion associated with monetary policy interventions due to policy inconsistencies (Ozili & Nanez Alonso, 2024). For example, in Zimbabwe Chamboko (2022) explained that citizens have no trust in digital financial services as monetary policies have been inconsistent and unstable and have consequently led to financial losses for citizens. Citizens lost their savings when the country adopted the US dollar and again when the country abandoned the US dollar in favour of the bond note. Therefore, trust in financial institutions is an important factor in encouraging acceptance of new financial products and services such as the CBDCs.

- ***Digital divide and gender disparity***

The digital divide and gender disparity are some of the fundamental factors that influence the readiness of the African continent for the launch of digital currencies (Ozili & Nanez Alonso, 2024). The digital divide or gap describes the gap between those who have access to digital technologies and digital infrastructure and those who do not have access. The digital divide is more pronounced in the African continent with 40% of the population not having access to the internet. In Africa, this gap is evident between urban and rural populations and more visible between men and women. According to the United Nations (UN), in SSA 37% of women are less likely than men to utilise mobile internet (Mpofu, 2023a, d). The African Development Bank established that in SSA only 39% of women had internet access as compared to 56% of men. The digital gender gap has several implications for the adoption of digital currencies in the continent. Women are less likely to be either aware or comfortable to use digital currencies. Women can fail to access our use of digital currencies due to digital constraints such as lack of interconnectivity and other required digital devices. Concerning the digital divide, to use digital currencies people need to have digital devices such as smartphones, in addition to having internet connectivity, otherwise, this cripples their ability to participate in the digital economy or the use of digital currencies. Due to poverty and inequality, most people in African countries cannot afford smartphones and internet data. In most rural areas digital financial exclusion is high, thus increasing the rural-urban digital divide.

Conclusions, limitations and recommendations

While the envisaged opportunities associated with the issuance of digital currencies in Africa are convincing, the concerns for African countries are troubling. The continent-specific challenges such as poorly developed financial systems and markets, limited financial and technical resources, the possibility of increased cybersecurity risks, digital literacy problems, and weak digital infrastructure pose compelling doubts and questions about the continent's readiness to embrace CBDCs and the African countries' abilities to effectively mitigate the associated risks.

From the literature review, it was established that the issuance of digital currencies is slow-paced but envisaged to gain traction in Africa. It was established that digital currencies could accelerate digital financial inclusion, reduce poverty, promote international trade and investment, stimulate innovation of new financial products and services, and boost economic growth in Africa. Some of the anticipated benefits of digital currencies relate to the strengthening of monetary policies, reduction of cash management costs and risks as well as improving tax revenue mobilisation and international remittances. However, irrespective of these benefits, there are potential risks that African countries have to take into cognisance and carefully evaluate to maximise the potential rewards and minimise the negative externalities. The likely challenges to be surmounted encompass cybersecurity risks, financial instability, digital infrastructure constraints, lack of financial resources, the digital divide, gender inequalities, and perception, acceptance, and awareness problems among other issues. Notwithstanding the possible negative implications and possible constraints associated with the issuance of digital, due to the fast-paced digital transformation of economies worldwide, digital currencies are going to global phenomenon. African countries need to consider possible ways to improve their readiness to adopt digital currencies. In creating a conducive environment for digital currencies, African countries would need to provide a robust and current digital infrastructure, increasing digital infrastructure internet connectivity and mobile phones to rural areas to reduce the rural urban digital divide and to narrow the gender digital divide. Reducing the gender digital disparity by providing digital and financial literacy training would increase women's access to digital technologies and their economic empowerment, thus improving the African continent's readiness for digital currencies, facilitating investment, trade, financial inclusion, and economic growth. Some of the other recommendations to improve the issuance, acceptance and usage challenges connected with digital currencies in Africa are summarised in in Figure 5.

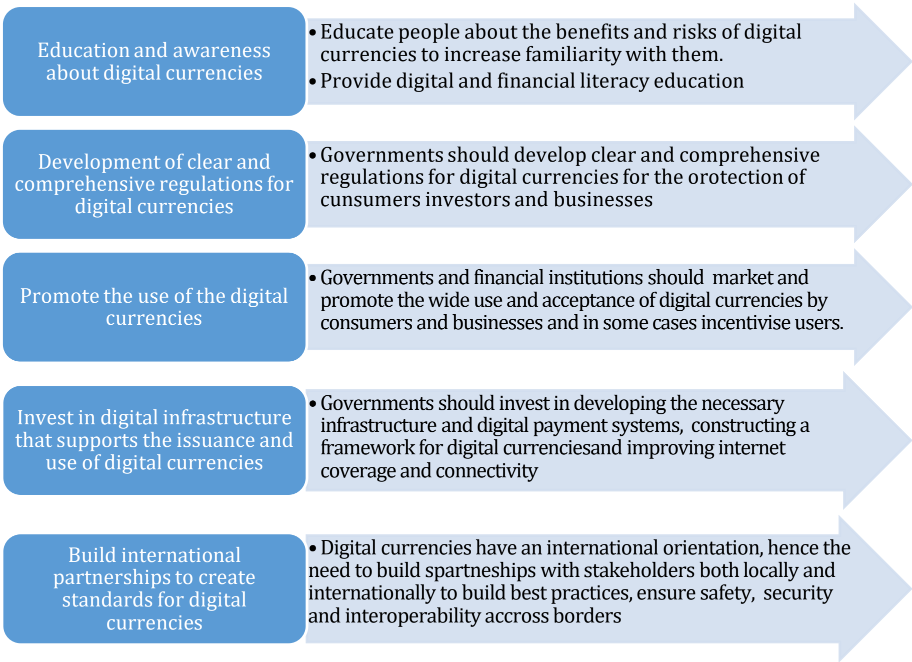

Figure 5: Recommendations to improve the issuance and adoption of digital currencies in Africa
Source: Author's Compilation

As highlighted throughout the paper, digital currencies have potential benefits for the African continent. Their successful launch depends on how the factors that could influence their successful launch which include digital infrastructure availability, the outreach and education programs on the CBDCs, the design of the currency, digital currency regulation, consumer protection and data security measure among other factors. The paper recommends that African countries invest in modern and adequate digital infrastructure, build international partnerships on the launch of CBDCs, develop clear regulations for the governance of digital currencies and to promote education, training and awareness initiatives on CBDCs to improve the readiness of the continents and financial services users to embrace CBDCs.

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A REVIEW OF GENERATIONS X AND Y' WORK VALUES AND ATTITUDES ACROSS NORTH AMERICA AND EUROPE

Adina Letitia NEGRUSA[1]

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ABSTRACT. The Generational Theory, on the other hand, has been used uniformly in numerous studies without taking into account the historical, social, and cultural variations from one place to another. Because Generation X, and Millennials are currently the most significant generational cohorts for the employment market, this study aims to investigate from a historical perspective the fundamental and work value, leadership styles, and work attitudes of these generations, taking into account regional differences between the North America and European nations.

The review indicates that an increasing number of studies have adopted the assumption that, regardless differences in social and economic situations of different nations, generational cohorts have the same patterns and biases. The research conducted in this article contributes to enhancing the approach of generational theory in organizational behaviors studies and highlighting the idea of stark disparities across various areas and nations based on various historical occurrences.

Keywords: generational theory, work values, work attitudes

JEL classification: N30, J10

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1 Prof. dr., Faculty of Business, Babes-Bolyai University, Cluj-Napoca, Romania.
E-mail: adina.negrusa@ubbcluj.ro

Introduction to Generation theory

Recent studies have mostly examined and predicted the characteristics of younger generations as they entered lately the employment market and their impact seemed to be overstated. However, each generation nowadays represents a significant combination of knowledge, abilities, attitudes, and beliefs that provide businesses numerous chances to develop their success. Refocusing on how the generations vary at work can thus enable businesses to enhance their management approaches, build stronger work teams, improve the working environment, and boost employee retention.

Before venturing into the profiles of each generation, it is required to research the literature that highlights topics such as '*generation*,' '*generational abilities*,' or '*generational gap*.' Mannheim introduced and defined the generation idea, as well as its ramifications, for the first time in his essay "The Problem of Generations" in 1952 (Ting et al., 2018). He had then emphasized the influence of social factors on the formation of each generation's values and attitudes (Mannheim, 1997); Mannheim joined Inglehart to strengthen the theory in 1997. They proposed that the impact of dramatic events, such as historical, economic, and social major changes, that take place during the individuals' pre-adult years, should be added to this process.

Strauss & Howe (1997) provided the first definition of a generation as a cohort of individuals who were born within a similar time frame, shared a comparable historical place and were shaped by similar events, trends, and developments (McCrindle & Wolfinger, 2009). Accordingly, each generation was influenced, especially during childhood and adolescence, by a set of factors, like parenting behaviors and philosophies, educational system, church, media, political, economic and social events, popular culture trends and cultural values. This complex background creates for each generation a common value system which allows a distinguish from one to another generation because remains stable from childhood till young adulthood (Lubinski et al., 1996; Meglino & Ravlin, 1998). Therefore, individuals in this birth cohort exhibit similar characteristics, preferences, and values over their lifetimes; these characteristics are referred to as '*generational traits*': stereotypes- behaviors, and values. This system or view of the world is like an anchor against which later experiences are interpreted (Scott, 2000).

In the literature can be found unanimous opinions regarding labelling the following generations and most of the researchers suggested that group effects are linear rather than categorical: Baby boomers, Generation X, Generation Y, Generation Z, and Generation Alpha. The exact demarcation among all these generations as age-cohort is still arguable. The length for each generation varies from 15 years to as many as 24 years, depending on the criteria used in defining the generation group (Lancaster & Stillman, 2002; Strauss & Howe, 1997; Smola & Sutton, 2002). On one side there are those which took into consideration the birth rate fluctuation as an objective indicator for grouping generations and there are others which considered major social and economic factors as criteria for shrinking and dividing generations. As a tendency at the end of the spectrum, the majority of the researchers agreed to shorten the span to 10 years due to today's rapidly changing world (Graybill, 2014).

This theory developed for US society, based on the most relevant events that took place in this region, was adopted, extended and popularized by researchers and sociologists from other countries, using the same labels, spans of time and traits that have been established for American cohorts. This approach lately has been criticized by more and more authors (Ting et al., 2018) who considered that every region was exposed to different events at varied times (Edmunds & Turner, 2005). Research has so far shown that there are generational disparities in a variety of workplace-relevant aspects, such as personality, work values, attitudes, career expectations and experiences, collaboration, and leadership (Costanza et al. 2012). However, the data is limited for some factors and contradictory for others (Lyons & Kuron 2014). Aside from a wide range of methodology and reporting of findings, another issue is the failure to consider in their assumptions those differences of core value nations or regions. Therefore, current studies support enough the idea that generational theory is a feature of the workforce and depicts it with essential characteristics, but it does not imply a clear connection between the birth cohort and other factors. Thus, the precise demarcation and generations' traits, behaviors, attitudes, and values, will also vary across nations and cultures. Accordingly, the intervals of demarcation for generations in America differ from those considered for generations in Europe, Australia or Asia.

Many sociologists tried to establish and explained an exact demarcation for each generation for different regions. So far, researches have largely consisted of descriptive comparisons of birth cohorts with little focus on the social factors that interact with birth cohort to produce an unique consciousness that develops over the course of each generation within the socio-historical framework of the times. Starting from their work this paper will explore how and what historical events influenced variances in the generations' features from one region to another, using a causal analysis and generating solid evidence for mapping generational cohorts globally.

Research design

The research methods that were selected included a critical analysis of the evidence relating to generational differences in a variety of studies using work-related variables, such as work values, work attitudes, and work-life balance, a causal analysis of the key historical events that had a significant impact on these values, and a comparative analysis between generations from the selected geographic areas.

Results

The USA Generation cohorts' work and management traits

Generation X

Regarding de exact start and end times of Generation X, there is much disagreement about it (King, 2001). Hence, according to Strauss & Howe (1997) members of generation X are those born during the 1961-1981 timeframe and they rejected the end date of BB cohort in 1964, saying that those born between 1961-1964 are culturally distinct from boomers in terms of shared historical experiences. The Canadian authors Foot & Stoffman (1996) come also with a separation between two groups: generation X, born between 1960 and 1966 and the Bust Generation born between 1967 and 1979. On the other hand, other researchers like Lancaster & Stillman (2002), Graybill (2014), Smola & Sutton (2002) use dates which correspond to the strict fertility patterns in the American population and put this generation in the timeframe of 1965-1984.

Despite all these disagreements, generation X has several common traits: independent, cynical and realistic. Economically speaking American Xers confront huge inflation (11.3% per year), and large income taxes which lead to recession and a high unemployment rate. Members of this cohort have been influenced by the energy crisis beginning, and financial and family instabilities (higher rate of divorces and single parents' families). Also, they experienced the AIDS epidemic, Iran hostage crisis, the Challenger disaster, the mass suicide in Jonestown, and the fall of the Soviet Union. All these events determined pessimist individuals, self-reliant, and wary of commitment both professional and personal (Lancaster & Stillman, 2002). As a consequence of the increase in unemployment, fewer opportunities for high-paid jobs and a change of the organization's contracts model to have higher flexibility in matters of staffing and talent usage, members of generation X view work as *"just a job"*, seeking to balance work with leisure being driven by the slogan *work to live*. This does not imply that they are egotistical or me-focused. Simply said, they try to strike a balance between doing a decent job and also achieving their objectives to the fullest.

An important trait for Xers revealed by many researchers (Hayes, 2013) is seeking freedom which leads to innovation and creativity. According to Salahuddin (2010) the efficient work motivation factors are a flexible working schedule, an informal work environment, and a balanced amount of supervision. If we consider companies like Oracle or Blomberg, we can definitely see the innovative and daring attitude of their founders. Taking a look at some of the most innovative products launched by Xers, we can find in these people the entrepreneurial spirit - Bill Gates sets the bases of Microsoft, while Steven Jobs starts his venture with Apple; the information–communication–feedback triad is gaining relevance through the launching of the Internet. Precisely these discoveries which at that moment seemed to be the *'toys'* of some maverick children, got these people attributes like self-reliant or cynical because previous generations could not understand their revolutionizing attitude. Regarding the marketing strategies, especially advertising, they were all the time skeptical. They have little faith in the commercials and ads, as Coupland's (1996) remark suggests, they think about themselves that "I am not a Target Market". Everything which is starting to be mainstream became less interesting to them.

According to various empirical results, Xers seems that prefer the coaching leadership style (Kraus, 2017), which has as the primary objective the long-term professional development of subordinates. This leadership approach is appropriate for their results-driven mindset and preference for an autonomous working style (Glass, 2007) as it helps employees improve performance by fostering long-term capabilities and independent problem-solving, but it is not appropriate for employees who are resistant to altering their behaviors (Goleman et al., 2001).

Millennials (Generation Y)

One million millennials entered the workforce each year in the USA and by 2020, they reached up to 40% of the employed population (Melggs, 2022), according to several statistics. They are the children of BB and earlier Xers.

The significant events which shaped the generation's values first should be mentioned the launch of the internet and the mobile phone. This was the beginning of changing communication and entertainment, as Tim Berners-Lee proclaimed the World Wide Web launched (https://webfoundation.org/about/vision/history-of-the-web/). People social networking has been transformed when the first iteration of Google and Hotmail debuted, followed then by Yahoo Mail. It was the debut of iMac personal desktop computers, and thus the percentage of families using personal computers increased during 90' from 15% to 50%, even to 75% if the family included children. The capacity of information storage in the globe has expanded six times since the decade's start, compared to four years earlier. In this context, the Millennials became dependent on technology at an earlier age than previous generations.

From the economic point of view, starting with the 1980s a long economic expansion was reflected in substantial employment growth, especially in the services sector, together with the progress of the business services industry, retail trade and health services (Plunkert, 1990). Two important tendencies contributed to this situation, the increase of working women percentage and workers with two jobs. Also, a large number of jobs were lost especially in manufacturing industries like machinery manufacturing, textile and apparel, tobacco and primary metal industry. Can be mentioned also the climb of personal bankruptcies, the dramatic expansion of the trade deficit, overvalued stock market and dropped in the personal saving rate. However, during 90's the US economic performance was outstanding (Frankel & Orszag, 2001). This framework molded the millennials' preferences in their private lives, targeting a better work/life balance. Events such as 11 September and in general the rise of global terrorism induced a re-evaluation of life priorities and Yers choose "making a life" instead of "making a living" (Ng et al., 2010). Accordingly, the workplace has changed as a result of this generation's need for companies that can offer a seamless transition between work and play, pleasant coworkers, and a supportive atmosphere.

Their work ethos was influenced by creativity, adaptability, ambition to make a difference, and idealism, which determined their high entitlement expectations, instant recognition and reward. A higher level of self-esteem, aggressiveness, and narcissism than previous generations (Deal et al., 2010), as well as a commitment to working in a team, technological know-how, and multitasking prowess, are just a few of the traits that have been linked across several study investigations (Farrell & Hurt, 2014; Martin & Otterman, 2016). Very often have been mentioned their need for constant feedback from their supervisors, as a consequence of parental support in their childhood (Glass, 2007). In this context, Bennett et al. (2012) claimed that Millennials seek mentors, counsel, or direction, which ultimately leads to increased satisfaction and employer loyalty. Kraus (2017) revealed that the suitable leadership style for Yers is the visionary style whose main objective is to mobilize others to follow a vision. This style is effective when followers need clear direction (Goleman et al., 2001) and are less independent (Bennett et al., 2012).

As millennials begin to take managerial positions in organizations, it is mandatory to understand their leadership skills, that's why more studies focused on their leadership style. According to Deloitte (2016) research of 7700 full-time employed millennials, senior millennials and those approaching the boardroom want to rebalance corporate objectives by putting people before profit. Senior management team members and those in less senior positions alike would want to see greater emphasis placed on "being the best place to work" and "providing a good wage to workers." This generation creates businesses around their passions and social causes (Albanese, 2018) and measures success in ways that go beyond a focus on financial performance, placing a greater emphasis on actions and behaviors that encourage sustainability over the long term. As entrepreneurs and managers Yers prefer flat organizations which allow individuals to learn and develop themselves, a non-traditional career path in which employees are empowered to participate in decisions.

The essential characteristics that may be considered based on the most important research and studies conducted on USA cohorts are summarized in Table 1, which demonstrates the differences in working values and attitude between generations in the workplace today. Even if these results must be interpreted with caution, an overall theme of these research is a considerable increase in uniqueness through generations, aligning to a larger societal tendency toward "individualization."

Table 1: A synthesis of timespan and essential traits for USA generation cohorts

Generations					
1945 →	1965 →	1980 →	1999 →	2010 →	2020
North America (USA)	Baby Boomers (BB) 1946-1964	Generation X 1965-1980	Generation Y 1981-1999	Generation Z 2000-2009	Generation Alpha after 2010
Essential Traits		Independent, Preference for autonomous working style, Pessimist, skeptical Work = just a job, good balance between work and leisure	Self-esteem, high entitlement expectations Predilection for learning in the organization = less independent, constant feedback and direction, Work = the best place to work – people before profit		

Source: Author's compilation based on Deal et al., 2010; Farrell & Hurt, 2014; Goleman et al., 2001; Bennett et al., 2012.

European Generations' work and management traits

Many economic, political, and social aspects in Europe differed significantly from those in North America. As a result, the general image of generational labor and management features in Europe differs from the prior two areas. Furthermore, there was no collective experience in Europe like Vietnam to unify it. In contrast, each European nation had distinct historical experiences that dramatically influenced their populations. For example, the Nordic social market economy, the Franco regime in Spain, Germany's economic reconstruction, and the communist statute in Eastern Europe all affected the lives, values, and goals of individuals of the same age group in various ways. As a result, studies on generational theory in European countries drew a line between the West and the East regions.

European Xer Generation

Regarding generation X in Europe D'Amato & Hezfeldt (2008) suggested to split them in two categories: Early Xers (born between 1960 and 1970) and Late Xers (born during 1971-1980 timespan). They considered just the evolution of the birth rate indicator. In the mid-1960s, demographic statistics in nearly all European nations began to shift abruptly. Massive advancements in contraception, greater birth control and family planning, as well as increasing female employment and absorption into the labor market, occurred (Bornarova et al., 2017). As a result of these changes, West European nations experienced a significant reduction in fertility rates in the 1970s. This tendency peaked in the 1970s and 1980s, when there was a huge reduction in fertility rates known as the baby-bust. As a result, the number of one-child households has increased, as has the number of couples without children (universality of births is no longer present – at least 1 child per family). After a long economic rise, known as Golden Age, staring with mid of 1970 economic growth in the entire Western Europe slowed down, leading to a reduction of labor opportunities in industrial areas, decrease of return to investment and slow productivity growth.

Nonetheless if we contemplate on the other hand relevant historical events and social movements which took place during those years, such as international students' demonstrations in Paris and the Czechoslovak student demonstrations in Prague which culminated (in early 1969) with the death of Jan Palach and other students, it can be suggested that the year 1968 is a crossroads moment and a symbol for critical spirit (Assmann, 2018) which influenced the youth generations from that time. Therefore, at this point, a crucial shift in the mentality and values of European societies took place, it was the shift to a modern society characterized by the fight for political equality, democratic ideology, gender emancipation, peace movements, and Hippie and Flower Power movements. Because of that, this interval should be considered as the demarcation point between early and late Xers in Europe.

The behavior and values promoted within the European family for generation X children are different from what is happening in American society. If in America this period represents a benchmark in terms of the rapid evolution of the number of divorces, and families are becoming more and more like the single-parent tendency, the same cannot be said about society in European countries. The rise in the number of divorces is continuously growing, but the pace of this phenomenon intensifies only after 1990. The increase in the number of divorces and respectively of single-parent families occurs much later, respectively after 2000. This means that the values with which Xers develops in Europe are different from those present in American society.

They are thus described as being self-sufficient, independent, and resourceful. Western European Xers typically have advanced degrees and are technologically adept. Furthermore, compared to their predecessors, they frequently engage more in politics (Mannheim, 1997). The entrance of early Xers onto the labor market coincided with the recession of the early 1980s, resulting in significant disruptions to economies across Europe. West Germany saw a decline in gross national product per capita between 1980 and 1985; however, by 1986, this trend had largely reversed itself. With memories of economic downturns and political turmoil fresh in their minds, many Xers chose to take control over their own lives by starting businesses or taking risks with investments. Also, they developed in a higher manner the work autonomy.

When characteristics of Xers from Eastern Europe are discussed, it is noted that they link professional success to meticulous, goal-oriented work, which explains why its representatives may devote themselves to it by faithfully fulfilling their responsibilities and putting their personal lives below their professional ones. Generation X embraces equality and strives to be self-sufficient, very practical and hardworking. They are typically workaholics and professionally burned out. Job security and stability are more important for them than for the next generations (Wiktorowicz, 2018). They exhibit the strongest hostility to communism due to some vivid recollections of the shortages, diminished comfort, and restrictions on all forms of freedom during the communist era, and over time they develop a materialistic outlook (Lasierra, 2019). They are predominantly homeowners and place a high priority on salary when judging work contentment. Also, the materialistic trait affects their career choices as well; many of them choose to become technicians, engineers, or machine designers rather than literary majors, philosophers, accountants, or psychologists.

According to data from multiple research investigations (Hernaus & Pološki Vokic, 2014; Bencsik et al., 2016) task diversity is a slightly richer quality of Xers' job employment, but the work itself is not a stimulus of satisfaction as it is for older generations. In terms of work structure, Xers place a premium on understanding the company's organizational chart. As a result, offering awareness about these concerns is an important strategy for developing commitment among Generation Xers and enhancing their performance (Lasierra, 2019). This theory is supported by management strategies in high-performance firms, specifically, job rotation rules.

Millennials cohort in European countries

European Millennials are young people who became politically, economically, and socially mature at the start of the new millennium began. Like in the same manner as was considered the other two cohorts, the Millennial generation should be divided into East and West European areas. Once more, significant historical events and socioeconomic variables shaped fundamental variations in attitudes and beliefs.

A focus on Years from East European countries revealed the fact that this cohort was born in a period when various anti-government protests aroused and nations put extra effort to maintain their stability. For socialist nations, it has been increasingly difficult to maintain a regular rate of development after 1980 (Gomes, 2018). Poor agricultural production in Poland and other countries, deteriorating international trade terms, rising foreign debt, and an overall lack of economic recovery were all noticed. Both the external creditors and the civil society, which favor a better consumption model and oppose the deflationist strategy, are exerting pressure on the government. All of this culminated with the fact that the Soviet help, which was usually anticipated by these nations, did not arrive as a result of the significant economic challenges they were facing. Therefore, 1989 was a year in which the Eastern European geopolitical framework was profoundly changed. Following this year there was a transformation towards capitalism and the population from East European countries saw in capitalism an outlet for greater political freedom, the end of police and intellectual repression, a resumption of the right to travel beyond the borders, access to a larger and better basket of consumption goods and the extinction of privileges of the elites that dominated these nations (Gomes, 2018). Consequently, the year 1989 should be considering also a point of references in order to split the cohort into two categories like Early and Late Y-ers.

Hence, late Years grew up and developed into young adults during a time when their nations were moving away from command economies and toward capitalist cultures. According to a study from 2014 (Feher, 2014), Millennials in East European countries are distinguished by individualism and a strong drive for self-realization, but they are also wanting conservatism and conformity (Kutlák, 2021). Experts interpret these traits as a reaction to the uncertainties of the transition age. Another theory holds that because they are only indirectly aware of the socialist era through their parents' tales, young people aspire for the dependability that marked life at that time (Bejtkovský, 2016). Yers value less job autonomy at the workplace than previous generations, like Xers, and they feel lost without enough supervision (Hernaus & Pološki Vokic, 2014).

According to the quality-of-life research conducted by Eurostat (2015), young people from East European nations expressed less life satisfaction than their western counterparts. This is dictated mostly by their financial condition, which impacted how they evaluated the future, being more pessimistic: 60% believe they will have to work continuously and will not have enough money to retire. Furthermore, the lower economic output influences when young individuals leave the nest (Kutlák, 2021). As a result, in Central and Eastern European nations, this moment occurs near the end of their twenties, but in Western countries like France, Germany, and the United Kingdom, the average age is approximately 23-24. This explains their higher degree of compliance as well as their enthusiasm for working with senior employees and supervisors (Bencsik et al., 2016). Nonetheless, the Eurostat (2015) survey found that Millennials in general had a greater degree of life satisfaction than Xers and Baby Boomers, indicating that they had a better living comfort and social context. On the other hand, the Western European Yers, meanwhile, are more adaptable, risk-takers, and charitable.

Table 2: A synthesis of timespan and essential work traits for European generation cohorts

			Generations			
	1945 →	1960 →	1980 →	1999 →	2010 →	2020
Western Europe	1946-1959	Early "X" 1960-1970	Late "X" 1971-1980	Generation Y 1981-1999	Generation Z 1999-2009	Generation Alpha 2010
Essential traits		independent resilient value work-life balance and flexible schedules openness on their work		strong need for structure, rules, and guidelines that provide stability, consistency, and orientation motivated by monetary rewards value career development striving to be at the best		

Eastern Europe	1946-1959	Early "X" 1960-1968	Late "X" 1969-1976	Early "Y" 1977-1989	Late "Y" 1990-1996	1997-2009	Generation Alpha after 2010
Essential traits		diligent, goal-oriented workers, prioritizing professional success over personal lives, value task diversity at a job		individualism self-realization conservatism conformity value job security and supervision at the workplace			

Source: Author's compilation based on D'Amato & Hezfeldt, 2008; Wiktorowicz, 2018; Hernaus & Pološki Vokic., 2014; Bencsik et al., 2016

Conclusions

Overall, generational characteristics reflect diverse historical trajectories and socioeconomic contexts, shaping values, attitudes, and behaviors among Xers and Millennials. Therefore, significant disparities exist within the same generational cohort across various geopolitical regions. It's notable that many studies in the literature have presumed uniform characteristics for a generational cohort without duly considering the socio-economic and cultural contexts that profoundly influence the work values and attitudes. Consequently, some of these studies fail to validate the assumptions found in other research endeavors.

The starkest disparities in values, attitudes, and behaviors within generational cohorts emerge when comparing the East European region with North America. Understanding these characteristics is crucial for organizations and managers to design diverse reward and motivation systems. The different approach from the geopolitical perspective regarding values and aptitudes is extremely valuable, especially in today's context of globalization and the expansion of all firms or companies at a geographical level, as well as the increasing cultural diversity in the workplace.

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PETS IN ADVERTISING OR HOW TO INFLUENCE CONSUMERS?

Erika KULCSÁR[1], Anikó HARMATI[2]

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ABSTRACT. Animals have always played an important role in the history of humanity. We only have to think of prehistoric cave paintings, or the relationship between our grandparents and animals, or recall the iconic films Alpha or Hachi, A Dog's Tale. However, it is important to note that the nature of the relationship between animals and humans has changed over time. Whereas in the past their relationship was mainly characterised by respect: maintaining their personal independence; nowadays this relationship has taken on a different dimension, as pets – in most families – live in the same household, receiving the same level of attention as the rest of the family. The primary objectives of this study are (1) to identify the product/service categories that are not targeted at dogs and pets, but they appear as the primary communicators in the promotion of the product or service, (2) to identify the characteristics that fundamentally define this type of advertising.

Keywords: pets, advertisements, parameters, message

JEL classification: M37

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1 Lecturer PhD, Faculty of Economics and Business Administration, Babes-Bolyai University of Cluj-Napoca, Romania. E-mail: erika.kulcsar@ubbcluj.ro
2 Bachelor of Economics, Faculty of Economics and Business Administration, Babes-Bolyai University of Cluj-Napoca, Romania. E-mail: harmatianci@gmail.com

Introduction and Review of Literature

Who is the target segment? This is a question that fundamentally defines marketing. It is also true that the approach to the relationship between target segment and products advertised is complex, since advertising must influence not only the target segment, but also those who play a significant role in influencing the purchase decision. Another key question concerns the purpose of the purchase. As noted in the literature, the purpose of a purchase can be functional or symbolic: however, the main success of a brand is based on emotions and the way the brand connects with society (Olins, 2010). It is also known that emotions evoked by commercials depend to a large extent on the way they are communicated, on the content of the message and on the agency, i.e. „who" sends the message. As pets are nowadays (in the majority of households) treated as full members of the family, like children or friends (Mueller et al., 2020), their role is becoming increasingly important from a commercial point of view. Table 1 provides a structure of secondary data on the variables that form the trend in the relationship between pets and retail.

Table 1: Total number of pets, the number of retail outlets 'targeting' pets and the sales value recorded by them: 2021

	UK	**Germany**	**France**	**Italy**	**Spain**	**Poland**
Total number of pets*	**60391,8**	**126604,5**	**64459,7**	**64768,6**	**17915,8**	**20692,6**
Total number of dogs	**10772,5**	**11005**	**7911,6**	**8728,6**	**6692,6**	**7936,3**
Total number of cats	8438,2	15861	14741,2	10077	7037,1	3519
Other pets	41181,1	97738,5	41806,9	45963	5719,1	7704,2
Number of retail outlets 'targeting' pets	**4046**	**2867**	**1039**	**5909**	**2198**	**3755**
Total value of sales	**5605,4**	**4772,5**	**4480,9**	**3304,8**	**1619,3**	**1198,2**
Dog food**	**2692,6**	**2204,1**	**2025,4**	**1535,9**	**961,2**	**595**
Cat food	2292,2	2281,8	2141	1611,5	543,6	568,7
Other pet food	620,6	286,6	314,5	157,4	114,5	34,5

* Expressed in thousand, ** retail sales value: in million US dollars
Source: Statista.com

The data structured in the table suggest the following:

- Number of retail outlets for pets:
  (1) is not directly proportional to the number of pets,

(2) is not always proportional to the value of sales: interestingly the UK is ranked 4th in terms of the number of pets, yet it is ranked 2nd in terms of the number of retail outlets targeting pets, while it also has the highest value of sales. Spain is the most balanced in terms of the three variables.

- The total number of dogs, as pets, is the lowest in Spain, still more food was sold to them than to cats.

The number of pets is not necessarily a proportional indicator of value statement, as the extent and frequency of pet food purchases also depends to a large extent on the owner's attitude towards pet food. What is certain, however, is that the attitude of households towards pets has created new needs for which there is now a large market: their presence is therefore more than justified in terms of their inclusion in marketing communications.

Despite the fact that several brands use pets in their product promotion, there are relatively few scientific articles that investigate the relationship between the presence of animals and purchase intention: i.e. how the inclusion of pets in commercials affects consumer behaviour (Lancendorfer et al., 2008; Jia et al., 2022). Animal symbolism is very broad (Darab et al., 2016), and consequently advertisers have to selectively associate certain animals with certain product categories (Spears et al., 1996). Horses, dogs and wolves are symbols of masculinity, friendship and freedom (Braunwart, 2015). When animals in advertising are given human characteristics, they become anthropomorphic (hybrid) "representatives". These types of animals can convince potential customers of almost anything, and consequently can have a significant impact in terms of sales volume (Lennklo, 2010). In fact, the representation of animals in commercials serves a strategic purpose, since they are used to communicate the values that are the main pillars of a brand. Not surprisingly, the most frequently featured animal is the dog (Stone, 2014), as dogs in commercials can be interpreted as family members (Lerner & Kalof, 1999) and thus shape attitudes towards the commercial (Lancendorfer et al., 2008). In this type of commercials, content is paramount, given the plot and context (Mueller et al., 2020), as people are more likely to recall positive information than stories with a negative connotation (Stone, 2014). Furthermore, there is also the possibility that the brand that is the subject of the commercial remains in the background, playing an invisible role in both the dog's life and the context of the commercial (Brooks, 2018). Brands that feature pets in their commercials need to be aware of the demographic characteristics of the owners in order to successfully target them, e.g. cat owners are older and more educated than dog owners (James et al., 2004). At the same time, the fact that the values that are specific to a culture play a significant role in the way commercials are created and perceived should not be overlooked (Hirschman, 2003).

Material and Method(s)

Research objectives

This study is based on the following research questions:

(1) What is the message of commercials featuring dogs and pets?
(2) What are the parameters that play a significant role in the promotion of products and services involving dogs and pets?
(3) What is the commercial based on?
(4) How do viewers perceive commercials featuring dogs and pets?

Methodology of research

(A) The concept of 'pets' is reduced to dogs. Furthermore, the term 'dog' was used on the grounds that not all commercials included in the analysis contained an image that would have suggested that the dog in the advertisement was a pet.
(B) The video-sharing website YouTube was used to identify commercials featuring dogs.
(C) The commercials were identified using the keywords "dogs in commercials".
(D) The international brands included in the analysis by product category are the following:

- Vacuum cleaner: Rowenta (Silence Force 4A), Philips (SpeedPro Max Aqua), Bosch (Bosch cordless vacuums).
- Vehicles: Subaru (Ski Trip), Volkswagen (Woofwagen), Chevrolet (Maddie), Buick (Woof).
- Clothing: Skechers (Super Bowl Commercial – Go Run Mr. Quiggly!), DKNY (#GoodMorningDKNY).
- Beer: Bud Light (Banned Superbowl Commercial Good Dog Bad Dog), Budweiser (Someone Waits For You At Home).
- Services: Amazon (Amazon Prime TV ad – Dog), Travelers Insurance (Dog commercial).

(E) The commercials were analyzed via content analysis. The content analysis of the commercials was based on the following criteria:

- The actors in commercials. In this case, the classification is based on the following roles: main characters, supporting characters and extras. Main characters are those whose needs are served by the product being advertised: they are the primary users of the advertised product. Further characters are those whom the

target segment is addressed to, and/or who play a significant role in the lives of the main characters. The supporting characters are the persons whose presence is necessary regarding the use of the product, as well as the family members[3] whose presence in the household may have an influence on the choice of the parameters of the product being purchased. Extras are those who complete the work process, but whose representation is incomplete (e.g. their face or upper body is not visible), or they are just simply present.
- The message of the commercial.
- Parameters that represent value to the target segment.
- The main pillar of the commercial.

(F) The analysis of audience reviews was based on the Budweiser commercial[4]. This commercial was chosen because a strong sense of social responsibility can be identified through the campaign message. The analysis of audience reviews[5] was based on the following variables:

- What is the message of the commercial?
- What are the positive and negative aspects of the commercial?
- What emotions did the commercial trigger in viewers?
- Which types of attitudes can be identified based on the reviews?

Results and Discussions

The results of the content analysis are presented in the following part. Based on the criteria noted in the research methodology section (E), as a first step, the analysis of the commercials (Table 2) of the vacuum cleaner brands included in the research was carried out. Traditionally, women have been the target segment for vacuum cleaners, but with the emergence of the modern man, traditional households (and roles in households) are changing. Furthermore, the fact that the family structure itself is constantly changing makes it important not only to define the target segment, but also to identify the family members who play an important role in the decision process when purchasing a particular product (Kotler & Keller, 2006).

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3 Including pets.
4 The reviews were analysed between 21st February 2023 and 26th February 2023: https://www.youtube.com/watch?v=56b09ZyLaWk.
5 A total of 461 reviews on this commercial were submitted.

Table 2: The main pillars of vacuum cleaner brand advertising

International vacuum cleaner brands		
Rowenta - 2017	Bosch – 2019	Philips - 2020
Who are featured in the commercial?		
Main characters: 8 puppies. Supporting characters: a childless /carrier-oriented couple – there are no products in the room that could indicate the presence of children.	Main characters: a little girl, a pet. Supporting characters: a father.	Main characters: a woman as a household manager, Supporting characters: a little boy, a pet. Extras: a husband.
What is the message of the commercial?		
For a given brand, the needs of pets are the priority.	It was meant to illustrate the simplicity of cleaning. The cleaning has the characteristics of a building block (the little girl is the initiator of the cleaning, the way of cleaning is tailored to her).	The household manager meets the daily challenges in a professional way to provide a safe environment for the family. Cleaning is an assembly line (mother starts, father continues).
Parameters that represent value to consumers		
„Extreme silence”.	Performance. Simplicity. Tranquility. Comfort. Speed. Durability (designed for life).	Simplicity. Efficiency. Speed. Convenience. Innovation.
What is the commercial based on?		
Cuteness.	Playfulness.	Professionalism.

Source: Authors' work, based on:
https://www.youtube.com/watch?v=NdfCyCt40xs,
https://www.youtube.com/watch?v=uATYxMydfoY,
https://www.youtube.com/watch?v=86oToV6ZHZA

The target segment for all three commercials is the modern woman and the modern man. The message of the commercials, however, varies depending on whether they target households with or without children, what is the role of the woman and the man, or the role of the pets in these households. Comfort, speed, power/efficiency, tranquility are the parameters that primarily define both Bosch and Philips vacuum cleaner brands in terms of the values they represent. The low level of perceived impact, durability and innovation are identified as differentiating values for the commercials included in the analysis.

It is important to note that the main characters of the commercials determine to a considerable extent the criteria that constitute the main pillars of the analysed commercials, since:

(1) the Bosch commercial is based on playfulness, as the father is unobtrusively assisting in the cleaning process from the background, and he is accompanied by the pet; however,
(2) the Philips commercial is based on professionalism, as it is aimed at women who organise the daily household chores in a professional way: the commercial is also focused on the pet when it comes to buying a household product of this type,
(3) Rowenta commercials build on the cuteness factor, prioritizing the needs of pets as the trigger in the purchase decision.

The second step was a content analysis of the vehicle brands (Table 3).

Table 3: The main pillars of car brand advertising

International car brands			
Subaru - 2012	Volkswagen - 2013	Chevrolet - 2014	Buick - 2015
Who are featured in the commercial?			
Main characters: different dog breeds	Main characters: pets. Supporting charac-ters: pet owners. Extras: other people.	Main characters: a pet and its owner. Supporting characters: family members, the female main character's friend/ love.	Main characters: pets (different dog breeds Supporting characters: pet owner.
What is the message of the commercial?			
The vehicle advertised is tested and approved by dogs.	Everyone can find their ideal vehicle, which can reflect the personality of both the owner and the pet.	A Chevrolet is a life-long companion: pre-sent at life's decisive events, just like your pet.	An ideal model for women.
Parameters that represent value to consumers			
Reliability.	Variety.	Trust.	Large interior space.
What is the commercial based on?			
Fact-finding character.	Fact-finding character.	Emotions.	Fact-finding character.

Source: Authors' work, based on:
https://www.youtube.com/watch?v=koLrsIDaKrc,
https://www.youtube.com/watch?v=I958KJ6kqBg,
https://www.youtube.com/watch?v=3t6bLugtJkQ,
https://www.youtube.com/watch?v=jzszijId81Q

In the case of vehicles, from the four commercials in the analysis only one features its target segment as the main character (Chevrolet). The other three commercials either lack the human element entirely (Subaru) or feature it as an extra (Volkswagen) or as a supporting character (Buick). Despite the fact that the latter brand features only women, it does so in a way that appeals to men[6]. The Chevrolet brand builds on emotions, presenting a life mosaic that influences consumer behaviour. The message of the commercials included in the analysis varies depending on which parameter is considered most important/ predominant for the target segments, but in all cases they are conveyed through the dog, the pet.

Sports and outfit are two topics that form the basis of several commercials, and the next step was to carry out a content analysis of commercials related to these two areas (Table 4).

Table 4: Main pillars of outfit-related brand advertising

International advertising for sports footwear and clothing	
Skechers (2012)	DKNY (2017)
Who are featured in the commercial?	
Main characters: a specific breed of dog (bulldog) Supporting characters: another breed of dog (greyhound), trainers, Extras: audience.	Main characters: a pet and its owner. Supporting characters: men and women of different age groups.
What is the message of the commercial?	
The functional purpose of sports shoes is highlighted in the commercial. Choosing the right sports shoes is the key for success.	The commercial illustrates the potential effects of uniqueness. At the same time, the DNKY logo on the collar reflects the diversity of the brand's offer.
Parameters that represent value to consumers	
Efficiency/Success.	The promise of an attractive look.
What is the commercial based on?	
Humor.	Awareness raising/boldness.

Source: Authors' work, based on:
https://www.youtube.com/watch?v=w6KdpQhGcLc,
https://www.youtube.com/watch?v=vglHrUkY7dQ

6 Peugeot's (3008-5008) 2023 spot, on the other hand, is aimed at of young adults as its target segment, who still live in their orientation family, based on the "take back your parents' car without being noticed" function.

When buying a Skechers brand the functional objective is paramount. However, its symbolic meaning cannot be completely excluded. Nevertheless, in the case of the DKNY commercials, the symbolic role is more important than the functional one. Consequently, effectiveness and customisation may well be combined depending on what the primary purchase objective is.

The fourth step was a content analysis of the beer brand commercials included in the analysis (Table 5). In the traditional approach, the target segment of alcoholic beverages is men, although it is worth noting that some (recent) changes can be identified in this segment, as there are some beverage brands promoted by women (e.g. Johnnie Walker: Milla Jovovich, 2021; Heineken Silver, 2022).

Table 5: Main pillars of beer brand advertising

International beer brands	
Bud Light (2009)	Budweiser (2014)
Who are featured in the commercial?	
Main characters: two different breeds of dog. Supporting characters: owners of the dogs.	Main characters: a pet and its owner. Supporting characters: friends.
What is the message of the commercial?	
The commercial suggests that appearance can be deceptive.	A dog is more than just a pet: it's a solid point in your life. It is the consumer, the individual, who makes the decision: we are responsible for our family, for the society.
Parameters that represent value to consumers	
"Accomplishment"	Trust.
What is the commercial based on?	
Humor.	Emotions.

Source: Authors' work, based on https://www.youtube.com/watch?v=Yuzi6Ys-jNc, https://www.youtube.com/watch?v=56b09ZyLaWk

The Bud Light commercial builds on the humor by drawing attention to the possibility that "accomplishment" is not always just about physical fitness. In the case of the Budweiser brand, on the other hand, the commercial is based on emotions. It illustrates events that emphasise the importance of trust and responsibility. In the following, the reviews on Budweiser will be structured according to the criteria noted in the research methodology (section F). The Budweiser commercial (1) draws attention to the risk of drink-driving and its potential dangers, (2) calls attention to responsible behaviour. At the same time, it highlights the fact that (3) there is always a choice, which is individual.

A. Positive aspects of the commercial are as follows:
   - the message of the commercial, its impact does not diminish over the years,
   - a message is best conveyed by animals,
   - the message is both powerful and multi-focal: it not only raises awareness of the importance of avoiding drink-driving, but also reflects the multidimensional nature of responsibility,
   - the effectiveness of the commercial is delivered by the "happy ending",
   - the commercial is not only objective and to the point, but also emotional in a way that provokes reflection.

B. Negative aspects of the commercial are as follows:
   - stereotyped, insensitive, does not take into account the needs of the pet,
   - catchy,
   - the commercial only focuses on one pet (the dog).

C. Emotions triggered in the audience by the commercial:
   - anxiety (worry),
   - happiness,
   - energetic (pride in the brand),
   - playfulness (relief).

D. The adjectives used by the audience in the reviews:
   - wonderful,
   - good, absolutely great, the best,
   - beautiful, beautiful and sad at the same time,
   - cute,
   - stunning.

E. Attitudes towards the commercials:
   - like,
   - love,
   - adoration,
   - despise.

In the case of the two service brands included in the analysis, the following were identified: (1) the Amazon commercial illustrates two stages in the individual system of purchasing decisions: one is the identification of the problem and the other is the decision to purchase in order to ensure that the pet receives the best care (2) Travelers Insurance addresses, via pets, those potential consumers who are reluctant to receive insurance services (Table 6). Insurance is, indeed, a very sensitive area, since 'the real value of the price of the service is often not perceived by the customer at all or only after a long time' (Veres, 2005, p. 291).

Table 6: The main pillars of service brand advertising

International service brands	
Amazon (2018)	Travelers Insurance (2010)
Who are featured in the commercial?	
Main characters: an injured puppy and its owner. Extras: other dogs and their owners.	Main characters: a pet. Extras: owner, other people, other dogs.
What is the message of the commercial?	
Amazon provides an instant solution to the problems that arise.	It draws attention to the possibility of personalising the insurance service.
Parameters that represent value to consumers	
Trust. A diversified offer.	Customisation. Reliability.
What is the commercial based on?	
Emotions.	Emotions.

Source: own, based on https://www.youtube.com/watch?v=vERc4bg98X4&t=58s, https://www.youtube.com/watch?v=lk2B8988ws0

Trust and reliability are two parameters which evolution over time implies a much more complex process for services than for physical products. At the same time, the variety of offers and the possibility of customisation can play a significant role in persuading potential users to make a purchase.

Conclusions

Families have always been a favorite target segment for marketers, as they purchase for more than one person, whether they are buying for the orientation family or for their own family. In fact, the structure of families and the relationships within them are not the same as they used to be: the direct effect of this is reduced to the needs that arise when new members - pets - are added to the household. Continuous monitoring of these changes is more than necessary, since the supply structure must be in accordance with current market demands.

In the commercials included in the analysis, the following phenomenon was found with regard to the roles played: for all brands, except for Philips, the main character is played either by dogs or pets, or pets and their owners: this phenomenon can most probably be explained by the fact that the brands included in the analysis sought to build trust by including dogs and pets. Trust is the cornerstone of the relationship between brands and consumers (McEwen, 2008). In the case of the Budweiser commercial, a very deep form of trust is found, as the brand openly accepts the evidence that the product they offer can be the trigger of tragic events, if consumers are not careful enough. Furthermore, the commercial has generated not only positive, but also negative feelings in the audience, or a combination of both.

Our analysis is consistent with:

(a). with the results of Stone's (2014) research, as the Budweiser commercial still enjoys remarkable ratings[7] today, as the story of the commercial is staged in a way that provides the audience with playfulness (excitement) and then a well-deserved sense of relief at the end,

(b). with the conclusions of Brooks (2018), as the brand name was found in only 14 comments.

The use of dogs and pets in advertising is very varied and diverse. At the same time, paying attention to details proves to be an essential requirement when it comes to directing, as viewers analyze these details from the point of view of pets, being pet owners themselves. Furthermore, pets can (now) be interpreted as influencers: adding a new impetus and 'freshness' to marketing (Myers et al., 2022).

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https://www.youtube.com/watch?v=3t6bLugtJkQ

https://www.youtube.com/watch?v=jzszijId81Q

https://youtu.be/w6KdpQhGcLc

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THE SCIENCE FICTION OF THE PAST, THE REALITY OF THE PRESENT – SMART CITIES

Komalpreet KAUR[1], Ioana Isabel BUȘA[2], Lavinia Denisa CUC[3]

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ABSTRACT. The concept of "smart cities" has gained recognition in the last few years because of the increasing urban population coupled with rise in the number of urban problems. Smart cities – usage of information and communication technology (ICT) to enhance the standard of living, thereby, represents a digital solution for the urban communities that aims for economic growth and sustainability. The present paper offers an overview of this innovative concept. Smart Mobility, Smart Economy, Smart People, Smart Environment, Smart Living and Smart Governance are the six pillars of a smart city. However, the article puts an emphasis on smart governance, while providing a brief description of all the other dimensions. By highlighting some of the benefits and challenges that smart governance offers to urban citizens, it presents the significance of collaboration between different stakeholders including citizens, public institutions and government officials. In conclusion, the study argues smart governance is essential for promoting good governance practices but there is a need to consider the other factors such as social inclusion and basic human rights while adopting this new method in decision-making process.

Keywords: smart governance, smart cities, sustainability, technology

JEL Classification: O18, Q56, R59

1 Corresponding author. "Aurel Vlaicu" University of Arad, Romania. E-mail: komal.preet.kaur00009@gmail.com
2 Babes-Bolyai University of Cluj-Napoca, Romania. E-mail: busaioana@gmail.com
3 "Aurel Vlaicu" University of Arad, Romania. E-mail: laviniacuc@yahoo.com

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Introduction

Smart cities are an expression of adaptability to fast-changing societies, a result of population explosion, continuous migration of citizens from rural areas to urban areas as well as rapid technological advancement. Mankind's creation brought along a number of advantages and challenges. Together with its six dimensions (Smart Economy, Smart Mobility, Smart Environment, Smart People, Smart Governance and Smart Living), the concept of "smart city" evolved and so did its objectives, which are shaping themselves according to our needs.

The world is facing diverse problems from hunger, global warming (and natural hazards) to armed conflicts and uprising extremist attitudes in politics. Without doubt, there is a connection between all these issues. As such, smart cities are a common reaction of society. They are an expression of adaptability, a result of population explosion, migration and technological advancement.

In earlier times, their purpose was limited to integrating ICT (Information and Communication Technology) in order to improve the quality of life for citizens. This has then transformed into a contemporary concept – smart sustainable city. However, it did not take a long time for society to realize that "smartness" and "sustainability" must go hand in hand or else the consequences will be manifested in the form of serious environmental threats. The Sustainable Development Goals proposed by the UN along with international treaties such as the Paris Agreement further emphasize the significance of considering sustainability approaches while designing smart cities.

Smart Governance, one of the six pillars of smart city, is a classic example of modern governance approach which can promote economic development by improving the efficiency and quality of public sector services. By definition, governance means control and guidance of organizations while respecting principles such as – without limiting to these – transparency, accountability, responsibility – codes and regulations.

Moreover, smart governance serves to change citizens' lifestyles for the greater good while paying attention to feelings, values and rights. In this context, the greater good reflects actions which aim to preserve our nature by teaching people to live and take care of it, to ease our lives by using artificial intelligence and any other technological innovations.

Since governance plays a major role in the sustainability of smart cities, it is crucial to ensure that all the smart city initiatives are not just profitable but also respect the basic governance principles and human needs. Though it is not always possible for the people ensuring a smart governance to put human rights or values above the desired economically growth.

We study the existing literature to form an opinion on the given subject. The present article is organized as follows. The first half of the article begins with a brief explanation of the concept of smart cities, how it emerged and what are its six pillars, while the second part discusses in detail about the smart governance and some of the key benefits and challenges that it brings along. Lastly, the paper ends with a brief conclusion, which provides some suggestions for the future smart city initiatives based on the findings of the study.

Literature Review

The study of smart cities is not a newly developed subject as many of us would expect. It actually generated controversies, which led to multiple definitions. The result of many years of research and studies is the lack of a globally recognized definition and common understanding of the term. It has been said that technology is the key factor to transforming normal cities around the world into smart cities (Washburn et al., 2009) and this is the view eastern countries adhered to. For example, in China, smart cities represent IoT – Internet of Things. Even western states such as Germany agree that it symbolizes the implementation of new technologies addressing energy and transportation problems (Lai & Cole, 2022).

Having no universal connotation, a smart city distributes its focus equally on technological as well as the socio-economic dimensions; the latter being related to aspects such as governance, people and quality of life (Sharifi & Alizadeh, 2023).

With regard to this view, the European Commission (n.d.) defined the concept of "smart city" as a location where digital solutions are used to make regular, old services and network more effective for the convenience and benefit of businesses and communities' residents. It was also described as a place where resources are used more efficiently, with less to no emissions at all.

"Smartness" and "Sustainability" are two distinct concepts and must not be confused. Even though the paths of these terms intersect many times, it is important to understand that a sustainable city is not always a smart city. This convergence is seen as a "problematic event" by some authors as it symbolizes two different types of urban imagination. Sustainable city is perceived as an added promise of achieving sustainability goals to the idea of a smart city.

However, the underlying issue is that there is very limited proof in literature which suggests that such goals are ever accomplished in smart cities. As a solution to this problem, some are optimistic about the appearance of "smart-sustainability" (Woods, 2020)

Besides the European Commission, the United Nations Economic Commission for Europe (UNECE) and the International Telecommunication Union (ITU) claim that "*A smart sustainable city is an innovative city that uses ICTs and other means to improve quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social, environmental as well as cultural aspects*". Keeping in mind the Sustainable Development Goals adopted by the United Nations, there is a growing need to embrace and incorporate sustainable city initiatives into the process of smart city development (Kutty, et al., 2020).

In a world full of controversies, many sub-types of smart cities have emerged. Societal smart cities, climate smart cities are all results of the paradox we live. Despite global access to information, technology, possibilities and wealth, we are witnesses to degradation of biodiversity, crises, global health risks and so on (Mendes, 2022).

The majority of researchers consider that smart cities are based on social, cultural and even human aspects (van Twist et al., 2023). This approach has citizen attributes, rights, values and responsibility in the foreground (Panchanathan et al., 2017) and aims to create pluralistic spaces that are conductive to more inclusive smart cities (Sharifi & Alizadeh, 2023).

This leads us to societal smart cities. These are the ones that facilitate the integration of social rights and technological advancements to address a broad range of challenges (Breuer et al., 2019) through association with values as democracy, citizen-centeredness and justice (Kitchin et al., 2019; Masucci et al., 2020). In fact, cities in general can be defined by the collaboration of private individuals, businesses, developers, local government and public institutions. Taken individually, each of them has different goals, but smart governance considers them one and aligns their goals in order for them to share the benefits.

There are citizens that seem to not be fully content with the measures it takes to create such an environment and, as such, they show dissatisfaction. This feeling can be passive or active depending on how people choose to react to it (van Twist et al., 2023). Unplanned transitions to smart cities have the potential to create social issues such as social exclusion and inequality (Shayan & Kim, 2023). Six significant pillars have been identified for the development of any smart city. These factors include social, management, economic, legal, technology and sustainability, a framework known by the first letters of all these pillars in form of the acronym – SMELTS (Joshi et al., 2016).

Due to the existent discrepancies in the existing literature on Smart City, these are not widely-accepted. Other authors claim the following to be the six pillars of smart city: smart economy, smart mobility, smart environment, smart people, smart governance and smart living (Matos, et al., 2019).

Smart economy, by its virtue, creates economic opportunities for the people of the society by using innovation as an instrument, while promoting sustainable and inclusive economic development (Kapoor, 2017). On one side, there are studies that support that smart economy is a necessary requirement for developing a smart city. However, there are researchers that assert that smart city is a prior condition/prerequisite in order to develop a smart economy and offer the citizens with a number of economic opportunities. In other words, some believe that a city is declared smart due to its smart economy, others claim that smartness itself is the main cause for a city to be called smart. Therefore, till now, the relationship between the two remains unclear because we do not know whether smart city is a cause or an effect of a smart economy (Kézai et al., 2020).

Smart mobility refers to the implementation of a smart transportation system that is required to enhance the quality of life. It can also be defined as a system that encourages citizens to use integrated platforms that help them access transportation services. Smart mobility is considered an eco-friendlier solution (Tahmasseby, 2022). Although the traditional transportation system provides citizens many advantages, it still affects the environment and the society negatively, giving rise to various ecological and social issues such as vehicle dependency, air pollution and accidents. In this context, smart mobility, thereby, represents an innovative but at the same time, a sustainable solution. As a result, smart services must be incorporated into the city's transportation system, allowing inhabitants to use more innovative transportation technologies (Kussl & Wald, 2023).

Smart Environment is also referred to as ambient intelligence. Smart environments, using different techniques or approaches, sense the changes in the surroundings (for instance, temperature changes or any sudden movement) and react accordingly in return. There are various projects that reveal the possibility of utilizing ambient intelligence so as to minimize energy usage. Many such projects have even created prototypes of smart environments and published the findings that clearly demonstrate that they have the potential to lower energy consumption without disturbing in any way the user's comfort or environment. One may conclude that the smart environment, as an emerging notion, is capable of resolving several problems (Torunski et al., 2012).

Another pillar of smart cities is represented by smart people. Smart People are those who have both formal and informal academic capital and exhibit themselves as innovative people or groups (Surya & Manaf, 2021). All of these factors can be observed in the education level and advancement of human resources capable of utilizing technologies and possessing a socio-cultural nature acceptable at all stages of community education (Surya & Manaf, 2021).

Smart living is a combination of technological and human aspects of a smart city with the purpose of bringing smartness in places such as homes, workplaces and other buildings (Ghansah et al., 2022). This is continuously described as an emerging trend that consists of technological improvements allowing people to take advantage of modern ways of living. The concept of smart living is based on cost-effective construction materials, innovative constructions process, help in designing and creating facilities that meet everyone's needs (European Union, 2015).

Smart governance is in perfect coordination with the above-mentioned factors. It represents a multitude of policies, resources, social norms and information that interact to support city activities. Due to its principles – participatory governance, transparency, accountability (World Bank, 2016), smart governance leads to the social and environmental results sought by citizens (Mutiara et al., 2018).

But smart governance is more than just a pillar creating the foundation of smart cities. It covers and solves smartness vulnerabilities, societal goals such as urban sustainability or economic development (Tomor et al., 2021).

Moreover, it must not be forgotten that "smart city" is an umbrella term which includes different spheres of study (Lai & Cole, 2022). Its multidimensional nature obliges us to try to harmonize all the dimensions at the same time, instead of choosing to focus on one facet. The term can be classified into two different domains. On one side, we have the hard domain which addresses the technical infrastructure of smart cities, for example water and buildings management. On the other side, the soft domain represents the social aspects of smart cities such as culture (Lai & Cole, 2022).

A smart city would be created by integrating every problematic aspect, beginning with transportation, health care, energy supply education, services, food, infrastructure, water, and safety. This model cannot be included in only one dimension and this is the reason why academics repeatedly claim that all dimensions must operate concurrently. All these features of smart cities are then divided into many areas based on urban development. By breaking down the assessment of a smart city's maturity level into many metrics, policymakers can better determine the path of urban growth (Ningrum, 2021).

Cities around the world have become smart cities in their way to address climate change, aspect which reveals that smart cities are capable of fighting challenges we suffer from. For example, Singapore's goal in the last decade has been to reduce and control emissions by using sustainable energy, action supported by the Paris Agreement, adopted by more than one hundred countries at the United Nations Change Conference (Bhati et al., 2017).

Research Methodology

The main scope of this article is to fill in the literature gap by thoroughly analysing the concept of smart cities and emphasizing its relation to smart governance. For this purpose, we use literature review methodology.

For carrying out the research, each of these pillars have been used as main key words on different search platforms such as Science Direct and Web of Science. The sources cited in this article are thus credible and have been published between the years 2009-2022. The criteria that we chose to select and filter these sources were as follows: relevancy to the given subject and recency of the sources. In order to avoid researcher bias and to have an objective approach, a sufficient number of articles have been used. All the data sources have been mentioned in the References section.

By highlighting the impact of societal changes on the evolution of a smart city, the study attempts to answer the following Research Questions (RQ):

RQ 1: How did the concept of smart cities evolve over time?
RQ 2: Which is the foundation of a successful smart city?
RQ 3: What advantages and disadvantages does smart governance present?

Results and Discussions

Highways are not the only things that connect the modern-day cities. Data networks have also played a major role in urban transformations. This is the reason why an open access to data is a key to empower any given society. The rapid pace of technological advancements has ultimately made governments rethink their traditional methods and approaches of the decision-making process. This "doubt" gave birth to the concept of Smart City by igniting the smart growth movement in the 90s (da Silva & Fernandes, 2020).

The initial concept of “smart city” reflected only the integration of the kind of technology that ensures a better quality of public services. We can talk about efficiency, daily use of renewable energy through solar panels which empower street illumination. Another example is the purchase of electric public transport vehicles such as buses.

At first sight it may seem that these are not technological advancements, but this would mean we assume that smart cities did not exist prior to the last two decades. Truth be told, innovations address multiple problems, in this case both sustainability and smart environments for better lives. From this point of view, many cities around the world claim to be smart. Among them are Vienna, London, Dubai, Singapore, Hong Kong and so on (Tahmasseby, 2022).

In Rio, the first discussions over the smartness of the city took place in 2009. They were caused by it becoming the official host for the 2016 Olympics. Local authorities then elaborated a strategic plan aiming to increase city’s economy. Probably one of the most important actions was to motivate the private sector to interact and engage with the public one. This encouraged people from various backgrounds to invest in their environment and gain courage to work hand in hand with public institutions.

Earlier in this article we mentioned that the decision of developing such an environment as a smart city be taken simultaneously. While improving services is always a welcomed measure, more radical changes that affect lifestyles must be implemented cautiously. Local councils and central governments must conduct studies, anticipate conflicts, consult people, maybe even organize referendums if necessary.

The construction and development of smart cities is receiving increased funding from governments due to a number of issues, including the rising need of infrastructure and asset management. The Consumer Technology Association made a prediction that in 2020, the world would invest US$34.35 billion only on the construction of smart cities. There are plenty of studies and reports that indicate the estimated revenues to be invested in smart cities are about to grow massively every year. One such example is presented below.

Figure no. 1 is a graphical representation of forcecasted global revenues produced by companies in global smart cities from 2020 to 2025 in billion U.S dollars. It can be clearly deduced from this graph that the revenues are expected to gradually increase annually. By 2025, it is speculated that the global market for smart city technologies, goods, and services would generate approximately 241 billion US dollars (Statista, 2022).

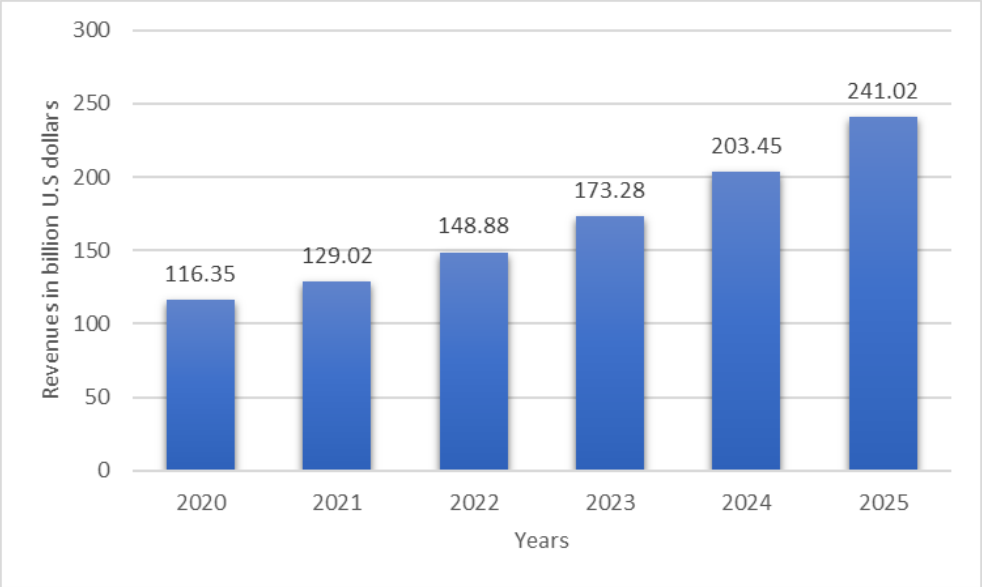

Figure 1. Projected revenue generated by companies in the global smart city from 2020 to 2025*(in billion USD)
Source: Statista (2022)

When discussing the urban challenges that smart cities solve by using ICT (Information and Communication Technology), it is essential to mention the improvement of public services and decision-making process of government officials, besides the common ecological and socio-economic issues. It is believed that one of the biggest challenges in building an effective smart city is Smart Governance because it involves many actors such as government officials, investors, organizations from the private sector, public institutions, citizens, communities and so on. Each one of these actors carry their own personal interest, which could either be a common interest or contradictory in nature. They all collaborate and coordinate with one another for successfully implementing different operations (da Silva & Fernandes, 2020).

The concept of smart governance emerged in the late 20th century along with the smart growth movement. Smart Governance represents transformations, reforms or shifts made in the traditional governance with the help of technological advancements. The main purpose of this concept was to create a sustainable city, which allows the citizens to easily access the quality public services.

By understanding modern technology better, the governments can innovate social governance. Modern technology such as big data, AI (artificial intelligence) and IoT (internet of things) are the present-day tools that are used by smart governance to formulate future policies that are in the best interest of the citizens. They assist the government in accomplishing long-term good governance objectives (Liu & Qi, 2022).

As shown in figure no. 2, smart governance is also considered one of the six pillars of a smart city (Matos, et al., 2019).

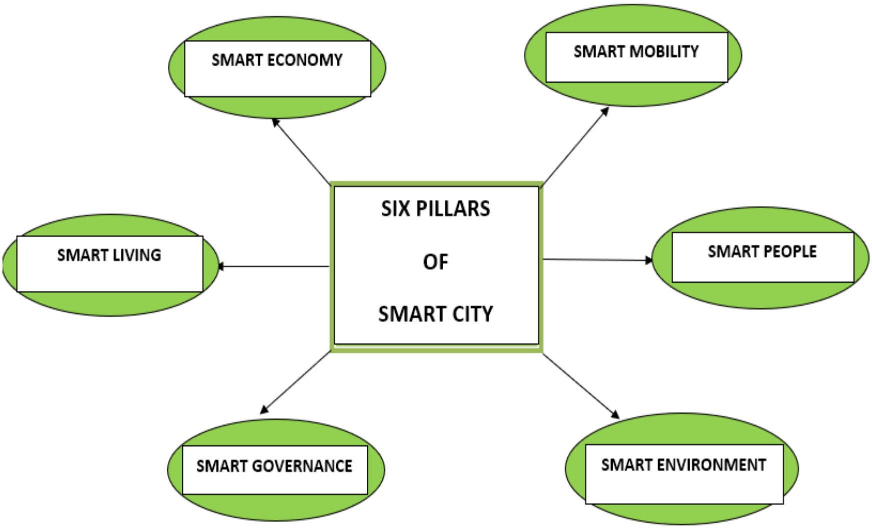

Figure 2. Six pillars of a smart city
Source: Matos et al. (2019)

In the figure shown above, each pillar seems to be separate from the others, but it reality they are interdependent. An effective smart city is based upon smart governance and smart governance includes all the other pillars – smart environment, smart people, smart mobility, smart economy, smart living. This suggests that smart cities have actually been created to serve the interest of people, to improve quality of life.

Quality of life means happiness, clean air, preserved nature (so sustainability), good services and organization, which is why it is completely dependent on the level of smartness of each city.

As the cities and organizations have started to embrace digital technologies, the governments are also following in their footsteps. In the past few years, some governments have begun to use instruments and advanced technologies in order to make the communication with citizens and companies much easier (Corydon et al., 2016). By introducing smart and adaptive techniques in governance, the process of decision-making and monitoring can be simplified and improved. For this purpose, the requirements are better information technologies, backed up with collaborative governance (Mandić & Kennell, 2021).

Even though governments across the world make attempts to utilize smart city applications while collaborating with citizens and companies in various fields, there are citizens that seem to be not fully content with the implementation of new technologies, thereby, showing the feeling of discontentment. The discontentment of citizens could be active or passive depending on how they choose to manifest it. According to a study, two possible responses of the government in such a situation may be “overcoming or embracing resistance” (van Twist et al., 2023).

While the creative streak of humans has brought along several benefits such as efficiency and cost savings for exercising governance, it has also given rise to new challenges.

Firstly, despite the fact that theoretically smart cities and smart governance practices are associated with terms such as ‘sustainability’, in reality, this approach often looks at human beings as nothing more than sources of data. In the presence of an environmental crisis and the ongoing mass extinction of species, this ‘human-centric’ approach to smart cities has been questioned several times. Consequently, smart urban governance is often disapproved of due to its ‘technocratic’ approach (Sheikh et.al., 2022). According to the more-than-human literature, under smart governance, where enhancement and optimization of the social services for citizens takes all the limelight, nature and its needs remain ignored. Due to the absence of inclusion of nature in the smart cities, the environmental issues may remain unsolved (Sheikh et.al., 2022).

Secondly, after years of numerous experiments, smart city initiatives, trials and errors, the authorities are finally realizing that smart city frameworks begin with humans and for humans; not for technology. Furthermore, “smartness” does not only reflect or symbolize instalment, usage and adaptation of new technological structures, rather it aims to make better decisions for improving the standard (McKinsey Global Institute, 2018). The spike in social media usage coupled with recent AI sentient analysis advancements has given rise to a new trend, that is, using the citizens as the source of the data and not just the data collectors or owners. In other words, humans are emerging as the new sensors.

Since cities are known to be evoking emotional experiences from the citizens because of their attachment to the geographical location, the research question that must be addressed in the future urban planning is 'What function should emotional data play to enable public involvement in smart city governance? (Willis & Nold, 2022).

As a matter of fact, the global smart city market is growing at an exponential rate, but the demand for data governance and management is also rising rapidly. In fact, data governance is the key to successful smart city initiatives (Chiasson & Holland, 2020). Although data plays a central role in urban planning, scholars argue that because of the recent technological advancements, the citizens are failing to have an active and meaningful participation role in the smart city agenda because of using emotions data that captures people's facial expressions and reads their state of emotions and feelings. The smart city framework allows citizens to exercise control or do the citizens just represent a symbolic data source for public and private organizations. The main issue that must be highlighted in the context of the 'people as sensors' model is that it provides an extra edge to the algorithm during the decision-making process. Therefore, researchers argue that this approach is not apt for being used as an instrument while implementing smart governance practices (Willis & Nold, 2022).

From smart governance's point of view, Rio respects principles such as participatory democracy, transparency and citizen centeredness.

Citizens had, from that year onwards, more active possibilities. They could make observations about changes in urban landscape through an app called Mapeando, they organized movements and took part in activities addressing climate change – for example the Climathon. Besides this, local councils created opportunities for them to share initiatives and ideas regarding business, economics of the city and population mobility.

Conclusions

To summarize, smart cities are an intriguing approach for tackling urban issues and generating eco-friendly, effective, and liveable communities. They are the present reality of the modern-day world, a by-product of the societies that are trying to accept and embrace technology as well as an innovative solution for accomplishing long-term objectives such as sustainability, liveability and economic growth.

Smart cities possess the ability to raise their inhabitants' quality of life (smart environment), enhance urban services such as public transportation (smart mobility), encourage economic growth through the use of modern technology (smart economy), manage the utilization of resources as well as promote data-driven decision making (smart governance), and public participation. (smart people).

By implementing smart city initiatives, various actors within the society face its positive (economic prosperity, high standards of living) as well as negative outcomes (digital gap, privacy risks). Hence, one may conclude that smart cities represent a digital solution but at the same time also raises serious concerns. Therefore, it is crucial to understand that smart city solutions should be implemented responsibly while also taking into consideration various other factors such as social inclusion, basic human rights, social well-being.

When it comes to adopting smart governance, the city enables the organizations to increase their level of accountability, transparency and openness, that is, good governance practices in decision-making processes. However, on the other side, it also raises security and privacy concerns.

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