

Benefits and Challenges of Digital Transformation Technologies in the Financial Services Sector: A Case Study of two Commercial Banks in Zambia

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ABSTRACT

This paper focuses on issues affecting digital transformation technologies (DTTs) in the financial services sector, especially banks. Many banks have made huge investments in technologies to guarantee uninterrupted operations and optimize service provision. This paper ascertains the benefits and challenges that contribute to the effective application of Digital Transformation Technologies (DTTs) in commercial banks. It explores various factors that impact the usage of DTTs and employee performance. The study methodology encompassed both qualitative and quantitative techniques. Online questionnaires were used to collect data. Bank Annual reports were analyzed to collect information that related to the aim of the study. Findings revealed that increased efficiency, improved data collection and innovation were the main benefits of using DTTs in the financial services sector. The main challenges identified in the study included employee resistance to change, complexity of systems and cybersecurity. Banks need to address these issues and recommendations were made for them to engage specific stakeholders for successful DTTs implementation and usage. Organizations must budget and allocate adequate finances to procure the technologies and train employees. The findings of the study are expected to contribute to the body of knowledge on DTTs and provide valuable insights for policy makers to make informed decisions. Future research areas identified for further study include insurance, health, and manufacturing sectors with specific focus on Artificial Intelligence and Cloud computing technologies.

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I. INTRODUCTION

Globalization has influenced and changed the way companies operate and offer their services to clients. The dynamic global economy has affected company operations and performances as they try to be competitive and profitable. COVID-19, climate change, and diversification of products, goods, and services have influenced the operations of companies in sectors such as manufacturing, telecommunications, insurance, and banking. The rapid advancement of information and communication technologies (ICTs) has contributed to the need for service-oriented organizations to review and update their technological systems to remain competitive. The introduction of artificial intelligence (AI), the internet of things, and big data has forced companies to become innovative in the management of their technologies. The use

and adoption of new technologies for better service delivery has influenced countries to invest millions in efficient and safe technologies for better service delivery.

Financial institutions have invested in digital technologies to support and improve their services. The outbreak of the COVID-19 pandemic forced companies to invest these technologies for organizational resilience and business continuity. Most technologies are sustaining technologies that improve the performance of existing products rather than replace them (Thompson, Strickland, Gamble, and Thompson, 2005). Financial institutions such as banks, microfinance institutions, and other financial service providers have cautiously introduced new technology for service provision. Clegg, Schweitzer, Whittle, and Pitelis (2017) pointed out that digital platforms are not static but evolve over time, with both the architecture of the platform

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and its governance coevolving. Companies make huge investments and regularly update these digital platforms. From an employee's perspective, the right skills and competencies must be obtained and developed within employees. As most customers preferred electronic services due to existing COVID-19 restrictions, most financial institutions were forced to acquire efficient and secure systems for easy service delivery. 35% of customers increased their use of online banking during COVID-19 (Target Internet, 2023). The post-Covid world has changed customer preferences, and organizations must identify the new challenges and opportunities as they digitalize their services. The increase in cyberattacks globally informed banks that they had to procure expensive software to protect their clients' needs and resources. Organizations focused on managing and adopting strategies for business resiliency and recovery in the post-Covid-19 situation through digital transformation (Tripath, 2021).

Organizations must identify the technology that best suits their operations in order to maximize profitability and secure their data. Banks play a major role in the economic activities of any country. The need for safe and efficient financial systems cannot be ignored. Digital transformation technologies have the capacity to affect the existing organizational design and the allocation of resources within an organization. Digital platforms and cloud-based products can create a competitive advantage for an organization as well as increasingly cause organizational and market disruptions through digital transformation. (Clegg, Schweitzer, Whittle, and Pitelis, 2017).

Digital Transformation Technologies (DTTs)

Digitalization is described as digital technologies that can be used to alter business processes (Reis and Melao, 2023). Digital technologies have changed the way people live, communicate and work as they break existing barriers of time and space. Digital Transformation (DT) is an approach where business processes in an organisation depend on technology to be accomplished or executed. According to Plekhanov, Franke, and Netland (2022), "digital transformation" is when firms use digital technologies to create new or modify existing business models and processes or to support the transformation of organisational structures, resources, or relationships with internal and external stakeholders. Tasks are easily executed with the use of advanced information and communication technologies (ICTs) as opposed to manual processes which is much faster and efficient thereby creating value. The right firewall and security systems must be properly installed. The recent increase in cyberattacks requires that institutions must spend more on having the right systems. Digital transformation technologies are about developing new or updating current business practices, culture, and consumer service to satisfy changing industry and market demands through modern technologies (Tembelo, 2020). DTTs change organisational

operations and requires strategic planning, thinking, and new ways of working. Technology can be used to radically improve organisational performance using digital and emerging technologies.

The digitalization of banking operations requires the use of business models that are proven to be efficient. Organizations have differentiated business models and are creating new opportunities as technological advancements are introduced (Karagiannaki, Vergados, and Fouskas, 2017). The profitability of a bank when processes are digitalized must be maintained and made better when digital transformation occurs. The existence of big data and the advancement of existing business solutions require that banks keep up with the new trends and ways of doing business, and it requires business models and tools to implement DT adoption and implementation. Digital transformation is "the process that aims to improve a unit by bringing about essential changes in its structure through combining information, information technology, communications, and connectivity technology" (Kitsios, Giatsidis, and Kamariotou, 2021). Banks should work with authentic electronic documents, an electronic signature for transactions, teleconferencing, online trading platforms, and digital stores with electronic payments. Few have associated DTT with the degree to which the banks' staff accept it and describe the opportunities or threats it creates or influences (Kitsios et al., 2021). The benefits and risks of adopting any technology for banking operations must be reviewed so that expectations are clearly defined.

Objectives of the study

The general objective of the study was to explore and identify the benefits and challenges of DTTs in commercial banks.

Significance of the study

The effects of digital transformation can be reviewed from a customer's perspective or from the perspective of the employee and technological performance. This paper focuses on understanding the various factors that influence digital transformation within the banking sector. Compared to other sectors, the financial services sector has been relatively slow to digitally transform due to customers' resistance to change in how their money is dealt with and the security challenges of doing high-value business securely via digital channels (Target Internet, 2023). Most studies have focused on understanding the customers' needs, and it is important to review the identified underlying issues, including the challenges that exist with DTTs. During the COVID-19 pandemic, most banking services were offered electronically as banks adopted new technologies. This affected customers and employees when executing banking activities. Banks had to automate most of their services, and users had no option but to accept the new digital technologies. To use these technologies, users needed to have acquired the right skills and competencies.

II. METHODOLOGY

The study used a mixed method approach that encompasses both qualitative and quantitative approaches to data collection and analysis. These respondents included all the employees that used DTTs in the banks. In the quantitative approach, questionnaires were administered electronically by the researcher to the employees. The questionnaire consisted of two sections with open and closed ended questions. In the qualitative approach to the study, Annual reports were collected from the two commercial banks under study for review.

The study was conducted in 2 commercial banks within Lusaka the capital city of Zambia. Convenience sampling was used to select these banks as they were the ones that accepted to undertake the study. These banks were selected due to their favourable and positive response to be part of the study. Other commercial banks officially objected to being considered as samples for the study. The study included ABSA and ZICB employees who work for these commercial banks. Participants in the study were not excluded based on age, gender, and race, level of, education or marital status. Data for this study was collected with the help of the commercial bank officials in Lusaka over a period of two months from April to May 2024.

The latest version 29 of the Software Package for Social Sciences (SPSS) was used to compute and analyze the data collected. Relationships of different variables were analyzed and presented with the use of frequencies, cross tabulations, graphs and tables. The analysis of open-ended questions from the questionnaires was qualitative.

III. FINDINGS AND DISCUSSION

Benefits of digital transformation technology

The use of DTTs by organizations brings a number of benefits depending on the sector and country where the technologies are being used. DTTs are costly in certain poor countries and are not an easy product to acquire. The findings of this study revealed that increased efficiency/productivity was one of the major benefits of DTTs. The way tasks and activities are completed by employees translates in an organization achieving set goals and objectives.

Increased Efficiency/productivity

The use of the existing AI, machine learning, IOT and the overall internet provides a platform to employees to become enlightened and exposed to new and faster ways of achieving goals. Al-Alawi et al (2022), concluded that equipping employees with a digital mindset optimizes workforce procedures and boost productivity. The use of DTTs has contributed to employees that are able to increase their capabilities and achieve more, with less effort. Alanizan (2023) concluded that the performance of the employees in the firm is enhanced because of their skills and understanding of digital transformation, and it raises productivity and in turn boosts employees’ well-being. The use of digital technologies unlocks new value for employees, customers, and various shareholders (Osofu-Ampong, 2021). The utilization of basic communication and cloud computing systems enhances worker efficiency (Tembelo, 2020). Kaushik and Kumar (2023) concluded that digital transformation brings productivity, efficiency and decreases rate and repetitive ways.

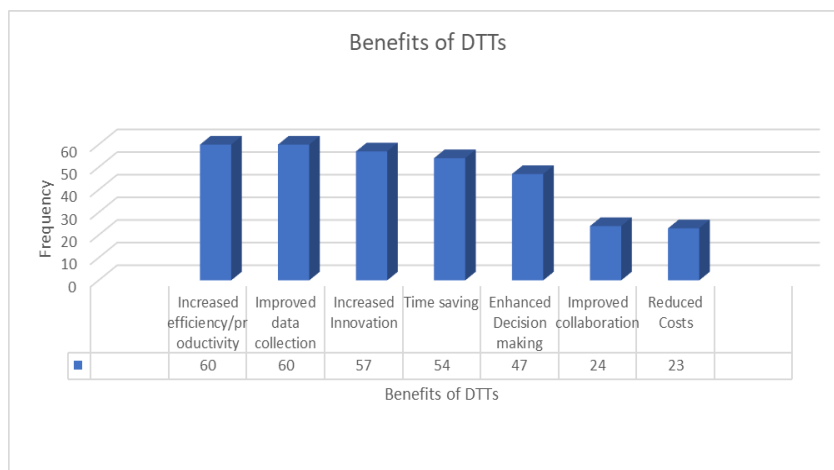


Figure 1: Benefits of Digital Transformation Technology (DTT)

Improved data collection

Improved data collection was identified as one of the benefits of having DTTs. The study identified increased innovation as a benefit of DTTs. Ghosh (2022) identified that a data driven decision making culture must be

encouraged by managers. To remain innovative and up to date with the current technology should be the aim of many banks. This helps the employees to be innovative as they are introduced to new ways of completing tasks and being efficient.

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The benefits of system integration and data sharing as well as enhanced data collection techniques provides banks with analytical knowledge about their customers, product enhancement and customer relationship management possible. Banking institutions can embrace the opportunities that technology offers by interacting with the greater ecosystem of market participants and other service providers, or they can defend their position by focusing their efforts on developing competitive solutions for all customer and product segments and limiting access to their systems (Zachariadis and Ozcan, 2017). Data-driven customer insights can be produced and used to improve the customer experience. Encouraging customers and employees to develop a data centric and digital culture result in improved

collaboration and know your customer (KYC) initiatives. Bank employees should develop data platforms and surveys to better understand their customer DT experiences and for the design of quality services.

Having a DT strategy that is well executed and implemented during that the activities are executed are profitable for both the bank, the employee, and other users as it leads to increased efficiency and productivity. Fernandez-Vidal et al., (2022) found that developing a coherent transformation strategy, structure, and governance was commendable for organizations. Banks must develop a holistic digital transformation strategy that covers processes, structure, and culture.

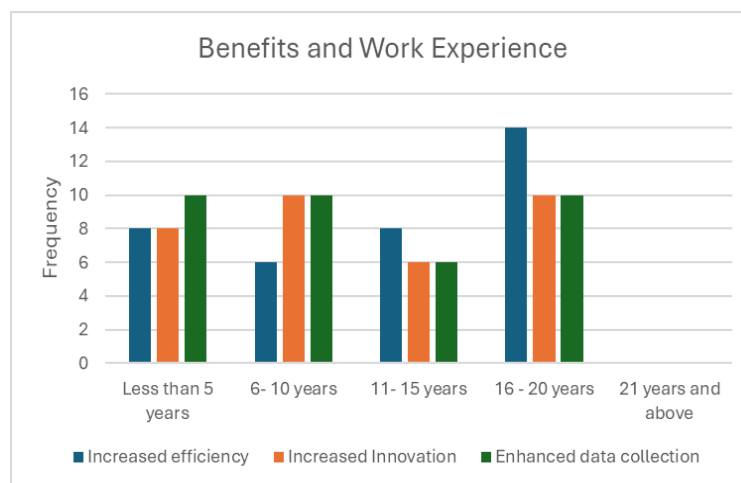


Figure 2: Benefits and Work Experience

Increased Innovation

Digital innovation and ambidexterity are defined as the combination of digital and physical components to create novel products and services and embed them in wider sociotechnical environments (Veldhoven and Vanthienen, 2022). With the use of DT solutions, bank operations become better and efficient as processes are digitalized. Electronic services are quicker for both customers and employees to complete activities with less to no human interventions. Norveel et al. (2022) revealed that some employees saw benefits such as independence, a sense of mastery, and fun, as well as becoming more effective. In depth studies on digital transformation in banks are important, as managers and practitioners use research findings to imply more employee-friendly tactics to facilitate the transition from conventional banking to branchless banking (Glatsidis, Kitsios, and Kamariotou, 2019).

Challenges and limitations of digital transformation technology

The study identified several challenges that relate to DTTs. Employee resistance, complexity of systems and cybersecurity were identified as the 3 main challenges to

DTTs. When employees are used to the same old way of doing things, the possibility of resistance to change ways is high. When a new system is introduced to the employees it requires a lot of awareness of the benefits of the new system. Hoyng and Lau (2023) concluded that organizations and leaders should consider digitalization to be an ongoing process that requires continuous learning and adaption. Organizations must not be too quick to phase out an old system but gradually introduce a new system for the employees to adapt to the change. Resistance to change is one of the most challenges faced when transitioning to DTTs (Al-Alawi et al, 2022). Banks must introduce the new technology by clearly stating a timeline of activities and ensure that employees are well informed and made aware of the benefits of the DTTs. The benefits must be communicated clearly so that as employees adapt to the new system they align with these stated benefits. Employees with positive perceptions of performance have lower resistance to accepting future workplace (Selimovic, 2021).

Resistance to change and technology acceptance: Existing barriers include a resistant attitude towards change, the high cost of purchasing and the cost of greenness at the organisational level and implementing and maintaining

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technology equipment that affect the adoption of various online banking activities. Hosting online banking for customers is affected by insufficient knowledge and limited funding resources (Osofu-Ampong, 2021). Organizational change management requires that banks carefully plan their approach by considering the existing human, technological, and financial resources that are available for implementation and execution of DT. When this is not carefully considered, it will lead to a high failure rate in DT. The stakeholders that will be affected by DT must be considered with their needs in mind. The complex nature of banking and electronic services, requiring managers and employees to adopt new

behaviours due to technological infrastructure changes, is not easy (Osofu-Ampong, 2021).

One of the main challenges to DT implementation and adoption is resistance to change. Some customers and employees would prefer the old way of doing things and maintain the same mindset and attitude when using the new digital technologies. Technological acceptance must be embedded in the organisational culture so that DT is successful. In developing countries like Ghana, challenges such as technology acceptance, online service reluctance, and poor usage behaviour persist in the banking sector, especially when the COVID-19 protocol encourages use (Osofu-Ampong, 2021).

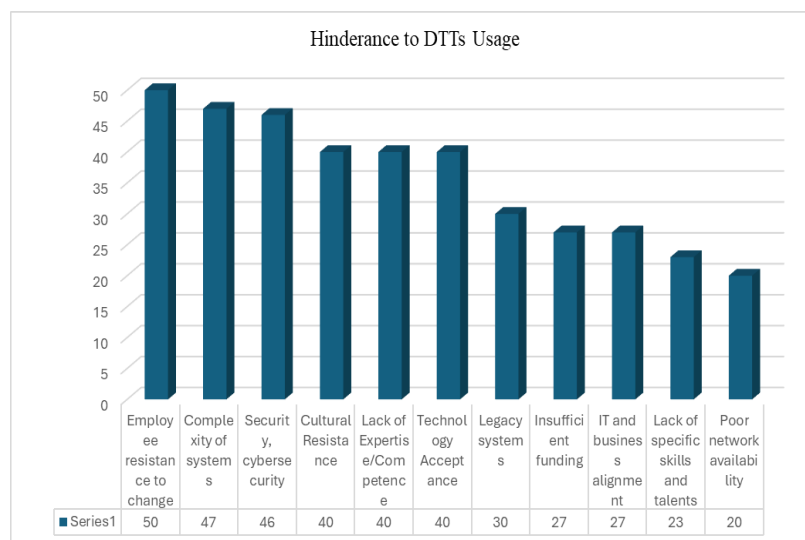


Figure 3: Hinderance to DTT usage

Lack of expertise and competencies: Competence is the set of integrated capabilities that consist of content-related clusters of knowledge, skills, and attitudes that enable them to fulfil professional duties at the required level and are conditional for sustainable and effective performance (Mavlutova and Volkova, 2019). The right competencies and skills set must be acquired by employees to use cloud computing, artificial intelligence and machine learning, mobile application development, blockchain technologies, and cybersecurity. Employees with the right competencies and skills contribute to an organization achieving set goals and objectives. Digital competencies must be developed for employees to embrace DT activities and enhance collaborations and knowledge sharing. The new processes and business models that the banks adopt and implement require that the employees be professionally equipped to execute activities. Management at the top must ensure that the process is activated so that employees learn what is required to achieve their objectives. Increasing digital competence enables a sense of accomplishment and can make the tasks more enjoyable (Norveel, Gonzalez, and Presthus, 2022).

Other factors that limit the implementation and success of the DT process are existing security concerns, ethical considerations, and the continuous evolution of customer needs. Legacy systems hinder organisations from taking advantage of digital transformation opportunities (Fernandez-Vidal, Gonzalez, Gasco, and Llopis, 2022).

When users are familiar with the same way of doing things, they become unwilling to adopt a new product or system. Digital technology use is not entirely accepted by customers and employees, and hybrid banking is effective as banks continue their digital transformation (Osofu-Ampong, 2021). There is a need to create an open and positive mental attitude towards future technological challenges (Brunetti et al., 2020). The right networks, such as Cisco or Webex platforms, and infrastructure systems must be procured to even cater to banks that are in rural areas. High-speed networks are important to create so that banking services can be properly undertaken. Osofu-Ampong (2021) identified employees' reluctance and difficulty adjusting to new technologies, technological constraints, and internet instability as the perceived challenges.

Evidence from Greece reveals that COVID-19 has driven the rapid digitalization of most banking services and a

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change in business models. Kitsios et al. (2021) state that 40% of bank employees work remotely, and many processes in banking branches are completed through electronic means. Previously, apart from e-banking and phone banking, the customer would be required to visit a retail branch for certain transactions, but advancements have been made to ensure that online banking included most banking activities. Customers with verified credentials would electronically send an instruction, even via email or using online banking, to execute a banking transaction. Norveel et al. (2022) acknowledged that a lack of digital competence would be negative for efficiency, time, and their ability to guide and advise their customers.

Digital transformation technologies are a challenge to under-developed communities who struggle to have internet connectivity. The success of these technologies is highly dependent on the availability of the right software and tools to access the services. Users who are in areas where network problems exist will be limited in their ability to access them. The correct network infrastructure and security firewalls must be procured for the employees to execute their duties. The constant upgrade of software that supports DT activities and safeguards client information must be undertaken.

To acquire the appropriate software requires proper planning, budgeting, and allocation of funds to procure and sustain these technologies. Technology updates must be constantly considered and undertaken. Top management must have DT budget planning sessions that include training for employees to acquire new skills and competencies as they commit to the transformation process. Training programmes could be used to provide users with all the necessary knowledge for the harmless transformation to the digital era (Giatsidis et al, 2019). Training of users ensures that employees are equipped to use the technologies at their maximum capacity thereby ensuring efficiency and effectiveness. The appropriate number of employees must be trained for business continuity and succession planning purposes.

IV. CONCLUSION

The extent to which emerging technologies influence processes, structure, corporate strategy, culture, and service delivery must be fully investigated to ensure organizational efficiency. Organizations must maximise the use of technologies to create and execute their operations effectively. Governance systems must be put in place that encourage collaboration and transparency to support digital initiatives. One key area for future research is the role that managers play to ensure that DTTs is a success. Organizational structures must be reviewed to include such positions. Employees must be positively influenced to support and use digital transformation initiatives. There is a need to focus on the employee and manager and their roles in the digital transformation process. Top management

support and involvement in the DTTs process contributes to its success and accomplishments. More research initiatives in DTTs must be undertaken as technologies are evolving and needs change with a dynamic global outlook. Other research initiatives should include focus on variables that influence an employee's adoption of DTTs in their work activities in developing countries. Similar studies can be undertaken in other sectors such as insurance or manufacturing during and after the Covid 19 pandemic.

Employees that are used to having to do things the same way would be inspired. Employees need the appropriate tools and frameworks to change their styles and ways of working. (Fernandez-Vidal et al., 2022). The use of Digital technologies cuts costs on the employee and customer as there is no need to physically carry out a transaction at the bank. The employee cuts costs on transportation whilst working from home. Digital transformation in financial institutions enhances work from home opportunities and provides a platform for employees to be efficient in their work transactions. These technologies increase online collaboration initiatives and knowledge sharing among employees as information is made widely available. DTs assist companies to develop a culture of knowledge sharing whilst using the right technologies for better planning and decision making.

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REFERENCES

1. Ding, W. and Marchionini, G. 1997 A Study on Video Browsing Strategies. Technical Report. University of Maryland at College Park.
2. Alanizan, S. (2023). The Effectiveness of Digital Transformation on Employee Performance (During the Covid-19 Pandemic). *International Journal of Entrepreneurship*, Vol. 27 Issue 1
3. Clegg, S. R., Schweitzer, J., Whittle, A and Pitelis, C. (2017). *Strategy: Theory and practice*. London: SAGE
4. Fernandez-Vidal, J. Gonzaleiz, R. Gasco, J. and Llopis, J. (2022). Digitalization and corporate transformation: The case of European oil & gas firms. *Technological forecasting & Social Change*, 174 (121293).
5. Giatsidis, I. Kitsios, F.C. and Kamariotou, M. (2019). Digital transformation and user acceptance of Information technology in the banking industry. *Proceedings of the 8th International Symposium &*

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- 30th National Conference on Operational Research. Retrieved from http://eeee2019.teiwest.gr/docs/HELORS_2019_proceedings.pdf
6. Hoyng, M. and Lau, A. (2023). Being ready for digital transformation: How to enhance employees intentional digital readiness. *Computers in Human Behavior reports*, 11, 100314.
 7. Karagiannaki, A. Vergados, G. and Fouskas, K. (2017). The impact of digital transformation in the financial services industry: insights from an open innovation initiative in fintech in Greece. Association for information systems ais electronic library (AISEL). MCIS 2017 Proceedings. Retrieved from <http://aisel.aisnet.org/mcis2017/2>
 8. Kaushik, M. and Kumar, R. (2023). A conceptual study on digital transformation and its applications: an overview. *Sumerianz Journal of Business Management and Marketing*, 6(2); 15- 20.
 9. Kitsios, F. Giatsidis, I. and Kamariotou, M. (2021). Digital Transformation and Strategy in the Banking Sector: Evaluating the Acceptance Rate of E-Services. *Journal of open innovation: Technology, market and complexity*, 7, 204.
 10. Mavlutova, I. and Volkova, T. (2019). Digital transformation of financial sector and challenges for competencies development. *Advances in economics, business and management research*, 99.
 11. Norveel, J. Gonzalez, R. and Presthus, W. (2022). Basic digital competence in Norwegian banking. *Procedia Computer Science*, 196, 183-190.
 12. Osofu-Ampong, K. (2021). Determinants, barriers and strategies of digital transformation adoption in a developing country Covid 19 era. *Journal of digital science*, 3(2).
 13. Plekhanov, D. Franke, H. and Netland, T. (2022). Digital transformation: a Review and research agenda. *European management journal*.
 14. Reis, J. and Melao, N. (2023). Digital transformation: A meta-review and guidelines for future research. *Heliyon*, 9 (12834).
 15. Selimovic, J. Pilav-Velic, A. and Krndzidja (2021). Digital workplace transformation in the financial service sector: Investigating the relationship between employees' expectations and intentions. *Technology in Society*, 66: issue C.
 16. Target Internet (2023). Financial services and digital transformation post-Covid. Retrieved from <https://targetinternet.com/resources/financial-services-and-digital-transformation-post-covid>
 17. Tembelo, H. (2020). Digital transformation in financial field. *International journal of commerce and finance*, 6 (2).
 18. Tripathi, S. (2021). Determinants of digital transformation in the Post Covid 19 business world. *Journal of Business management*, 7(6).
 19. Thompson, A. A., Strickland, A. J., Gamble, J. and Thompson, A. A. (2005). *Crafting and executing strategy: The quest for competitive advantage; concepts and cases*. New York, N.Y: McGraw-Hill/Irwin.
 20. Veldhoven, Z. V and Vanthienen, J. (2022). Best practices for digital transformation based on systematic literature review. *Digital Transformation and Society*, 2 (2).
 21. Zachariadis, M. and Ozcan, P. (2017). The API economy and digital transformation in financial services: the case of open banking. SWIFT institute working paper no. 2016-001.