

Digital Transformation Strategy and Competitive Advantage of Financial Institutions in Kenya: Trends, Challenges and Opportunities for African Businesses

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Abstract

In the rapidly evolving financial landscape, digital transformation has become essential for financial institutions to maintain competitive advantage. This study focused on the digital transformation strategies of financial institutions in Kenya, examining trends, challenges, and opportunities. The primary objectives were to determine the impact of digital transformation on customer satisfaction, market share, and financial performance; assess key trends such as regulatory changes, technological advancements, and shifts in customer expectations; and investigate challenges faced during the implementation of digital transformation strategies. The research was guided by the Theory of Financial Intermediation, Technological Acceptance Model, Contemporary Banking Theory, and Innovation Diffusion Theory. A descriptive research design was employed, targeting 39 commercial banks in Kenya, categorized into Large/Tier I, Medium/Tier II, and Small/Tier III banks. The study used a census method and simple random sampling technique, with piloting to validate the questionnaire and Cronbach's Alpha to test reliability. Data was collected through questionnaires and interview guides and analyzed using SPSS version 24. Out of 235 questionnaires administered, 209 were properly filled and analyzed, representing a 70% response rate. The majority of respondents were male (80.4%), aged 41-45 (39.7%), held a bachelor's degree (83.3%), and had worked for 7-10 years (62.7%). The employee population in most institutions ranged between 101-150 (48.3%). Correlation analysis indicated that trends in digital transformation ($r=0.232$, $p=0.001$) and challenges in implementation ($r=0.208$, $p=0.003$) have a significant and moderately positive correlation with competitive advantage. However, there was a weak, insignificant positive correlation between digital transformation strategies and competitive strategies ($r=0.048$, $p=0.489$). The study concluded with recommendations for policymakers to develop supportive regulatory frameworks, promote digital innovation, and invest in reliable internet connectivity. Additionally, it suggested conducting impact analyses of digital transformation and encouraged interdisciplinary research among academicians to address the multifaceted nature of digital transformation in the financial sector.

Key Words: Digital Transformation Strategy, Competitive Advantage of Financial Institutions, Trends, Challenges and Opportunities

Introduction

Digital transformation is the integration of digital technology into all areas of a business, fundamentally influencing how organizations operate and deliver value to their customers (Mang'ana, 2022). This transformative process is crucial in developing new business models, enhancing processes, and optimizing systems that lead to greater competitiveness, increased revenue, and higher efficiency. Moreover, Adeleye, Debrah, and Nachum, (2019) noted that for financial institutions, especially commercial banks, digital transformation is not just an option, but is necessary for survival and growth in a rapidly changing space. The digitization of banks is seen as a significant occurrence that presents both opportunities and challenges as they strive to maintain and enhance their competitive advantage.

In Kenya, the banking industry has witnessed significant shifts due to the proliferation of digital technologies. With the advent of mobile banking, internet banking, and fintech innovations, Kenyan banks are at the forefront of embracing digital transformation to serve their customers better and streamline their operations. This digital change process, however, is accompanied by disruptive innovations that require banks to adapt nearly all cooperative processes, from customer service to backend operations. Kenya's commercial banks play a critical role in the nation's economy by providing essential financial resources that enable investors and businesses to expand their operations. The growth of technology has opened up new opportunities for doing business, particularly in areas such as outreach and product marketing. Enhanced convenience and improved accessibility of products and services have become vital components in maintaining customer satisfaction and loyalty. This digital evolution facilitates operational efficiency and also creates a competitive edge for commercial banks in an increasingly digital marketplace.

Digital Transformation Strategy

Digital transformation epitomizes the strategic utilization of technology to innovate business models, streamline processes, develop cutting-edge software solutions, and implement advanced systems. This transformative strategy results in increased revenue streams, heightened competitiveness, and improved operational efficiency (Emran & Elhony, 2023). Attia (2022) highlights that digital transformation involves enhancing enterprise data processing capabilities, enabling rapid and accurate access to production data, and facilitating informed decision-making through a structured "data collection-data analysis-data decision" process. The integration of technology in business operations offers numerous advantages, including time and cost savings, value enhancement for customers, streamlined recruitment and training processes, error reduction, improved operational efficiency, superior product and service quality, and the establishment of customer trust (Matarazzo, Penco, Profumo & Quaglia, 2021).

As per Boufounou, Mavroudi, Toudas, and Georgakopoulos (2022), the pivotal role of digital transformation in reshaping enterprises' core competitiveness and achieving top-tier development cannot be overstated. The digitalization of banks presents an all-encompassing challenge that the banking sector is currently grappling with. Amidst this digital revolution, banks are encountering disruptive innovations that necessitate the adaptation of nearly all collaborative processes (Kinyanjui, 2020). The financial industry's digital transformation is met with hurdles that appear to impede the seamless integration of digital strategies. Omari (2019) highlighted that a majority of financial institutions in Kenya have embraced agency banking to offer customers fundamental banking services. Nevertheless, the potential benefits of digital transformation for banks, their clientele, and the economy at large have not been extensively explored due to its relatively recent emergence (Jafari-Sadeghi, Garcia-Perez, Candelo & Couturier, 2021).

The impact of digital transformation on the creation of value at a national level assumes paramount importance in the realm of advancements in this domain, particularly when examined through the prism of dynamic capabilities that facilitate the adoption of digital innovation, such as technology entrepreneurship and the expansion of technological markets (Han, 2019). As elucidated by Pflaum and Golzer (2018), digital transformation has emerged as the fourth industrial revolution in recent decades, propelled by novel workplace technologies. This transformation pertains to the process of digitalization, wherein organizations undergo a metamorphosis driven by technological advancements, ultimately leading to the enhancement of their business processes and the delivery of value to their esteemed customers. According to Jafari-Sadeghi, Garcia-Perez, Candelo, and Couturier (2021), digital transformation encompasses a vast array of processes, interactions, transactions, technological evolutions, changes, internal and external factors, and industries. It is imperative to bear this in mind while perusing advice on digital transformation or delving into reports and predictions. The objective of this study is to ascertain the effects of strategies pertaining to service automation, data analytics, digital finance systems, and social media innovation.

These metrics have been extensively examined by esteemed scholars such as Attia (2022), Han (2019), Goldstein (2022), and Zsila (2023). Gavrilă, Blanco, Gómez, and Gandía (2023) have eloquently defined service automation strategy as a transformative approach that seamlessly integrates domain and functionality tools across multiple layers of automation, culminating in a harmonized interface for all workflows. Service automation entails the harmonization of diverse processes to achieve a desired outcome. By streamlining tasks such as validating field work, managing risk, tracking service requests, and generating proposals and invoices, service automation guarantees efficiency and uniformity across various trades, categories, and locations. In this investigation, the measurement of service automation strategy will be based on three key factors: business process automation, integrated automation, and investment in IT systems. These four indicators have been meticulously scrutinized by a multitude of researchers and scholars (e.g. Emran & Elhony, 2023; Goldstein, 2022; Han, 2019; Zsila, 2023) and have been identified as pivotal aspects of digital transformation strategy that profoundly impact organizations.

Goldstein (2022) emphasizes that a data analytics strategy serves as a detailed roadmap that delineates an organization's utilization of data and analytics to drive its business decisions. This strategic framework involves a well-defined plan that empowers the organization to effectively leverage data and extract meaningful insights. It involves establishing precise goals, determining the data to be gathered and analyzed, and choosing appropriate analytical techniques and tools. Key components of a data analytics strategy include market insights analysis, critical thinking, and predictive analytics.

The space of digital finance is a testament to the transformative power of cutting-edge technologies within the financial services sector. In their groundbreaking study, Lee, Lou, and Wang (2023) shed light on the vast expanse of digital finance, which encompasses an extensive repertoire of products, applications, processes, and business models that have completely revolutionized the traditional approach to delivering banking and financial services. Within the realm of Digital Financial Systems (DFS), a diverse range of financial services are seamlessly accessed and provided through digital platforms, encompassing the likes of payments, credit, savings, remittances, and insurance. The quantifiable elements that underpin these digital finance systems include the ATM debit card, mobile banking, and agent banking.

Zsila (2023) highlights the significant role of social media in serving as a potent tool for developing innovative strategies tailored to small businesses. It enables businesses to grasp customer demands, validate ideas, endorse inventive solutions, enhance customer engagement, and facilitate continuous learning and improvement. By effectively leveraging social media, one can add value, differentiate themselves, and propel business expansion. Social media

undoubtedly provides a unique opportunity to enhance innovation and foster the introduction of novel products. This study will assess social media innovation based on social media platforms, communications, and privacy, which will be extensively discussed in the literature review.

Competitive Advantage

Competitive advantage is the pinnacle of organizational success, achieved through unparalleled attributes and resources that propel them ahead of their industry rivals. Labas, Darabos, and Nagy (2019) assert that it is the hallmark of a global entity to surpass its international competitors with superior products and services. Meanwhile, Hou and Dong (2022) elaborate on how firms with competitive advantage excel in specific business landscapes. Khairy (2019) further defines it as the exceptional and competitive standing organizations strive for and attain. Ultimately, competitive advantage signifies an organization's ability to deliver superior value, yield higher returns on investment, and maintain a dominant position amidst fierce competition. It stands as a cornerstone strength essential for organizations to thrive in cutthroat markets (Bačevac, Veselinović & Životić, 2020). Competitive advantage embodies a realm of distinction, where organizations deftly navigate the ever-evolving external landscape, consistently bestowing upon their esteemed clientele superior products that outshine the offerings of their industry counterparts (Chesigor, Wanyama, & Otiso, 2019).

According to Walumweya and Phiri (2022), competitive advantage materializes when a company acquires or cultivates a unique set of qualities or attributes that empower it to triumph over its adversaries. The crux of competitive advantage lies in the prosperity derived from economic endeavors, where value is created by proffering products and services at prices that surpass their production costs (Hou & Dong, 2022). Walumweya and Phiri (2022) further affirm that competitive advantage emerges when an organization acquires or develops a distinctive blend of qualities or attributes that enable it to outperform its rivals. Sustained competitive advantage revolves around the prosperity generated through economic activities, where value is created by providing products and services at prices that exceed their production costs. The perpetuity of sustained competitive advantage hinges upon dynamism, innovation, and the ability to adapt and modify.

The pinnacle of success in the industry is achieved when businesses or firms possess the exceptional ability to offer superior products compared to their counterparts. This ability stems from the acquisition of the utmost proficiency and expertise (Hou & Dong, 2022). The attainment of a sustained competitive advantage empowers the firm to allocate its resources wisely within its operational division, all while maintaining a dominant position within the industry. According to Khairy (2019), competitive endeavors are expected to exhibit remarkable growth rates in terms of sales and revenues, exceptional rates of return, a larger market share, enhanced market access, and control over distribution, surpassing that of non-competitive firms. These exceptional firms are characterized by reduced production costs, leading to amplified profits, and are able to meet market requirements while simultaneously thriving in the market. The sustenance of a competitive advantage fortifies the organizational resource capacity, skills, and systems, and when strategies are effectively implemented, it elevates the firm's performance by fostering a competitive advantage.

As eloquently stated by the erudite Chepkole and Deya (2019), the bedrock of competitive advantage lies in the trifecta of cost-effectiveness, differentiation, and unwavering dedication. When these opulent offerings and impeccable services are crafted with utmost finesse, the outcome is an opulent windfall for the esteemed firm. Delving into the extensive research conducted by Khairy (2019) and Mutmainah, Suharjo, Kirbrandoko, and Nuralina (2020), the sustained competitive advantage is meticulously measured through the prism of market coverage, market share, profitability, and operational efficiency. By attaining such a coveted advantage, the firm effortlessly allocates its financial resources within its operational division while simultaneously upholding an unparalleled position of eminence within the industry.

Market share leadership or market dominance is a pivotal indicator showcasing the extent of control a company holds over a specific market segment. The entity that commands the largest market share within an industry is hailed as the market leader. By juxtaposing a company's sales against the total industry sales, market share offers valuable insights into the company's stature vis-a-vis its rivals and the market at large. According to Ratnawati, Rokhman, and Sintyasari (2022), securing a higher market share leadership confers a competitive advantage upon companies. Furthermore, entities boasting a substantial market share often benefit from favorable pricing arrangements with suppliers owing to their sizable order volumes, thereby bolstering their purchasing prowess. Market share leadership stands as a critical yardstick for companies to gauge the efficacy of diverse revenue-generating initiatives, encompassing marketing endeavors, brand-building campaigns, and CRM strategies. By mirroring market competitiveness, market share leadership empowers executives to scrutinize the overall market growth or contraction, pinpoint pivotal consumer behavior patterns, and discern market potential and avenues for growth.

Technological leadership is centered on the effective deployment of technology by a leader in their day-to-day functions, along with their skill in guiding and overseeing others in executing their assigned tasks and obligations (Hassan & Shahzad, 2022). This involves guaranteeing that team members have the necessary competencies to proficiently utilize the required technologies for task fulfillment, while also fostering team unity, inspiration, and concentration. Technological leadership embodies a crucial strategy to high-level leadership, where the Chief Executive, Founder, or highest-ranking executive of a corporation not only promotes the adoption of technology but also participates in its inception and advancement.

Reputation is the comprehensive evaluation of individuals and groups on the dependability of an establishment, grounded in a general set of principles, their trustworthiness, and proficiency. According to Petkeviciene (2019), corporate reputation is the appraisal of stakeholders based on their presence, leadership, and innovation. It embodies the subjective and collective acknowledgment, perception, stance, and assessment of an organization over time among all involved stakeholder groups, based on specific organizational quality aspects, past behavior, communication, symbolism, potential, and ability to meet future expectations in comparison to competitors. A company's reputation is the perceptions of its relevant stakeholders, such as customers, employees, owners, suppliers and strategic partners, society and community, governmental or non-governmental organizations, and others. Corporate reputation is the evaluation and perception by stakeholders based on the quality of products and services, quality of leadership, financial performance, human resources, and innovation.

Hou and Dong (2022) have articulated that the prosperity of a firm in generating earnings from its assets, regardless of the financing structure (debt or equity), can be assessed through the growth in profits. Profit growth embodies the rise in a company's profit over a specific timeframe. It represents an extension, leading to the enlargement of the company, broadening its market presence, and ultimately enhancing its profitability. Augmenting profits can be attained by increasing product or service prices, enhancing operational efficiency, reducing expenses, or a fusion of these components. Typically, it is evaluated quarterly or annually, contingent on the company's reporting frequency. These criteria are embraced as the benchmarks for the competitive advantage of commercial banks in Kenya.

Trends, Challenges and Opportunities

The banking industry in Kenya has been significantly influenced by several digital trends that have reshaped the competitive landscape. Mobile banking, for instance, has become a dominant channel for banking transactions, driven by the widespread adoption of mobile phones and the development of mobile money platforms like M-PESA. Internet banking has also gained traction, offering customers the convenience of managing their finances online. Another notable trend is the rise of fintech companies, which provide innovative financial solutions that

challenge traditional banking models. These fintech firms leverage advanced technologies such as Blockchain, Artificial Intelligence, and big data analytics to offer personalized and efficient services. In response, many banks are forming partnerships with fintech companies to enhance their service offerings and stay competitive. Additionally, the adoption of cloud computing and data analytics has enabled banks to improve their operational efficiency and decision-making processes. By harnessing the power of big data, banks can gain deeper insights into customer behavior, optimize their operations, and develop targeted marketing strategies.

Despite the numerous benefits, digital transformation in the banking sector comes with several challenges. One of the primary challenges is the high cost of implementing digital technologies. Developing and maintaining digital infrastructure requires substantial financial investment, which can be a barrier for some banks. Cybersecurity is another critical challenge, as the increased reliance on digital technologies exposes banks to a higher risk of cyberattacks. Ensuring the security of digital transactions and protecting customer data are paramount concerns that banks must address to maintain trust and compliance with regulatory standards. Moreover, the rapid pace of technological change can be overwhelming for banks, making it difficult to keep up with the latest advancements. This requires continuous learning and adaptation, which can strain resources and capabilities. Cultural resistance within organizations can also impede digital transformation efforts. Employees may be resistant to change, fearing job displacement or being unfamiliar with new technologies. Overcoming this resistance requires effective change management strategies and ongoing training and development programs.

Digital transformation presents numerous opportunities for financial institutions in Kenya and other African countries. By embracing digital technologies, banks can expand their reach to underserved populations, particularly in rural areas where access to traditional banking services is limited. Mobile banking and digital payment solutions can bridge this gap, promoting financial inclusion and economic development. Furthermore, digital transformation enables banks to offer a wider range of products and services, tailored to the specific needs of different customer segments. This customization enhances customer satisfaction and loyalty, providing a competitive advantage in a crowded market. The ability to leverage data analytics also presents an opportunity for banks to gain a deeper understanding of customer preferences and behaviors. This insight allows for more effective marketing strategies and the development of innovative products that meet the evolving demands of the market.

Statement of the Problem

In today's rapid evolving global economy, the financial sector plays a pivotal role in driving economic growth and stability. The advent of digital transformation has significantly altered the landscape of financial services worldwide, presenting both opportunities and challenges (Gakiria, 2019). Meanwhile, Mochama, (2021) prominently alluded that in Kenya, financial institutions are increasingly leveraging digital technologies to enhance their operational efficiencies, improve customer experiences, and gain competitive advantages. Further, it is evident that digital transformation would facilitate financial inclusion by providing banking services to unbanked and underbanked populations, contributing to overall economic growth and development. The Kenyan financial institutions leading the way in digital banking, setting benchmarks for the rest of Africa and competing effectively on a global scale (Ejemeyovwi, Osabuohien, & Bowale, 2021).

Despite the recognized potential of digital transformation, financial institutions in Kenya face several challenges that prevent them from fully realizing these benefits. The adoption of digital transformation strategies has been uneven, with significant disparities in the implementation and outcomes across different banks. High costs associated with developing and maintaining digital infrastructure, coupled with cybersecurity threats and regulatory complexities, hinder banks from achieving seamless integration. For example, the Central Bank of Kenya (CBK)

reported that banks have invested over KES 35 billion in technology infrastructure over the past decade, highlighting the significant financial burden (CBK, 2022). Additionally, issues such as plastic card fraud have increased, with losses from counterfeit card fraud and other forms of plastic card fraud growing by 15% annually (Njoroge & Mugambi, 2018). These challenges complicate the digital transformation journey, leading to a situation where many banks struggle to optimize their digital transformation efforts and achieve a competitive advantage.

However, many financial institutions struggle with adoption of new technologies due to various constraints, including limited financial resources, lack of skilled personnel, and inadequate infrastructure (Neumeyer, Santos, & Morris, 2020). The regulatory environment, although improving, often lags behind the rapid pace of technological advancements, creating uncertainties and compliance challenges. Pornerleau and Lowery, (2020) clearly noted that cybersecurity threats are persistent concern, with financial institutions frequently targeted by cybercriminals. Therefore, adoption rate of digital banking services among customers has varied, with a significant portion of the population still preferring traditional banking due to distrusts in digital platforms or lack of digital literacy.

Without a robust digital transformation strategy, these institutions risk falling behind both locally and internationally. ElMassah and Mohieldin, (2020) highlighted that inefficient operations, outdated services, and poor customer experiences can lead to loss of market share to more agile and technologically advanced competitors. Further, they alluded the fact that the inability to effectively harness data analytics means missed opportunities for personalized marketing and risk management. Additionally, failure to provide secure digital platforms can result in financial losses and damage to the institution's reputation. The lack of financial inclusions also means that a significant portion of the population remains underserved, limiting overall economic growth. In the broader African context, Kenya financial institutions struggle with digital transformation which could mean that other African businesses miss out on the potential benefits of a more digitally integrated financial ecosystem, such as increased access to capital and more efficient cross border transactions. These insights will guide the development and implementation of effective digital transformation strategies, enabling banks to overcome existing challenges, leverage emerging opportunities, and ultimately enhance their competitive position in the market. For instance, Kenya's mobile money transactions reached KES 5.21 trillion in 2021, showcasing the substantial shift towards digital financial services and highlighting the potential for further growth (CBK, 2022). By doing so, the study seeks to contribute to the broader discourse on digitalization in the financial sector and support the sustainable growth of Kenyan financial institutions.

Objectives of the study

The study was guided by general objective and specific objectives.

General Objectives

The primary objective of the study was to ascertain digital transformation strategy and competitive advantage of financial institutions in Kenya; trends, challenges, and opportunities for African Businesses.

Specific Objectives

The study was guided by the following specific objectives;

- i. To determine the effect of digital transformation strategies on competitive advantage metrics such as customer satisfaction, market share, and financial performance indicators.
- ii. To assess the key trends influencing digital transformation in the Kenyan banking sector, including regulatory changes, technological advancements, and shifts in customer expectations.

- iii. To investigate the challenges faced by financial institutions in Kenya during the implementation of digital transformation strategies.

Theoretical Framework

The theories analyzed in this study include theory of financial intermediation, the technological acceptance model (TAM), the contemporary banking theory, and the innovations diffusion theory.

enhancing the competitive advantage of Kenyan financial institutions. The Theory of Financial Intermediation explains the role financial intermediaries such as banks and other institutions play in facilitating the efficient flow of funds between savers and borrowers by reducing transaction costs, improving information flow, and managing risks within the financial system. The Technological Acceptance Model (TAM) focuses on the factors that influence individuals' adoption of new technologies, emphasizing perceived usefulness and ease of use as primary determinants of technology acceptance. Although not fully detailed in the excerpt, Contemporary Banking Theory generally examines the operations of modern financial institutions, including their approaches to efficiency, risk management, and regulatory compliance in the context of economic development. Lastly, the Innovation Diffusion Theory addresses how innovations—whether ideas, practices, or technologies spread across social systems over time, highlighting the roles of communication channels, social structures, and adopter characteristics in affecting the rate and pattern of diffusion. Together, these theories provide a multifaceted framework supporting the study's analysis of financial, technological, and innovation dynamics.

Literature Review

Digital transformation (DT) has become a critical area of study in business and management, influencing countries, industries, and organizations. Kraus et al. (2022) note that while DT has attracted significant research interest, much of it remains fragmented, focusing on specific areas rather than an integrated view. They advocate for a synergistic framework connecting various aspects of DT research to grasp its full impact on business operations, from strategy to customer engagement.

Reis and Melão (2023) conducted a meta-review using the PRISMA protocol and identified six dimensions of DT, including organizational, technological, and social, along with emerging but underexplored areas like sustainability and smart cities. Their work emphasizes that DT is multifaceted, and current research gaps exist, particularly in integrating these various dimensions into comprehensive frameworks.

Within the banking sector, DT drives internal process improvements and customer reach expansion while aiming to reduce operational costs and increase differentiation. Kitsios et al. (2021) focused on employee acceptance of digital tools in Greek banks, finding that education plays a key role in adaptation. However, this study did not assess broader strategic outcomes. Papathomas and Konteos (2023) proposed a three-phase model describing how incumbent banks evolve through digital transformation, stressing the need for empirical validation to link phases with business results.

Addressing these gaps, the current study plans to analyze digital transformation strategies and their influence on competitive advantage in Kenyan financial institutions. Unlike prior research that tended to isolate employee views or organizational results, this study integrates both, combining qualitative and quantitative data. It aims to measure how DT affects customer satisfaction, market share, and financial performance while considering Kenya's unique banking environment. This approach seeks to bridge theoretical frameworks and empirical evidence to enrich understanding and practical application.

Competitive advantage is vital for banking sector sustainability and growth amid fast-paced technological change. Theories like the Resource-Based View, Innovation Diffusion, Competitive Advantage, and Disruptive Innovation provide lenses through which banks can leverage technology to enhance performance and market position (Odhiambo & Mang'ana, 2022).

Odhiambo and Mang'ana's study in Kenya highlighted the positive effects of e-money, telephone banking, internet banking, and internal controls on competitive advantage, based on data from 192 respondents. Still, their research concentrated on specific technological innovations without encompassing wider strategic or regulatory factors.

Further gaps exist regarding a holistic perspective that accounts for regulatory changes, shifting customer expectations, and market dynamics. Slobodanyk et al. (2024) pointed to the promising role of artificial intelligence (AI) in banking, but empirical evidence about AI's application and impact remains scant.

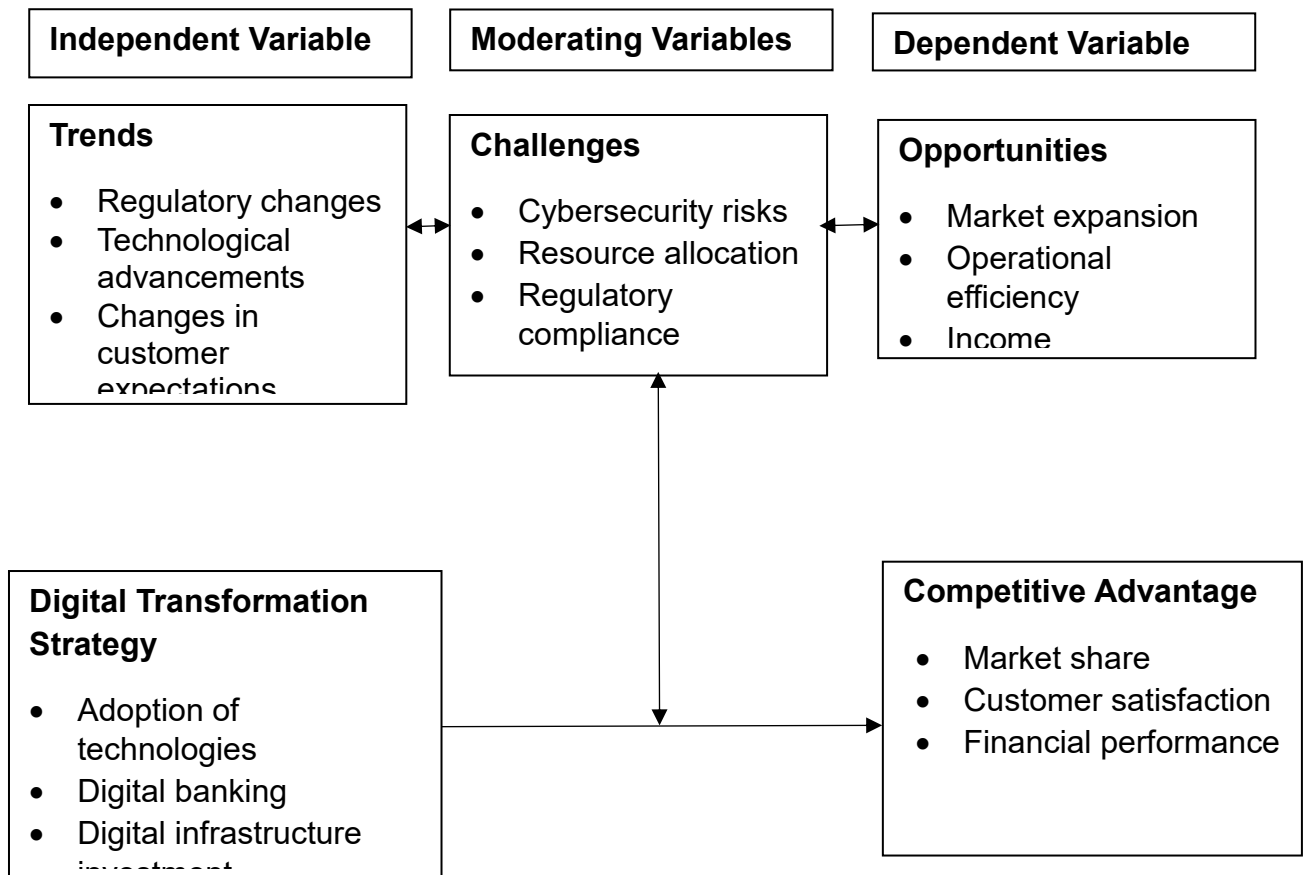
Digital transformation in Kenyan banks is strongly driven by the expansion of digital financial services, especially mobile money platforms like M-PESA, which have markedly improved financial inclusion (Tiony, 2023). Mobile money enhances access to banking, promotes formal savings, credit use, economic empowerment, and reduces poverty and inequality. Nonetheless, infrastructural challenges, financial literacy deficits, security concerns, and regulatory hurdles continue to impede full financial inclusion.

Research by Tiwasing et al. (2024) on mobile money's effect on business performance showed that while businesses using mobile money platforms tend to innovate in product and process development, they do not significantly outperform those that do not, suggesting that factors like business size, sector, location, and challenges modulate the effectiveness of digital tools. This study's comprehensive framework aims to synthesize these multifaceted trends, issues, and opportunities, offering empirical analysis on how digital transformation strategies shape competitive advantage in Kenyan banks. By combining qualitative and quantitative methods, it will provide actionable insights to enhance strategic decision-making and policy formulation in the evolving digital banking landscape.

Conceptual Framework

The conceptual framework is a theoretical structure that outlines the concepts studied and their relationships. Its purpose is to provide a clear understanding of how variables in the research are connected. This study is guided by the conceptual framework in Figure 1.

Figure 1 Conceptual Framework



Research Methodology

The descriptive research design in this study was used to describe systematically the facts and characteristics of the concerned population that was actively digital transformation strategy and competitive advantage of financial institutions in Kenya. The target population for this study consists of all 39 commercial banks in Kenya. These banks are categorized into three tiers: nine Large/Tier I Banks, eight Medium/Tier II Banks, and 22 Small/Tier III Banks. The units of analysis are the 39 commercial banks, while the units of observation include the functional heads responsible for digital transformation strategy and competitive advantage at the banks' headquarters in Nairobi. In the absence of these key individuals, representatives such as company secretaries or assistant managers will be considered appropriate substitutes. The target population was depicted as shown in Table 1

Table 1: Target Population

Category	Target Population	Percentage
Large/Tier I Banks	9	23.1%
Medium/Tier II Banks	8	20.5%
Small/Tier III Banks	22	56.4%
Total	39	100%

Source: Author (2025)

Research Results

In this section, the study presents the results of data analysis under the four objectives of the study. In addition to presenting the findings on respondents' demographics and response rate, this section will also present the descriptive and inferential statistics of the study. Out of 235 questionnaires sent to the respondents, a total of 209 questionnaires were filled and returned

for data analysis which translated to 89% response rate. No questionnaire had missing data. According to Mugenda and Mugenda (2003), this response rate is above 70%, therefore, is excellent for making study inferences.

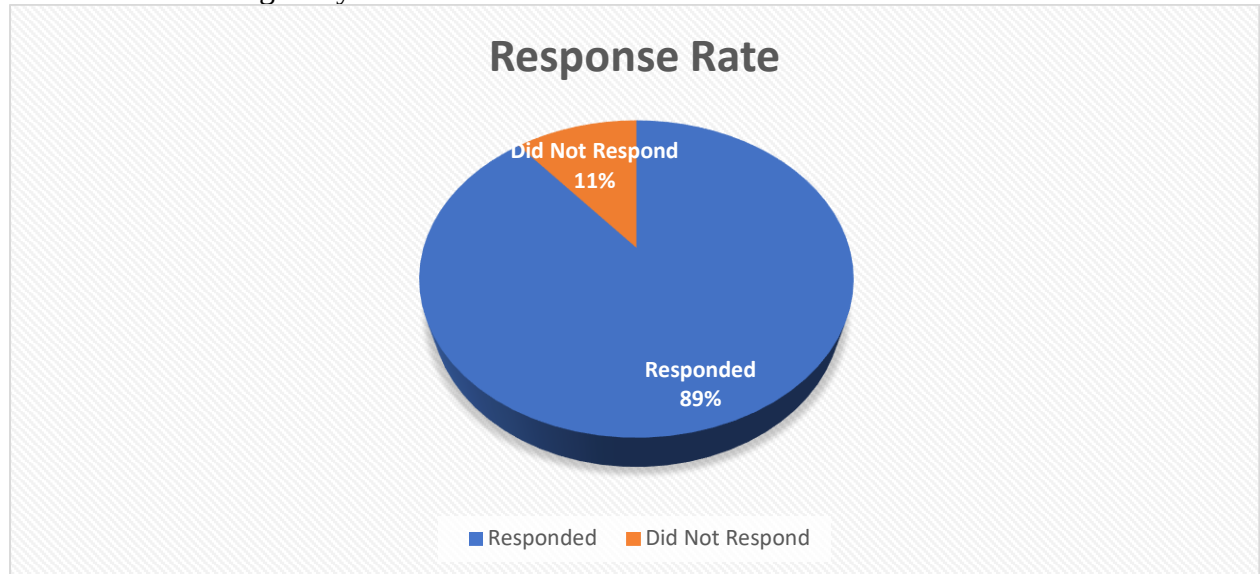


Figure 2: Response Rate

Source: Author (2025)

Demographic of The Respondents

The study collected demographic information to help understand the distribution of study respondents. In terms of gender, results as presented in Table 4.1 indicated that about 80.4% of the respondents were male while 19.6% of the respondents were female. The results suggest that there more male in the management levels than females.

Table 2:

Demographic of the Respondents

Variables	Category	Response Rate N=209	Percentage
Gender	Males	168	80.4%
	Females	41	19.6%
Total		209	100%
Age Brackets	18-25 Years	1	0.5%
	26-30 Years	2	1%
	31-35 Years	6	2.9%
	36-40 Years	26	12.4%
	41-45 Years	83	39.7%
	51-55 Years	67	32.1%
	Over 55 Years	24	11.4%
Total		209	100%
Level of Education	College Certificate	-	-
	College Diploma	18	8.6%
	Bachelor's Degree	174	83.3%
	Post Graduate	17	8.1%
	Total	209	100%
Number of Years Worked at the Institution	1 – 3 Years	4	1.9%
	4 – 6 Years	57	27.3%

		7 – 10 Years	131	62.7%
		Over 10 Years	17	8.1%
		Total	209	100%
Current Population	Employee	1 – 50 Years	39	18.7%
		51 – 100 Years	47	22.5%
		101 - 150	101	48.3%
		Over 150 Years	22	10.5%
		Total	209	100%

Regarding the age of the individuals who took part in the study, the findings demonstrated that 1 (0.5%) of the respondents were between the age of 18 – 25 years, 2(1%) of the respondents were between the age of 26 – 30 years, 6(2.9%) of the respondents were between the age of 31 – 35 years, 26(12.4%) of the respondents were between the age of 36 – 40 years, 83(39.7%) of the respondents were between the age of 41 – 45 years, 67(32.1%) of the respondents were between the age of 51 – 55 years, and finally, 24(11.4%) of the respondents were over the age of 55 years.

About academic qualifications, the findings presented in Table 1 showed that none of the respondent had college certificate, 18(8.6%) of the respondents had college diploma, 174(83.3%) of the respondents had bachelors' degree and finally, 17(8.1%) of the respondents had post graduate degree. The study further established that majority of the respondents had bachelor's degree. In line with the number of years worked at the institution, 4(1.9%) of the respondents worked for 1 – 3 years, 57(27.3%) of the respondents worked for 4 – 6 years, 131(62.7%) of the respondents worked for 7 – 10 years and finally, 17(8.1%) of the respondents worked for over 10 years. The study findings established that majority of the respondents' number of years worked was between 7 – 10 years. Finally, the study established the current number of employees at the institution, 39(18.7%) of the respondents had 1 – 50 employees, 47(22.5%) of the respondents had 51 – 100 employees, 101(48.3%) of the respondents had 101 – 150 employees, and finally, 22(10.5%) of the respondents had over 150 employees. The study established that majority of the respondents had 51 – 100 employees.

Digital Transformation Strategies and Competitive Advantage

First, the study sought to establish respondents' level of agreement with various statements related to the challenges of digital transformation strategies and competitive advantage. The descriptive results were presented using agree, neither, and disagree Likert scale results combined with mean and standard deviation. Data for the strongly agree and agree were combined for form agree while data for the strongly disagree and disagree were combined to form disagree as shown in Table 4.2 The results showed that means for digital sub-variables ranges between 2.50 and 4.12 while the standard deviation ranges from .353 to 1.182. A mean greater than 3.0 suggest that majority of the respondents agreed with the statement. In statement (1) "My organization's leadership has a clear vision for digital transformation," out of 209, 183(88%) of the respondents agreed with the statement, 17 (8%) of the respondents were neutral, 9(4%) of the respondents disagreed with a mean of 3.83 and standard deviation .533. A mean higher than the composite mean suggest that majority of the respondents agreed with the statement.

Table 3:

Digital Transformation Strategies and Competitive Advantage Outcomes

Statements	Agree N (%)	Neutral N (%)	Disagree N (%)	Mean	Std Dev
My organization's leadership has a clear vision for digital transformation.	183 (88%)	17(8%)	9(4%)	3.83	.533
We frequently invest in the latest digital technologies to enhance our operations.	69(33%)	37(18%)	103(49%)	2.78	.969
Our digital transformation efforts prioritize enhancing customer experience.	53(25%)	51(24%)	105(51%)	2.72	.883
We utilize digital tools to facilitate collaborations and communication within the organization.	156(75%)	26(12%)	27(13%)	4.12	1.182
Our organization fosters a culture of innovation and agility in digital transformation.	58(28%)	27(13%)	124(59%)	2.50	1.097
Implementing digital strategies has significantly improved our operational efficiency.	194(93%)	12(6%)	3(2%)	3.93	.353
Digital transformation has enabled us to innovative our products/services offerings.	63(30%)	34(16)	112(54)	2.72	.952
Composite Mean/Std Dev				3.23	0.853

In statement (2) “We frequently invest in the latest digital technologies to enhance our question,” out of 209, 69(33%) of the respondents agreed, 37(18%) of the respondents were neutral, 103(49%) of the respondents disagreed with a mean of 2.78 and standard deviation .969. A mean lower than the composite mean suggest that majority of the respondents did not agree with the statement. In statement (3) “Our digital transformation efforts prioritize enhancing customer experience,” out of 209, 53(25%) of the respondents agreed with the statement, 51(24%) of the respondents were neutral, 105(51%) of the respondents disagreed with a mean of 2.72 and standard deviation .883. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement.

In statement (4) “We utilize digital tools to facilitate collaborations and communication within the organization,” out of 209, 156(75%) of the respondents agreed with the statement, 26(12%) of the respondents were neutral, 27(13%) of the respondents disagreed with a mean of 4.12 and standard deviation 1.182. A mean higher than the composite mean suggest that majority of the respondents agreed with the statement. In statement (5) “Our organization fosters a culture of innovation and agility in digital transformation,” out of 209, 58 (28%) of the respondents agreed with the statement, 27(13%) of the respondents were neutral, 124(59%) of the respondents disagreed with a meant of 2.50 and standard deviation 1.097. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement. In statement (6) “Implementing digital strategies has significantly improved our operational efficiency,” out 209, 194 (93%) of the respondents agreed with the statement, 12(6%) of the respondents were neutral, 3(2%) of the respondents disagreed with a mean of 3.93 and standard deviation .353. A mean higher than the composite mean suggest that majority of the respondents agreed with the statement.

In statement (7) “Digital transformation has enabled us to be innovative in our products/services offerings,” out of 209, 63(30%) of the respondents agreed with the statement, 34(16%) of the respondents were neutral, 112(54%) of the respondents disagreed with a mean of 2.72 and standard deviation .952. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement.

Key Trends Influencing Digital Transformation

Secondly, the study sought to establish respondents' level of agreement with various statements related to key trends influencing digital transformation. The descriptive results were presented using agree, neither, and disagree. Likert scale results combined with mean and standard deviation. Data for the strongly agree and agree were combined for form agree while data for the strongly disagree and disagree were combined to form disagree as shown in Table 3. The results showed that means for digital sub-variables ranges between 2.20 and 3.88 while the standard deviation ranges from .353 to 1.182. A mean lower than 3.0 suggest that majority of the respondents did not fully agree with the statement. In statement (1) "Financial Institutions are increasingly adopting AI and ML for risk management and fraud detections," out of 209, 122(58%) of the respondents agreed with the statement, 11(5%) of the respondents were neutral, and 76(37%) of the respondents disagreed with a mean of 3.34 and standard deviation 1.325. A mean higher than the composite mean suggest that majority of the respondents agreed with the statement. In statement (2) "Blockchain technology is transforming the transparency and security of transactions in financial institutions," out of 209, 48(23%) of the respondents agreed with the statement, 12(6%) of the respondents were neutral, 149(71%) of the respondents disagreed with the statement with a mean of 2.47 and standard deviation .925. A mean lower than the composite mean suggest that majority of the respondents did not agree with the statement.

Table 4:
Key Trends Influencing Digital Transformation

Statements	Agree N (%)	Neutral N (%)	Disagree N (%)	Mean	Std Dev
Financial Institutions are increasingly adopting AI and ML for risk management and fraud detections.	122(58%)	11(5%)	76(37%)	3.34	1.325
Blockchain technology is transforming the transparency and security of transactions in financial institutions.	48(23%)	12(6%)	149(71%)	2.47	.925
The rise of mobile banking is significantly impacting customer engagements and service delivery.	93(45%)	76(36%)	40(19%)	3.15	1.003
Financial institutions are leveraging bug data analytics to enhance customer insights and personalized service.	54(26%)	75(26%)	80(38%)	2.90	.961
Regulatory compliance requirement are a major driver of digital transformation in financial institutions.	21(10%)	18(9%)	170(81%)	2.20	.919
Enhanced cybersecurity measures are critical for the successful implementation of digital transformation.	27(13%)	68(33%)	114(54%)	2.46	.882
Improving customer experiences through digital channels is a priority for financial institutions.	150(72%)	21(10%)	38(18%)	3.88	1.10
Composite Mean/Std Dev				2.91	1.016

A statement (3) "The rise of mobile banking is significantly impacting customer engagements and service delivery," out of 209, 93(45%) of the respondents agreed with the statement, 76(36%) of the respondents were neutral, 40(19%) of the respondents strongly disagree with a mean 3.15 and standard 1.003. A mean higher than the composite mean suggest that majority of the respondents agreed with the statement. In statement (4) "Regulatory compliance requirement are a major driver of digital transformation in financial institutions," out of 209, 21(10%) of the respondents agreed with the statement, 18(9%) of the respondents were neutral, 170(81%) of the respondents disagreed with a mean of 2.20 and standard deviation .919. A

mean lower than the composite mean suggest that majority of the respondents did not agree with the statement.

In statement (5) “Enhanced cybersecurity measures are critical for the successful implementation of digital transformation,” out of 209, 27(13%) of the respondents agreed with the statement, 68(33%) of the respondents were neutral and 114(54%) with a mean of 2.46 and standard deviation .882. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement. In a statement (6) “Improving customer experiences through digital channels is a priority for financial institutions,” out of 209, 150(72%) of the respondents agreed with the statement, 21(10%) of the respondents were neutral, and 38(18%) of the respondents disagreed with a mean of 3.88. A mean higher than the composite mean suggests majority of the respondents agreed with the statement.

Challenges in Implementing Digital Transformation

Thirdly, the study sought to establish respondents’ level of agreement with various statements related to challenges in implementing digital transformation. The descriptive results were presented using agree, neither, and disagree. Likert scale results combined with mean and standard deviation. Data for the strongly agree and agree were combined for form agree while data for the strongly disagree and disagree were combined to form disagree as shown in Table 4. The results showed that means for digital sub-variables ranges between 1.41 and 3.90 and standard deviation ranges from 0.393 to 1.178. In statement (1) “The organization faces resistance to change from employees when implementing digital transformation,” out of 209, 192(91%) of the respondents agreed with statement, 12(6%) of the respondents were neutral, 5(3%) of the respondents disagreed with a mean of 3.90 and standard deviation .393. A mean higher than the composite mean suggest that majority of the respondents agreed with the statement. In statement (2) “There is a lack of skilled personnel to manage digital transformation,” out 209, 29(14%) of the respondents agreed with the statement, 18(9%) of the respondents of the neutral, 162(77%) of the respondents disagreed with a mean 2.21 and standard deviation of .920. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement.

In statement (3) “The cost of implementing digital technologies is a significant barrier for our organization,” out of 209, 4(2%) of the respondents agreed, 2(1%) of the respondents were neutral, 203(97%) of the respondents disagreed with a mean of 1.41 and standard deviation .682. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement.

Table 5:

Challenges in Implementing Digital Transformation Outcomes

Statements	Agree N (%)	Neutral N (%)	Disagree N (%)	Mean	Std Dev
The organization faces resistance to change from employees when implementing digital transformation.	192(91%)	12(6%)	5(3%)	3.90	.393
There is a lack of skilled personnel to manage digital transformation.	29(14%)	18(9%)	162(77%)	2.21	.920
The cost of implementing digital technologies is a significant barrier for our organizations.	4(2%)	2(1%)	203(97%)	1.41	.682
The organization struggles with integrating new digital systems with existing legacy systems.	24(12%)	18(9%)	167(79%)	2.13	.848
There is lack of clear vision and strategy for digital transformation within our organization.	161(77%)	20(10%)	28(13%)	3.69	.810
Data security and privacy concerns hinder our digital transformation efforts.	13(6%)	25(12%)	171(82%)	2.17	.746

The organization is hesitant to adopt digital transformation due to uncertainty about its benefits.	77(37%)	37(18%)	95(45%)	2.95	1.178
Composite Mean/Std Dev				2.64	0.7967

In statement (4) “The organizations struggle with integrating new digital systems with existing legacy systems,” out 209, 24(12%) of the respondents agreed with the statement, 18(9%) of the respondents were neutral, 167(79%) of the respondents with 2.13 and standard deviation .848. A mean lower than the composite mean suggest that majority of the respondents disagreed with the statement. In statement (5) “There is lack of clear vision and strategy for digital transformation within our organization,” out of 209, 161(77%) of the respondents agreed with the statement, 20(10%) of the respondents were neutral, 28(13%) of the respondents disagreed with a mean of 3.69 and standard deviation .810. A mean higher than the composite mean suggest that majority of the respondents agreed with the statement.

In statement (6) “Data security and privacy concerns hinder our digital transformation efforts,” out of 209, 13(6%) of the respondents agreed with the statement, 25(12%) of the respondents were neutral, 171(82%) of the respondents disagreed with a mean of 2.17 and standard deviation .746. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement. In statement (7) “The organization is hesitant to adopt digital transformation due to uncertainty about its benefits,” out of 209, 77(37%) of the respondents agreed with the statement, 37(18%) of the respondents were neutral, and 95(45%) of the respondents disagreed with a mean of 2.95 and standard deviation 1.178. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement.

4.5 Digital Transformation Strategy and Competitive Advantage of Financial Institutions in Kenya

Additionally, the study demonstrated a summary of the joint correlation and regression analysis results of the influence of digital transformation (Digital transformation strategies, key trends influencing digital transformation, and challenges in implementing digital transformation on competitive advantage using a multiple regression model.

Correlation Analysis

The Bivariate Pearson Correlation output in Table 4.5 indicated that only key trends of digital transformation $r(204), = .232, p = .001$, and challenges in implementing digital transformation $r(204), = .208, p = .003$ variables have a significant and moderately positive correlation with competitive advantage. The results further provided that there is a weak insignificant positive correlation between digital transformation strategies on competitive strategies $r(204), = .048, p = .489$.

Table 6:

Digital Transformation Strategy and Competitive Advantage Joint Correlation Analysis Results.

		Digital Transformation Strategies	Key Trends of Digital Transformation	Challenges in Implementing Digital Transformation	Competitive Advantages
Digital Transformation Strategies	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	209			

Key Trends of Digital Transformation	Pearson Correlation	.092	1		
Challenges in Implementing Digital Transformation	Sig. (2-tailed)	0.186			
	N	209	209		
Competitive Advantage	Pearson Correlation	-.089	-.279**		
	Sig. (2-tailed)	.199	0.000	1	
	N	209	209	209	
	Pearson Correlation	0.408**	-.279**	0.199**	1
	Sig. (2-tailed)	0.000	0.000	.004	
	N	209	209	209	209

**Correlation is significant at the 0.01 and 0.05 level (2-tailed)

Conclusion of the Study

The study highlights how Kenyan banks have increasingly adopted digital transformation strategies to remain competitive in a fast-evolving technological and customer landscape. Integrating digital channels into service delivery has improved customer engagement and satisfaction by offering greater convenience and accessibility compared to traditional banking. Automation of banking processes has enhanced operational efficiency and reduced costs, enabling banks to focus on value-added services that foster customer loyalty and retention. A key finding emphasizes the importance of cultivating an innovative organizational culture that encourages creativity and adaptability, positioning banks to better respond to technological advances and shifting market dynamics. The study further notes that competition from agile, customer-centric fintech firms is driving traditional banks to rethink their strategies and operational models, underscoring the necessity for continuous innovation and adaptation to survive.

Recommendations of the Study

For policymakers, the study recommends developing supportive regulatory frameworks that promote digital innovation while safeguarding consumer protection and data privacy. Financial incentives such as tax breaks, grants, and subsidies should encourage digital strategy adoption. Investment in reliable and affordable internet connectivity, especially in rural areas, is critical to fostering digital payment systems and fintech solutions to boost financial inclusion. The study also calls for comprehensive impact assessments to evaluate digital transformation's effects on financial inclusion, economic growth, and employment. Additionally, frameworks for ongoing monitoring and evaluation of digital initiatives and policies should be established to guide improvements.

For academic researchers, the study advocates for interdisciplinary research involving technology, finance, and business management to address digital transformation's complex nature. It stresses the need to explore the roles of organizational culture, leadership, and change management in successful digital transformation efforts. This will enrich understanding and support more effective implementation of digital strategies within financial institutions.

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