# MOBILE BANKING AND COMPETITIVE ADVANTAGE OF COMMERCIAL BANKS IN KENYA.
# A CASE STUDY OF KENYA COMMERCIAL BANK LIMITED (KCB) AND EQUITY BANK GROUP HOLDINGS LIMITED

**ROY OSAKA OMULOGOLI**

**A Project Research Submitted In Partial Fulfilment Of The Requirements For The Award Of The Degree Of Master Of Business Administration In The Department Of Marketing And Management And The Business School Of Africa Nazarene University**

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# DECLARATION

I declare that this document and the research that they describe are my original work and that they have not been presented in any other university for academic work.

Name: Roy Osaka Omulogoli Admission No: 14S03DMBA0014



22/04/2024

Student signature Date

This research was conducted under our supervision and is submitted with our approval as university supervisors.

Supervisor name : Dr. Mary Mugo



13/05/2024

University supervisor signature Date

Supervisor name : Dr. Kimani Gichuhi



20/06/2024

University supervisor signature Date

**Africa Nazarene University**

**Nairobi, Kenya**

## EXAMINERS' SIGNATURES

We have examined this document and the research has met or exceeded the requirement for the degree sought, in addition, the candidate has sufficiently defended the material presented to merit the awarding of the degree of Masters Of Business Management.

_____

Internal examiner – (Typed name)

_____ _____

Internal examiner signature Date (dd/mm/yyyy)

_____

Internal/External examiner – (Typed name)

_____ _____

Internal/External examiner signature Date (dd/mm/yyyy)

Notes: (Pass, Pass with Distinction)

## DEDICATIONS

This project is earnestly dedicated to my family, whose unwavering support and encouragement have been the cornerstone of this journey. Their belief in my potential and their constant guidance have been instrumental in the realization of this endeavor.

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## ABSTRACT

The adoption of mobile banking has progressively become possible due to advancements in telecommunication technology in the banking industry. In response, banks have actively implemented strategies to ensure their sustainability and growth in this highly competitive sector. Mobile banking not only helped banks retain their existing customers but also allowed them to introduce new products and services, enhancing their competitiveness. This technology offered convenience and efficiency, making it crucial for banks to add value and maintain a competitive edge. This study aimed to investigate the effect of mobile banking as a competitive advantage tool for commercial banks in Kenya, with a specific focus on the impact of retail payments, mobile banking loans, and mobile bank transfers on their competitive positioning. The Hypothesis tested was mobile banking transfers, mobile retail payments, and mobile loans have no significant effect on competitive advantage of commercial banks in Kenya. The research incorporated various theories, including Diffusion of Innovation Theory, Reinforcement Learning, and Efficiency Structure Theory, to explain how mobile banking contributed to increased profits and improved customer experiences, thereby bolstering competitiveness. The research employed a descriptive research design and focused on two commercial banks, Equity and KCB, along with their personal banking clients in Kenya as the study population. Probability sampling was used, with a sample size of 400 personal banking clients. Secondary data for this study was obtained from the audited and published financial statements of the selected banks. Primary data, on the other hand, was collected through a questionnaire that consisted of both open-ended and closed-ended questions. The questionnaire aimed to gather information on the impact of mobile banking on the competitive advantage of commercial banks, with a specific focus on how it enhances the customer experience and drives growth. The data analysis process employed various descriptive techniques, including the use of tables, pie charts, bar graphs, and frequency distribution tables. Measures of central tendency and dispersion, such as the mean and standard deviation, were also calculated to provide a comprehensive analysis of the data. These methods allowed for a clear presentation and interpretation of the findings related to the study's objectives. The study assessed the relationship between dependent and independent variables using both univariate and multivariate regression equations. Mobile bank transfers played a crucial role in helping commercial banks gain a competitive advantage. Key factors that contributed to this advantage included the convenience, availability, and affordability of banking products offered through mobile channels. Additionally, well-defined mobile money transfer mechanisms and structures assisted in generating competitive advantages for commercial banks. It was essential for commercial banks to continually invest in technology to improve their operational processes and service delivery. This included developing strategies that focused on reducing production costs to achieve a meaningful competitive advantage. Overall, commercial banks prioritized enhancing mobile banking services, including mobile bank transfers, mobile retail payments, and mobile loans, to remain competitive in the industry.

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## ABBREVIATIONS

**CBK**: Central Bank of Kenya

**DIT**: Diffusion Innovation Theory

**ERC**: Energy regulatory commission Kenya

**GoK:** Government of Kenya

**IPPs:** Independent power producers

**KCB:** Kenya Commercial Bank

**KETRACO:** Kenya electricity Transmission Company

**KPLC**: Kenya Power and Lighting Company

**MOE**: Ministry of energy Kenya

**NGO**: Nongovernmental organization

**NSE**: Nairobi Securities Exchange

**POT:** Pecking order theory

**R&D**: Research and development

**ROE**: Return on Share capital

**SMEs:** Small micro enterprises

**TOT:** Trade off Theory

**VAT**: Value added tax

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## DEFINITION OF TERMS

**Mobile Banking**: Banking channel that a bank depositor is able to access banking services remotely using a mobile phone.

**Competitive Advantage**: Qualities of an institution or company that gives it an edge over the other firms offering the same goods or services.

**Market share**: A portion of an industry that is controlled by an organization or company.

**Financial Performance**: The measure of a firm's blueprint and functions in monetary terms.

**Customer Satisfaction**: The measure of how a firm's products or services equal or surpass customer expectations.

**Mobile Banking Transfers**: The transfer of money by using mobile phones.

**Retail Payment**: payment for good and services offered.

**Online Deposits**: the crediting of individuals bank account remotely.

# CHAPTER ONE

# INTRODUCTION AND BACKGROUND OF THE STUDY

## 1.1 Introduction

This chapter presents the subject of study that includes the evolution of banking right up to its current position. It then brings out the objectives of the study and reasons why the study is important. Finally, the conceptual framework outlines the variables that form the basis of the study and how these variables are linked.

## 1.2 Background of the Study

Banking is a cornerstone of modern economies, facilitating financial transactions, enabling savings, and providing credit to individuals and businesses. The spectrum of banking institutions encompasses a diverse range, from traditional commercial banks to cooperative societies known as Sacco's, each serving unique needs within the financial ecosystem (Heffamon, 2005). The historical evolution of banking can be traced back millennia, with early forms of lending and deposit-taking evident in ancient civilizations. Notably, the modern banking system finds its roots in practices dating back to 1800 BC Babylon, where moneylenders provided loans to individuals seeking financial assistance (Andrew, 2018). This historical trajectory underscores the enduring significance of banking institutions in facilitating economic activities and promoting financial inclusion.

In Kenya, the banking sector has undergone notable transformations, particularly in the late 20th and early 21st centuries. The period from 2006 to 2008 witnessed a remarkable expansion in banking outlets, reflecting a surge in demand for financial services across the country (CBK, 2009; Dembyness & Thegeya, 2012). The proliferation of banking outlets, coupled with advancements in technology and regulatory frameworks, has significantly enhanced accessibility to banking services, particularly in urban and densely populated areas. However,

challenges persist, including disparities in access to financial services, with rural and underserved regions often facing limited banking infrastructure. Despite these challenges, the banking sector remains a vital engine of economic growth and development, catalyzing investment, fostering entrepreneurship, and enabling wealth creation for individuals and businesses alike.

### 1.2.1 Competitive Advantage

In the fiercely competitive landscape of the banking sector, attaining and sustaining competitive advantage is paramount for long-term success. Competitive advantage refers to the unique strengths and capabilities that enable a bank to outperform its rivals, attract and retain customers, and achieve superior financial performance (Baregheh, Rowley, & Sambrook, 2009). While financial performance metrics such as profitability and asset quality are fundamental indicators of success, competitive advantage encompasses a broader spectrum of factors, including operational efficiency, customer service excellence, and innovation. Banks must continually innovate and adapt to changing market dynamics to maintain a competitive edge in an industry characterized by rapid technological advancements and evolving customer preferences.

Customer acquisition and retention lie at the heart of competitive advantage in the banking sector. Banks must differentiate themselves through superior customer experiences, personalized services, and innovative product offerings to attract and retain a loyal customer base (Cocheo, 2009). Building strong customer relationships fosters trust and loyalty, driving customer retention and lifetime value. Moreover, banks must leverage data analytics and customer insights to anticipate and address evolving customer needs, tailoring products and services to enhance relevance and value proposition.

Financial institutions operate within a dynamic regulatory and economic environment, necessitating agility and resilience to navigate market complexities. Regulatory compliance, risk management, and governance practices are critical dimensions of competitive advantage, ensuring operational stability and adherence to regulatory requirements (Ratten, 2011). Banks must maintain robust risk management frameworks, incorporating best practices in credit risk, market risk, and operational risk management to safeguard against potential threats and vulnerabilities. Moreover, proactive engagement with regulatory authorities and adherence to industry standards foster trust and credibility, enhancing the bank's reputation and competitive positioning.

Innovation and technological advancement are driving forces behind competitive advantage in the modern banking landscape. Banks must embrace digital transformation initiatives, harnessing technology to streamline processes, enhance efficiency, and deliver seamless customer experiences (CBK, 2015). From mobile banking applications to advanced analytics and artificial intelligence, technology enables banks to optimize operations, personalize services, and unlock new revenue streams. Moreover, fintech disruption is reshaping traditional banking paradigms, challenging incumbents to innovate and adapt to emerging trends and consumer preferences.

Strategic partnerships and alliances play a pivotal role in augmenting competitive advantage, enabling banks to leverage complementary strengths and capabilities to drive mutual growth and value creation. Collaborations with fintech startups, technology providers, and industry stakeholders facilitate access to innovative solutions, market insights, and new customer segments (Mcwaters, 2015). By fostering a culture of collaboration and innovation, banks can capitalize on emerging opportunities and stay ahead of the competition in a rapidly evolving marketplace.

Thus, competitive advantage in the banking sector hinges on a multifaceted interplay of factors, encompassing customer-centricity, operational excellence, regulatory compliance, innovation, and strategic partnerships. Banks must adopt a holistic approach to strategic planning and execution, aligning organizational objectives with market dynamics and customer expectations. By continuously investing in people, processes, and technology, banks can differentiate themselves, drive sustainable growth, and thrive amidst evolving industry trends and competitive pressures.

### 1.2.2 Mobile Banking

Mobile banking represents a pivotal evolution in the way financial services are accessed and delivered, transforming traditional banking paradigms and redefining customer experiences (CBK, 2018). The advent of mobile technology has empowered consumers with unprecedented convenience and accessibility, enabling them to perform a myriad of financial transactions anytime, anywhere, using their smartphones or mobile devices. From basic account inquiries to fund transfers, bill payments, loan applications, and investment management, mobile banking platforms offer a comprehensive suite of services designed to meet the diverse needs of today's digital consumers.

The rise of mobile banking can be attributed to several key factors, including the ubiquity of smartphones, advancements in mobile connectivity, and changing consumer behaviors and expectations. With smartphones becoming increasingly ubiquitous and affordable, consumers have embraced mobile banking as a convenient and efficient way to manage their finances on the go. Moreover, the proliferation of high-speed mobile networks and the availability of secure mobile banking applications have instilled confidence among users, fostering widespread adoption and usage. Mobile banking has democratized access to financial services, particularly among underserved and unbanked populations, by overcoming geographical barriers and

reducing reliance on traditional brick-and-mortar bank branches (CBK, 2018). In countries like Kenya, where access to formal banking services may be limited in rural and remote areas, mobile banking has emerged as a powerful tool for promoting financial inclusion and expanding access to credit, savings, and other financial products and services. By leveraging mobile technology, banks can reach new customer segments, deepen customer relationships, and drive financial empowerment and inclusion at scale.

The transformative impact of mobile banking extends beyond consumer convenience to encompass operational efficiencies and cost savings for banks and financial institutions. By shifting routine banking transactions from physical branches to digital channels, banks can streamline operations, reduce overhead costs, and optimize resource allocation (CBK, 2015). Mobile banking platforms enable banks to deliver personalized and targeted services, leveraging data analytics and machine learning algorithms to anticipate customer needs, identify cross-selling opportunities, and enhance customer engagement and loyalty.

Furthermore, mobile banking has catalyzed innovation within the banking industry, fostering the emergence of new business models, partnerships, and revenue streams (Mcwaters, 2015). Banks are increasingly embracing open banking principles and collaborating with fintech startups and third-party developers to co-create innovative solutions and enhance the overall customer experience. From peer-to-peer payments and mobile wallets to robo-advisors and AI-driven chatbots, mobile banking ecosystems are evolving rapidly, offering consumers a wealth of choices and capabilities to manage their finances more effectively and efficiently.

Consequently, mobile banking represents a transformative force within the banking industry, reshaping customer interactions, driving operational efficiencies, and fostering innovation and inclusion. As mobile technology continues to evolve and consumer expectations evolve, banks must embrace a customer-centric approach to mobile banking, leveraging emerging

technologies and strategic partnerships to deliver seamless, personalized, and secure financial experiences that meet the evolving needs and preferences of today's digital consumers.

### 1.2.3 Mobile Banking and Competitive Advantage

The integration of mobile banking into the strategic arsenal of financial institutions has reshaped the competitive landscape of the banking sector, offering a powerful tool for achieving and sustaining competitive advantage in an increasingly digital economy. Mobile banking's ability to enhance customer experiences, drive operational efficiencies, and unlock new revenue streams positions it as a cornerstone strategy for banks seeking to differentiate themselves and thrive amidst evolving market dynamics.

At the heart of mobile banking's role in competitive advantage lies its capacity to elevate customer experiences and deepen engagement through seamless and personalized interactions (CBK, 2018). By offering intuitive and user-friendly mobile banking applications, banks can empower customers with greater control over their finances, enabling them to perform transactions, access account information, and seek assistance with ease and convenience. Enhanced accessibility and convenience translate into higher customer satisfaction and loyalty, fostering long-term relationships and reducing customer churn—a critical driver of competitive advantage in an industry characterized by commoditized products and intense competition.

Furthermore, mobile banking serves as a catalyst for operational excellence, enabling banks to streamline processes, reduce costs, and enhance productivity across the organization (CBK, 2015). By digitizing routine banking transactions and automating manual processes, mobile banking platforms enable banks to reallocate resources to value-added activities such as innovation, customer service, and risk management. Moreover, mobile banking facilitates data-driven decision-making, providing banks with actionable insights into customer behavior, preferences, and needs. By leveraging analytics and business intelligence tools, banks can

identify emerging trends, optimize product offerings, and tailor marketing campaigns to target specific customer segments, thereby gaining a competitive edge in the market.

In addition to driving customer engagement and operational efficiencies, mobile banking unlocks new revenue streams and business opportunities for banks (Mcwaters, 2015). From mobile payments and peer-to-peer transfers to mobile wallets and digital lending, mobile banking platforms enable banks to expand their product portfolios, capture market share, and monetize customer interactions. By embracing open banking principles and fostering collaborations with fintech partners and third-party developers, banks can tap into innovative solutions and value-added services that enhance the overall customer experience and drive revenue growth. Moreover, mobile banking facilitates cross-selling and upselling opportunities, enabling banks to deepen customer relationships and maximize customer lifetime value—a key metric for sustainable competitive advantage in the long run.

Thus, mobile banking represents a strategic imperative for banks seeking to achieve and maintain competitive advantage in a rapidly evolving digital landscape. By prioritizing customer-centricity, operational excellence, and innovation, banks can leverage mobile banking as a catalyst for growth, differentiation, and long-term success. As mobile technology continues to evolve and reshape consumer behaviors and expectations, banks must remain agile and adaptive, embracing emerging trends and technologies to deliver seamless, secure, and personalized financial experiences that drive value for both customers and shareholders alike.

### 1.2.4 Overview of the Banking Sector in Kenya

The baking sector in Kenya grew rapidly from 2006-2008 with banks increasing the banking outlets from a total of 581 retail agents in 2006 which increased to 849 in 2008. This implies to a 46% increase (CBK, 2009). In the period, 2008 and 2012 there was an increase from 849 to 1072 (Dembyness & Thegeya, 2012). However, it was found out that this growth occurred

in densely populated areas and the northern part of the country was left out. Nevertheless, this has increased the accessibility of banking services as they have been brought closer to the people.

One of the main objectives of the bank is to receive deposits from clients and ensure these deposits are safe and accessible to them at all times. These deposits are placed into an individual's bank account and they are able to access the different products offered by the institution. Increased deposits will allow the institution to lend more and thus increasing their revenue. The central bank also requires all banks to have a minimum core capital and for them to maintain this amount of money they will need deposits. With the introduction of mobile money, it has become easier for many to deposit and thus institutions are channelling resources towards this new ways of carrying out transactions.

Another key function of the bank is to issue loans to account holders and ensure they are not defaulting on their monthly payments. This is also one of the main income generators. CBK as a regulator issues the base lending rates, which guide commercial banks on what interest to charge their clients, and this rate is dependent on a number of issues and varies from bank to bank. From this, they are able to generate revenues and realize profits. With changing trends, banks are looking to make it easier and faster for the clients to access loans.

New functions have emerged where depositors can pay utility bills directly from their bank accounts using mobile banking platforms. Equitel Equity mobile banking platform will allow customers to pay bills or even purchase goods and services. As we move towards a cashless system, many institutions have made it easy to pay for goods and services remotely and this has prompted banking and financial institutions to capitalize on this business. Mobile banking applications have been able to bridge this gap and people are now able to pay for goods and services straight from their bank accounts (Mcwaters, 2015).

Retail banking has since improved and with changes in technology, one is now able to carry out banking transaction remotely. This has made it easy and convenient for depositors to access their finances and made banking services faster and more accessible to many. E-banking channels have become the preferred way of carrying out bank transaction and have now increased revenues for commercial banks (CBK, 2015).

In the modern world, firm are required more than offering superior goods in the market so as to maintain their competitiveness. According to (Baregheh, Rowley, & Sambrook, 2009) products of high quality they just guarantee admission to market not market dominance. Financial institutions therefore need to come up with strategies of attaining and retaining competitiveness, as this is important to survival in this ever-changing industry. Banks are tasked to come up with methods and new products that will keep them ahead of the competition and ensure profits.

Commercial banks have managed to mage great progress on their performance ans still retain their profitability regardless of the complicated market conditions that they face (Cocheo, 2009). Banking institutions just like any other player have invested heavily on technology to achieve better service delivery and cost reduction by meeting client convenience and technological expectations (Ratten, 2011). Kenyan banks have also embraced technology and are realizing more profits and customer satisfaction.

### 1.2.5 Overview of Mobile banking in Kenya

Mobile banking has grown in popularity and is now the preferred retail-banking channel as it has made it easier for depositors to access their finances (CBK, 2018). This has brought about changes in the retail-banking sector and we can see many banks moving from traditional branch channels to use of remote channels, which has brought finances closed to their clients.

According to the (CBK, 2018) report, fintech is disrupting the banking sector in the country where mobile and agency banking is growing faster than conventional banking. Banks added 80 branches in total in 2022 compared to 4,745 banks' agents and 1,096 micro-finance agents contracted last year. Users have the option of conducting financial transactions remotely using their mobile handsets/smartphones.

Consumers have the capability to engage in various transactions, including making cash deposits, paying for goods and services, and applying for loans. This has led to increased revenues in numerous banking institutions, and there is now a greater emphasis on maximizing the utilization of mobile banking. As reported by the Central Bank of Kenya (CBK) in 2018, the total value transferred through mobile money transfer services experienced a 24.58 percent rise, increasing from KSh 3,574.43 billion in the period ending on June 30, 2018, to KSh 3,747.33 billion for the period ending on June 30, 2018.

### 1.2.6 Kenya Commercial Bank

KCB is a licensed commercial bank in Kenya that provides various financial services such as bank deposits, fund transfers, loans, and insurance. The bank has a rich history that dates back to the 19th century when its parent company, KCB Group, was a branch of the National Bank of India in Mombasa. After Kenya gained independence, the government acquired a 60% stake in the entity and renamed it Kenya Commercial Bank. Today, the bank has an asset base of 1.86 trillion, operates through 206 branches, and serves around 34 million clients in the East African market. (KCB, 2023)

### 1.2.7 Equity Bank

Equity Bank is a leading commercial bank in Kenya that offers a wide range of financial services, including bank deposits, fund transfers, loans, health services, and insurance. The bank was initially established as Equity Building Society, providing mortgage financing

services. Later on, in 1993, it transformed into a microfinance bank before finally becoming a fully-fledged commercial bank in 2004. With an asset base of 1.8 trillion, Equity Bank operates through 335 branches and serves over 16.9 million clients in the East African market. (Equity bank,2023)

## 1.3 Statement of the Problem

The financial industry is undergoing rapid technological advancements, with mobile banking emerging as a transformative force within the banking sector. The proliferation of personal online banking, Automated Teller Machines (ATMs), and telephone banking has paved the way for electronic banking, reshaping the dynamics of competition and financial inclusion. Kenya, in particular, has witnessed a significant expansion in mobile money services, supported by government initiatives in information and communication technology (ICT). The increased adoption of mobile banking has led to a notable reduction in the number of unbanked individuals, as reported by Fin Access in 2019. Mobile phones have become instrumental in simplifying banking processes, offering users a plethora of banking functions such as mobile payments, fund transfers, and online deposits.

Mobile banking has emerged as a key driver of customer satisfaction and a pivotal factor influencing individuals' choice of banking institutions. To remain competitive, banks must continuously innovate and enhance the value proposition of remote channels, particularly mobile banking, to improve service delivery, operational efficiency, and ultimately achieve competitive advantage. Competitive advantage within the banking sector is contingent upon various factors including financial performance, customer acquisition, and retention.

While studies such as those by Mbugua (2017), Osewe and Muturi (2017), and Muia (2017) have explored the impact of technology on bank performance and financial innovations in Kenya, there remains a gap in understanding the comprehensive effects of mobile banking on

the competitive advantage of commercial banks, particularly KCB and Equity Bank. Previous research has predominantly focused on financial performance rather than competitive advantage, and there is a contextual void as none have specifically investigated the impacts within the framework of KCB and Equity banks. Therefore, this study seeks to address these gaps by assessing the role of mobile banking as a tool for competitive advantage within the banking sector, with a specific focus on the impacts of mobile bank transfers, mobile retail payments, and mobile loans in both KCB and Equity banks.

## 1.4 Objectives of the Study

Objectives of this study are categorized into two main sections, which are general objective and specific objectives.

### 1.4.1 General Objective

The general objective of this study was to assess the effect of mobile banking on the competitive advantage of commercial banks in Kenya, a case of KCB and Equity bank.

### 1.4.2 Specific Objectives

The specific objectives of this study were to:

i. Establish the effect of mobile bank transfers on the competitive advantage of commercial banks in Kenya, a case of KCB and Equity bank.

ii. Assess the effect of mobile retail payments on the competitive advantage of commercial banks in Kenya, a case of KCB and Equity bank.

iii. Examine the effect of mobile loans on the competitive advantage of commercial banks in Kenya, a case of KCB and Equity bank.

## 1.5 Research Hypotheses

The study tested the following hypotheses:

**$H_{01}$:** Mobile banking transfers have no significant effect on the competitive advantage of commercial banks in Kenya, a case of KCB and Equity bank.

**$H_{02}$:** Mobile retail payments have no significant effect on the competitive advantage of commercial banks in Kenya, a case of KCB and Equity bank.

**$H_{03}$:** Mobile loans have no significant effect on the competitive advantage of commercial banks in Kenya, a case of KCB and Equity bank.

## 1.6 Significance of Study

The significance of this study resonates deeply with commercial banks, policy makers, and scholars within the banking sector. For commercial banks like KCB and Equity Bank, the insights derived from this research offer strategic direction in navigating the increasingly competitive landscape of the banking industry in Kenya. Understanding the impact of mobile banking on competitive advantage enables these banks to refine their strategies, optimize service offerings, and effectively leverage mobile banking platforms to enhance customer satisfaction and loyalty. By embracing the findings of this study, commercial banks can position themselves as innovators in the sector, driving growth and sustainability in the digital era.

Policy makers play a pivotal role in shaping the regulatory environment and fostering innovation within the banking sector. The empirical evidence generated by this study provides valuable insights for policy formulation aimed at promoting the adoption and integration of mobile banking services in Kenya. By aligning regulations and incentives with the findings of

this research, policy makers can create an enabling environment that encourages investment in mobile banking infrastructure and fosters competition while safeguarding consumer interests. Moreover, the study offers a basis for informed policy decisions aimed at promoting financial inclusion and driving socio-economic development through enhanced access to banking services. Scholars and researchers benefit from the theoretical contributions of this study, which expand the knowledge base on mobile banking and its implications for competitive advantage in emerging markets like Kenya. The empirical findings offer a foundation for further academic inquiry, encouraging scholars to explore new avenues of research and deepen their understanding of the dynamics shaping the banking sector in the digital age. By engaging with the findings of this study, scholars can contribute to the advancement of theoretical frameworks and practical strategies that drive innovation and resilience in the banking industry.

## 1.7 Scope of Study

This study was restricted to the banking industry in Kenya and was based on mobile banking applications. The bank staff and clients were covered as part of the respondents in this research. The study was done from May 2022 to November 2023.

## 1.8 Limitations of the Study

People normally view their bank accounts as private business and getting information from them is difficult. Information collected might not be very accurate, as they might not give correct information. The banking industry applies certain measures to ensure security of depositor’s money, getting approval to collect data was a problem, and one can only access limited information. This study does not in any way need personal information from the respondents and this will be communicated to them and to the institution’s management.

## 1.9 Delimitations

This study assessed mobile banking role as a tool of competitive advantage in commercial banks in Kenya. The variables considered in this study were the independent variables (mobile banking transfers, mobile retail payments, mobile loans) and the dependent variable (competitive advantage). Contextually, the study was limited to competitive advantage of two banks, which are Equity Bank, and KCB Bank.

## 1.10 Theoretical Review

### 1.10.1 Diffusion of Innovation Theory

Diffusion of Innovation Theory is among the theories considered to focus on on the factors that facilitate the adoption of new innovation as well as new technology. (Rogers, 2003) Was able to sight attributes of innovation that result in the take up of new technology.

They are relative advantage, complexity, compatibility, trialability, and observability. From previous research relative advantage, ease of use, and compatibility have been found to be the main factors that are affecting the absorption of new technology (Papies & Clement 2008; Koenig-Lewis et al. 2010; Park & Chen 2007; Liu & Li 2010).. The following provides the summary of attributed of diffusion of Innovation theory and their impact on the adoption of new innovation.

#### 1.10.1.1 Relative advantage

In the context of the Diffusion of Innovation Theory (DIT), "relative advantage" refers to the perceived superiority of a new technology when compared to existing alternatives or predecessors (Lin, 2011). In the case of the adoption of mobile banking, certain customers perceive mobile banking as providing distinct benefits and advantages over traditional banking methods. Numerous studies have illustrated the importance of relative advantage in influencing the adoption of new technologies, including mobile banking. When customers believe that

mobile banking offers them clear benefits such as convenience, accessibility, time savings, and cost-effectiveness, they are more inclined to embrace it. Mobile banking allows users to conduct financial transactions on the move, eliminating the need to visit physical bank branches and providing access to services around the clock. These advantages align well with today's fast-paced lifestyles, making mobile banking an appealing choice for many customers.

Research has shown that the perception of relative advantage positively affects the adoption of mobile banking (Moore & Benbasat, 1991). When customers believe that mobile banking offers superior benefits compared to traditional banking methods, they are more willing to overcome barriers to adoption and switch to mobile banking platforms (McCloskey, 2006). For instance, the enhanced status and economic benefits associated with mobile banking can further motivate individuals to adopt the technology (Rogers, 2003). Furthermore, mobile banking platforms continue to evolve, offering a wide range of innovative features that can contribute to the perceived relative advantage. As mobile banking becomes increasingly integrated with other services, such as mobile payments and mobile loans, the potential benefits for users grow even further. As a result, the perception of relative advantage is likely to play a crucial role in driving the adoption of mobile banking services among customers.

Thus, the concept of relative advantage is a vital factor in the adoption of mobile banking. When customers perceive mobile banking as offering distinct advantages over traditional banking methods, they are more inclined to embrace this innovative technology. The convenience, accessibility, and efficiency of mobile banking services provide clear benefits to users, which, in turn, can contribute to a competitive advantage for banks that offer these services. As the banking sector continues to evolve and innovate, understanding and leveraging relative advantage will remain essential for banks aiming to stay competitive in the market.

#### 1.10.1.2 Complexity

In the realm of the Diffusion of Innovation Theory, the term "complexity" encapsulates the level of difficulty individuals encounter when attempting to comprehend and effectively utilize a novel technology or innovation (Gu et al., 2009). In the specific context of mobile banking, complexity is synonymous with how customers perceive the intricacy of mobile banking applications, gauging whether they find them challenging to grasp. Scholarly investigations have underscored that the extent of complexity linked to emerging technologies can wield substantial influence over their adoption rates. Conversely, the concept of "ease of use," which stands in direct contrast to complexity, emerges as a pivotal factor known to exert a positive impact on the adoption of mobile banking (Gu et al., 2009; Venkatesh & Davis, 2000; Luarn & Lin, 2005). Essentially, when mobile banking platforms are meticulously crafted to be user-friendly, intuitive, and straightforward to navigate, it significantly heightens the likelihood of customers embracing and integrating the technology into their financial routines. The innate simplicity of mobile banking applications renders them attractive to a diverse array of users, including those who may not possess an advanced level of technological proficiency.

Conversely, complexity can pose a significant obstacle to the widespread adoption of mobile banking. If customers find mobile banking applications challenging to comprehend or navigate, they may hesitate to adopt the technology (Mallat, 2007; Au & Kauffman, 2008; Ondrus & Pigneur, 2006). Complex functionalities, technical terminology, or a lack of clear guidance can deter potential users from utilizing mobile banking services, resulting in lower adoption rates. To establish mobile banking as a tool for gaining a competitive edge in the banking sector, it is imperative for banks to address concerns related to complexity. Elements such as user interface design, explicit instructions, and robust customer support can play pivotal roles in mitigating the perceived complexity and enhancing the user-friendliness of mobile banking applications. Additionally, as technology continues to advance and becomes more intuitive, the complexity associated with mobile banking is likely to diminish, making it even more

appealing to customers. By concentrating on simplifying the user experience and minimizing complexity, banks can motivate a larger customer base to embrace mobile banking, leading to increased market penetration and improved customer retention.

Hence, complexity plays a pivotal role in the adoption of mobile banking. When mobile banking applications are perceived as easy to use and comprehend, customers are more inclined to adopt the technology. Conversely, excessive complexity can serve as a hindrance to adoption. Consequently, banks should prioritize usability and the development of user-friendly interfaces to reduce complexity and encourage broader adoption of mobile banking services, ultimately contributing to a competitive advantage in the banking sector.

#### 1.10.1.2 Compatibility

Compatibility, within the framework of the Diffusion of Innovation Theory, pertains to the extent to which a new technology or service is perceived to align with the values, experiences, and requirements of users. In the context of mobile banking adoption, compatibility is associated with how well mobile banking services harmonize with the lifestyle and preferences of potential users. Extensive research has demonstrated that compatibility is a pivotal factor influencing the adoption of mobile banking. Mobile banking services that seamlessly integrate with customers' lifestyles and needs are more likely to be adopted (Rogers, 2003). When mobile banking provides features that smoothly integrate into users' daily routines and financial management practices, it becomes an attractive option for potential users. For instance, if mobile banking enables users to conveniently carry out transactions and access their accounts through smartphones, it becomes a suitable and compatible choice for individuals who are frequently on the move.

The significance of compatibility holds true across various digital domains, mobile payments (Chen, 2008), spanning virtual stores (Chen et al., 2004), and mobile banking (Lin, 2011; Koenig-Lewis, 2010). Notably, Al-Gahtani (2003) conducted an insightful exploration that

unveiled a robust and undeniable link between compatibility and the decision-making process when it comes to adopting new technologies, thereby emphasizing its pivotal role. However, it's important to recognize that compatibility isn't confined solely to the technical aspects of mobile banking; it extends its reach to encompass cultural and social dimensions as well. Mobile banking services that harmonize with the prevailing cultural norms and align with the social values of users tend to experience more favourable reception and acceptance among customers (Journal of Electronic Commerce Research, 2012). Consequently, for banks that aspire to foster the widespread adoption of mobile banking, it becomes imperative to thoroughly grasp the cultural context and preferences of their target audience.

To leverage compatibility as a tool for gaining a competitive edge in the banking sector, banks must customize their mobile banking services to cater to the specific requirements and preferences of their target customers. This may involve providing localized features, language options, and personalized experiences. By aligning mobile banking services with customers' lifestyles and cultural values, banks can boost the adoption rate of mobile banking and gain a competitive advantage in the market.

In conclusion, compatibility plays a pivotal role in the adoption of mobile banking. Mobile banking services that seamlessly fit into users' lifestyles, values, and cultural norms are more likely to be embraced by customers. By recognizing and addressing customers' needs and preferences, banks can enhance the compatibility of their mobile banking offerings and employ this as a tool to enhance their competitiveness in the market.

#### 1.10.1.3 Observability

Observability, within the framework of the Diffusion of Innovation Theory, refers to how easily the benefits and outcomes of a new technology or innovation can be seen and communicated to society. When it comes to the adoption of mobile banking, observability is related to how accessible banking services through mobile devices are and how aware and visible mobile

banking is in the market. In the realm of mobile banking, observability encompasses multiple dimensions. Firstly, it involves the convenience of accessing banking services through mobile devices from anywhere and at any time. Mobile banking offers users the flexibility to conduct transactions and manage their finances on the move, thereby enhancing observability through its accessibility and availability (Rogers, 2003).

Secondly, observability also encompasses the visibility of mobile banking services and their benefits in the market. Effective marketing and communication strategies can raise awareness of mobile banking among potential users, making them more inclined to consider adopting the technology (Moore & Benbasat, 1991). Banks that actively promote and advertise their mobile banking services can increase the visibility of these services, leading to higher adoption rates.

Numerous studies have underscored the significance of observability in various technological contexts. For example, Moore and Benbasat (1991) discovered that visibility and demonstrable results influence the adoption of innovation. In the context of mobile banking, the ease of accessing banking services at any time and from anywhere contributes to the observability of mobile banking and its benefits to users (Journal of Electronic Commerce Research, Vol. 13, No. 4, 2012). Observability also plays a role in shaping the perception of relative advantage, as potential users may become more aware of the benefits of mobile banking through visible demonstrations or recommendations from others (Lin, 2011). When people witness others using mobile banking and benefiting from it, they are more inclined to consider adopting the technology themselves (Rogers, 2003).

For banks seeking to utilize mobile banking as a competitive advantage, enhancing observability is pivotal. This can be achieved through effective marketing campaigns, user-friendly mobile banking applications, and positive customer experiences that encourage word-

of-mouth referrals. By improving the visibility and accessibility of mobile banking services, banks can elevate adoption rates and secure a competitive edge in the banking sector.

In summary, observability is a crucial factor in the adoption of mobile banking. The ease of accessing banking services through mobile devices and the visibility of mobile banking in the market can profoundly influence adoption rates. By enhancing observability through marketing efforts and customer-centric mobile banking solutions, banks can leverage mobile banking as a tool for gaining a competitive advantage in the banking sector.

#### 1.10.1.4 Perceived risk

Perceived risk, in the context of the diffusion of innovation theory, refers to the potential negative consequences or uncertainties that potential adopters associate with a new technology or innovation. For mobile banking adoption, perceived risk involves concerns related to the privacy and security of one's financial information, the risk of the technology failing to deliver expected outcomes, and the potential loss of access to information or mobile devices.

In the case of mobile banking, perceived risk can act as a significant barrier to adoption (Chen, 2008; Koenig-Lewis, 2010; Lee et al., 2007). Customers may be reluctant to use mobile banking services if they fear that their financial data could be compromised or misused. Privacy and security concerns are particularly important, as mobile banking involves sensitive financial transactions and personal information (Luarn & Lin, 2005). Moreover, customers may perceive risks related to the reliability and functionality of mobile banking applications. If they doubt the technology's ability to perform transactions accurately and efficiently, they may opt for more traditional banking channels. Concerns about potential losses, such as unauthorized access to accounts or mobile device theft, can also influence adoption decisions (Kuisma et al., 2007; Coursaris et al., 2003).

Addressing perceived risk is crucial for banks seeking to promote mobile banking adoption and gain a competitive advantage in the banking sector. Banks must implement robust security measures to safeguard customer data and reassure potential users about the safety of mobile banking transactions (Gewald et al., 2006; Ndubisi & Sinti, 2006). Effective communication and education about mobile banking security features can help mitigate perceived risk and increase customers' trust in the technology (Lin, 2011). Offering guarantees or compensation in case of unauthorized transactions or security breaches can also alleviate customer concerns. Additionally, demonstrating the benefits and advantages of mobile banking, such as the convenience, accessibility, and time-saving aspects, can help outweigh the perceived risks (Rogers, 2003). Banks can conduct awareness campaigns that highlight the benefits of mobile banking while addressing common concerns about security and reliability.

Therefore, perceived risk is a critical factor influencing mobile banking adoption. Customers' concerns about privacy, security, and potential losses can act as significant barriers to adoption. To leverage mobile banking as a tool for competitive advantage, banks must address perceived risk through robust security measures, effective communication, and education about mobile banking features. By building customer trust and confidence, banks can encourage greater adoption of mobile banking services and gain a competitive edge in the banking sector.

As the anchor theory, The Diffusion of Innovation Theory is highly relevant to the current study on mobile banking as a tool for competitive advantage in the banking sector. This theory provides valuable insights into the factors that influence the adoption of new technology and innovations, such as mobile banking. Understanding these factors is essential for banks aiming to leverage mobile banking to gain a competitive edge.

The theory identifies five attributes of innovation that influence adoption: relative advantage, complexity, compatibility, observability, and perceived risk. For banks, emphasizing the

relative advantage of mobile banking over traditional banking channels can encourage customers to adopt the technology. Highlighting the convenience, accessibility, and cost-effectiveness of mobile banking can make it an appealing option for customers, leading to increased adoption. Additionally, addressing the issue of complexity and ensuring that mobile banking platforms are user-friendly can reduce barriers to adoption. Simplifying the onboarding process and offering intuitive interfaces can enhance the ease of use and encourage more customers to adopt mobile banking.

Moreover, understanding the compatibility of mobile banking with customers' lifestyles and values is crucial. Banks can tailor their mobile banking services to align with the preferences and habits of their target market, making it more likely for customers to embrace this innovation. Furthermore, observability plays a significant role in influencing mobile banking adoption. By conducting effective marketing campaigns and creating awareness about the benefits of mobile banking, banks can increase its visibility and encourage more customers to try the service. Perceived risk is another critical aspect that banks must address. By implementing robust security measures, ensuring data privacy, and offering guarantees, banks can alleviate customers' concerns about the risks associated with mobile banking, leading to higher adoption rates.

While the Diffusion of Innovation Theory provides valuable insights, it has some limitations in the context of the current study. One limitation is that it primarily focuses on individual-level adoption behavior, overlooking the broader organizational and market dynamics that influence technology adoption in the banking sector. Banks' adoption of mobile banking also involves factors such as regulatory compliance, IT infrastructure, and organizational readiness, which are not fully addressed by the theory.

Moreover, the theory assumes a linear adoption process, where innovations diffuse gradually through society over time. However, there has been no uniformity in how mobile banking has been adopted across all demographics and regions. Cultural, economic, and regional differences can impact the rate of adoption, and these complexities are not fully captured by the theory. Furthermore, the theory does not consider the role of network effects, where the value of an innovation increases with the number of adopters. In the context of mobile banking, the availability of a large user base can attract more customers, creating a positive feedback loop that accelerates adoption. This network effect can significantly impact mobile banking adoption rates but is not explicitly addressed by the theory.

Therefore, the Diffusion of Innovation Theory is highly relevant to the current study, as it provides valuable insights into the factors influencing mobile banking adoption. However, the theory has limitations in capturing broader organizational and market dynamics, as well as the impact of network effects on adoption rates. Banks should consider these limitations and supplement the theory with a comprehensive analysis of market trends, customer behaviors, and organizational factors to effectively leverage mobile banking for gaining a competitive advantage.

### 1.10.2 Reinforcement Learning

Reinforcement learning is a psychological theory that focuses on how individuals' past experiences and the consequences of their actions influence their future decision-making. In the context of technology adoption, reinforcement learning posits that individuals' choices are influenced by the outcomes they have experienced in previous periods. The law of effect, proposed by Thorndike (1932), is a fundamental principle of reinforcement learning, stating that an individual's propensity to re-engage in a particular action is increased or reduced based on the rewards or punishments experienced as a consequence of that action (Erev and Roth, 1998).

In the context of mobile banking adoption, reinforcement learning implies that customers' past experiences with the technology and the benefits they have derived from using mobile banking can influence their future decisions to continue using it or to seek alternative banking channels. Positive experiences, such as fast and convenient transactions, increased financial control, and access to banking services on-the-go, can reinforce the behavior of adopting and using mobile banking regularly (Lin, 2011).

Conversely, negative experiences, such as technical glitches, transaction failures, or security issues, can lead customers to seek other banking options and reduce their likelihood of using mobile banking in the future. These positive and negative reinforcements play a crucial role in shaping customers' loyalty and retention in mobile banking. Reinforcement learning does not take into account cultural and individual differences in decision-making. It assumes that individuals' decisions are solely based on past outcomes without considering other factors, such as cultural norms, social influence, or individual beliefs. While reinforcement learning provides insights into how past experiences can influence behavior, it may not fully explain all aspects of technology adoption, particularly in complex decision-making processes.

The theory of reinforcement learning is relevant to the current study on mobile banking as a tool for competitive advantage in the banking sector. Understanding how past experiences and consequences can influence customers' future decisions to adopt and use mobile banking is crucial for banks aiming to gain a competitive edge. By providing positive experiences through user-friendly interfaces, secure transactions, and convenient banking services, banks can reinforce customers' adoption and usage of mobile banking. Additionally, addressing any negative aspects or concerns related to mobile banking, such as security issues or technical glitches, can help prevent customers from seeking alternative banking channels. Therefore, by applying the principles of reinforcement learning, banks can strategically enhance the adoption

and usage of mobile banking services, ultimately contributing to their competitive advantage in the banking sector.

For banks aiming to use mobile banking as a tool for competitive advantage, understanding the principles of reinforcement learning can be valuable. By consistently providing positive experiences and addressing any negative aspects of mobile banking, banks can reinforce customers' adoption and usage of mobile banking services (Chen et al., 2000). Offering rewards or incentives for using mobile banking can also encourage continued adoption and usage.

One weakness of the reinforcement learning theory is that it assumes individuals' decision-making is solely based on past experiences and their associated outcomes. In reality, technology adoption is a complex process influenced by various factors, including cultural norms, social influence, individual beliefs, and external stimuli (Lin, 2011). The theory does not consider the role of external influences or individual differences in decision-making, which can play a significant role in technology adoption. Factors such as peer recommendations, marketing efforts, and societal norms can also influence customers' decisions to adopt mobile banking, in addition to their past experiences.

Moreover, reinforcement learning does not account for the potential biases or cognitive limitations that individuals may have in assessing past experiences and making decisions. People may have selective memory or may not accurately recall the outcomes of past experiences, which can impact their decision-making regarding mobile banking adoption. Additionally, customers' preferences and priorities can change over time, and their past experiences may not always accurately predict their future choices. Therefore, while reinforcement learning provides valuable insights into how past experiences can influence behavior, it is essential to consider other factors that can shape customers' decisions to adopt

mobile banking for a comprehensive understanding of technology adoption in the banking sector.

Nonetheless, reinforcement learning is a psychological theory that underscores the importance of experiences and their consequences in influencing individuals' future decisions. For mobile banking adoption, positive and negative reinforcements can play a significant role in shaping customers' continued usage of mobile banking services. Banks can leverage these principles to encourage greater adoption and usage of mobile banking, thereby gaining a competitive advantage in the banking sector.

### 1.10.3 Efficient Structure (ES) Theory

The Efficient Structure (ES) theory is relevant to the current study on mobile banking as a tool for competitive advantage in the banking sector, particularly in understanding how mobile banking can contribute to better operational efficiency and improved margins for banks. The ES theory posits that banks with better operational efficiency can achieve higher profits due to cost reduction and increased production at lower costs (Athanasoglou et al., 2006). In the context of mobile banking, the adoption of digital banking services like mobile banking can lead to streamlined processes, reduced manual interventions, and increased automation, all contributing to operational efficiency.

The two approaches within the ES theory, namely the X-efficiency and Scale-efficiency hypotheses, offer valuable insights into how mobile banking can improve banks' financial position. X-efficiency emphasizes improved management and technology that can lead to cost reduction and increased market share (Athanasoglou et al., 2006). By adopting mobile banking, banks can reduce costs associated with physical branches and paper-based transactions, leading to operational efficiency and improved margins.

On the other hand, the Scale-efficiency hypothesis focuses on economies of scale achieved through increased production and cost reduction (Athanasoglou et al., 2006). Mobile banking allows banks to reach a wider customer base without the need for physical branches, leading to potential economies of scale. As more customers adopt mobile banking, banks can achieve better margins and financial performance.

The Efficient Structure (ES) theory is highly relevant to the current study on mobile banking as a tool for competitive advantage in the banking sector. The theory highlights the importance of operational efficiency and cost reduction in achieving better margins and improved financial performance for banks. As banks face increasing competition and evolving customer preferences, adopting mobile banking can be a strategic move to enhance operational efficiency and gain a competitive edge.

By integrating mobile banking into their operations, banks can reduce costs associated with traditional brick-and-mortar branches. Mobile banking allows customers to conduct various banking transactions through their smartphones, reducing the need for physical branch visits and manual interventions. This can lead to significant cost savings for banks in terms of staffing, infrastructure, and overhead expenses. As a result, banks can allocate resources more efficiently and direct their investments towards value-added services and innovation.

Moreover, mobile banking offers a scalable solution for reaching a broader customer base without the need for a physical presence in every geographical area. Banks can expand their reach and market penetration through mobile banking, which can result in economies of scale. By serving more customers through mobile channels, banks can improve their market share and customer base, contributing to improved margins and financial performance.

Furthermore, the adoption of mobile banking can enhance customer experience and satisfaction, leading to higher customer retention rates. Mobile banking offers convenience and

accessibility, allowing customers to manage their finances at their convenience, which can strengthen the relationship between banks and their customers. Satisfied customers are more likely to remain loyal to the bank and recommend its services to others, contributing to sustained growth and competitive advantage.

However, it is essential to recognize that achieving a competitive advantage through mobile banking goes beyond operational efficiency alone. Banks must also focus on differentiating their mobile banking services, providing innovative features, ensuring robust security measures, and delivering a seamless user experience. Effective marketing and communication strategies are also vital in promoting mobile banking adoption and gaining a competitive edge in the market.

Thus, the Efficient Structure (ES) theory is highly relevant to the current study, as it underscores the significance of mobile banking adoption in achieving operational efficiency and cost reduction for banks. By leveraging mobile banking as a tool for improving efficiency, expanding market reach, and enhancing customer experience, banks can gain a competitive advantage in the dynamic banking sector. However, it is essential for banks to consider a holistic approach, addressing other factors such as customer satisfaction and service differentiation, to fully capitalize on the potential of mobile banking for gaining a competitive edge.

However, the ES theory also has limitations when applied to the mobile banking context. It does not fully consider the cost of implementing and maintaining mobile banking infrastructure, which can be substantial, especially for smaller banks. Additionally, while mobile banking can improve operational efficiency, it may not directly translate to increased market share or competitive advantage if other banks also adopt similar technologies (Moore & Benbasat, 1991). The competitive advantage gained through mobile banking adoption can

be influenced by factors beyond operational efficiency, such as service differentiation, customer experience, and marketing strategies.

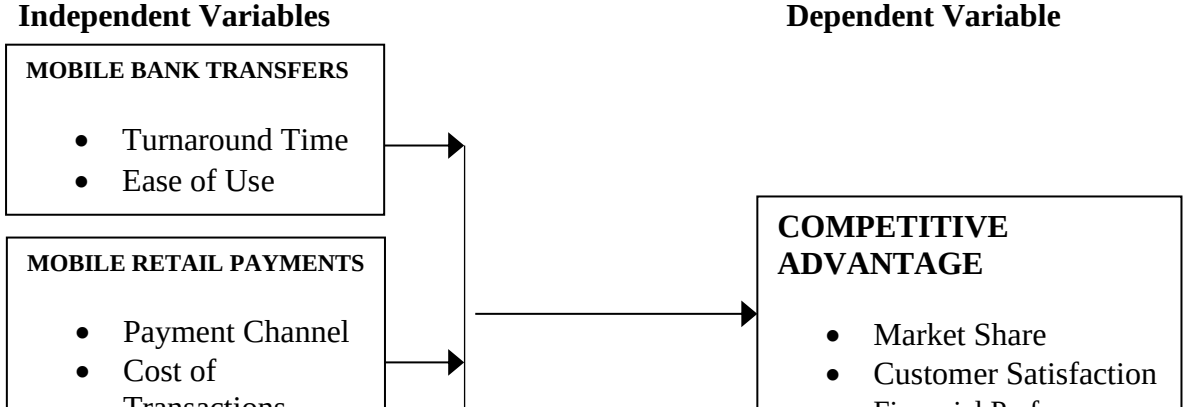
Furthermore, the ES theory primarily focuses on cost reduction and increased production as the main drivers of improved margins. However, other factors, such as customer retention, cross-selling opportunities, and increased customer satisfaction through mobile banking, can also contribute to better financial performance (Lin, 2011). Therefore, while the ES theory provides valuable insights into the potential benefits of mobile banking adoption, it is essential to consider a broader range of factors that can contribute to competitive advantage in the banking sector.

In conclusion, the Efficient Structure (ES) theory is relevant to the study of mobile banking as a tool for competitive advantage in the banking sector, particularly in understanding how mobile banking can improve operational efficiency and margins for banks. By reducing costs and increasing production through mobile banking adoption, banks can gain a competitive edge. However, the theory's limitations should be considered, and a comprehensive analysis of various factors, including customer experience and marketing strategies, is necessary to fully understand the role of mobile banking in achieving competitive advantage in the banking sector.

## 1.11 Conceptual Framework

The conceptual framework is a pictorial illustration of how the dependent variable relates with independent variables.

**Figure 1.1: Conceptual Framework**



**Source: Researcher (2023)**

In this regard, Competitive advantage is considered the dependent variable that is influenced by the independent variables including bank transfers, Retail Payments, and Mobile Loans. Competitive advantage is measured by Market share, Customer Satisfaction and Financial performance in the Banking sector. Each of the four independent variables was measured using two indicators. For bank transfers, the indicators to be used are ease of use and turnaround time. Retail payment is measured in terms of payment channels and cost of transaction. Mobile loans were determined in terms of accessibility and loan limits.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

This section examines existing scholarly literature related to mobile banking and competitive advantage. The emphasis is on the three parts of mobile banking developments, which are mobile expanded efficiency, client relations management, and financial exchanges advancements by a portion of the biggest banks in Kenya and the impact that they may have on their competitive advantage. This part concentrated on the hypothetical system controlling the study, monetary and financial impact of mobile banking, experimental writing and section rundown. It reviews empirical studies conducted in the field and identifies research gaps that exist.

## 2.2 Empirical Study

This section will review previous studies conducted in relation to banks transfers, retail payment and mobile loans in relation to competitive advantage.

### 2.2.1 Mobile Bank Transfers and Competitive Advantage in the Banking Sector

Numerous research investigations have delved into the ramifications of mobile bank transfers on banks' competitive edge. As an illustration, consider the study carried out by Kiragu (2017), which aimed to shed light on the impact of e-banking on the financial performance of banks in Kenya. The study duly recognized the pivotal role played by e-banking within the banking sector, highlighting its contribution to the consistent growth in these banks' profits over time. However, it's essential to emphasize that the study didn't explicitly establish a direct link between the adoption of e-banking innovations and the competitive advantage held by

commercial banks. Instead, its principal emphasis remained on evaluating the trends in financial performance within the banking sphere.

Kasevu (2017) conducted a study with the goal of comprehending the consequences of various innovation strategies, encompassing process, market, product, and technology innovations, on the competitiveness of commercial banks. Significantly, the study unveiled that technological innovations, including those linked to electronic banking, played a substantial role in amplifying the competitiveness of commercial banks. This boost was attributed to the convenience offered to customers and the subsequent reduction in costs facilitated by these innovations. Nonetheless, it's imperative to underline that the study didn't delve into the specific facet of bank transfers within the realm of financial innovations contributing to competitiveness.

In a study conducted by Vekya (2017), the investigation centered on the impact of e-banking on the profitability of Kenya Commercial Banks (KCB). The study took into account variables like return on equity (ROE), ATMs, point-of-sale (POS) terminals, and mobile banking. The outcomes divulged that both POS and ATM services had a favorable influence on the banks' performance, and this influence held statistical significance. Nevertheless, it's essential to recognize that the primary focus of the study remained on assessing profitability and didn't explicitly explore the competitive advantage aspect.

Muia (2017) carried out a study with the objective of establishing the impact of various financial innovations, including electronic funds transfer (EFT), mobile banking, and internet banking, on the performance of commercial banks. The research exposed that financial innovations had a positive effect on the performance of these banks, a phenomenon attributed to heightened efficiency and convenience for customers. Nevertheless, it's worth noting that the study didn't directly evaluate the impact of these financial innovations on the competitive

advantage of commercial banks; rather, the focus was on assessing their influence on performance.

A study undertaken by Lebanon, Sujud & Hashem (2017) sought to ascertain the influence of financial innovations, comprising mobile money transfers, internet banking, and automated teller machines (ATMs), on the performance of banks in Lebanon. The research placed primary emphasis on profitability, return on assets (ROA), and competitive advantage as performance indicators. Intriguingly, the study found that only electronic funds transfer (EFT) had a significant impact on bank profitability. It's important to acknowledge that the study didn't extensively explore the effects of other financial innovations, such as e-banking, on competitive advantage.

Wangui (2021) conducted a study with the aim of identifying various electronic money transfer (EMT) systems in the Kenyan banking sector and assessing their impact on the profitability, liquidity, and overall performance of financial institutions. It's essential to highlight that this study used a microfinance institution as a case study rather than commercial banks. Additionally, while the research highlighted the significance of EMT services in enhancing profitability, liquidity, and business net worth, it did not directly address their impact on the competitive advantage of commercial banks.

Kamande (2018) conducted a study examining the impact of electronic banking on the financial performance of major Kenyan banks. The study analyzed the value of electronic banking transactions, including mobile banking and internet banking, as predictor variables against return on assets (ROA) as a measure of financial performance. Surprisingly, the study found that mobile banking and internet banking had no substantial impact on the financial performance of commercial banks. However, it did not specifically assess the effect of mobile bank transfers on the competitive advantage of these banks.

Chirah et al. (2018) investigated the influence of alternative banking channels on the operational efficiency of commercial Kenyan banks. The study considered ATMs, agency banking, mobile banking, and internet banking as independent variables and operational efficiency (measured by operating costs to total revenue) as the response variable. The study did not find a significant impact of these banking channels on operational performance. However, it did not delve into the competitive advantage aspect, primarily focusing on operational efficiency.

In Mugane's (2020) study, the objective was to determine how mobile banking affected the performance of financial institutions in Kenya, particularly commercial banks. The study assessed the effects of SMS banking, mobile bill payments, and airtime top-ups on financial performance. It highlighted the significant role of these services in enhancing financial performance but did not directly address their impact on the competitive advantage of commercial banks.

The studies reviewed have predominantly centered on evaluating the financial performance and operational efficiency of banks in the context of mobile banking and various financial innovations. However, they have not delved deeply into thoroughly investigating the direct and explicit linkage between these innovations, particularly the role of mobile bank transfers, and the enhancement of competitive advantage within the commercial banking sector. These studies have been instrumental in shedding light on the transformative impact of innovations such as e-banking, technological advancements, and electronic funds transfers on the banking industry's financial performance. They have consistently highlighted the convenience, cost-effectiveness, and efficiency gains associated with these innovations, factors that are crucial for a bank's overall performance.

Nonetheless, the gap exists in these studies when it comes to elucidating how these innovations translate into a tangible competitive edge for banks in a fiercely competitive market. Competitive advantage extends beyond mere financial performance metrics and encompasses a broader spectrum, encompassing customer experience, market positioning, brand equity, and the ability to gain and retain customers in an ever-evolving landscape.

Therefore, future research should endeavor to bridge this critical gap by delving deeper into the specific strategies and mechanisms through which mobile bank transfers, alongside other innovations, can be harnessed by commercial banks to achieve and sustain a competitive advantage. Understanding the nuances of how these innovations influence customer loyalty, market share, and differentiation in the banking sector will be pivotal for banks aiming to thrive in the dynamic and competitive banking environment. In essence, while financial performance is undoubtedly crucial, it is only one facet of the broader competitive landscape in which banks operate, and a more comprehensive examination is warranted to fully grasp the role of innovation in securing and maintaining a competitive edge..

### 2.2.2 Retail Payment on the Competitive Advantage in the Banking Sector

Numerous studies have delved into the influence of retail payment systems on the operations and financial performance of commercial banks. These research endeavors have been instrumental in shedding light on how various dimensions of retail payment services impact the efficiency and effectiveness of banking operations. Although the primary focus of these studies has been on the financial aspects of banking, they offer valuable insights into the broader concept of competitive advantage within the banking sector.

One such study conducted by Okello (2016) sought to understand how electronic retail payment services affect the financial performance of commercial banks in Kenya. This comprehensive research spanned five years, from 2011 to 2015, and employed a descriptive research approach.

It relied on a wealth of secondary data from forty-three commercial banks. The study unearthed a significant improvement in the productivity and efficiency of these banks following the adoption of electronic retail payment services. Notably, the convenience and efficiency afforded by electronic payment systems played a pivotal role in positively influencing the overall performance of these banks. However, it's important to note that the primary focus of this study was on the financial performance of banks rather than their competitive advantage.

Simboley (2017) took a different angle by investigating how banking through agents impacted the performance of commercial banks. In particular, this study probed into aspects such as the growth of customer bases, the influence on deposits, and the potential reduction of operational costs attributed to agency banking. Employing a descriptive research approach, Simboley's research involved engaging 120 agents and 12 middle managers from banks that had already integrated agency banking into their operations. The findings were enlightening, revealing that agency banking indeed led to the expansion of customer numbers. This growth was attributed to the efficiency and affordability of banking services offered through agents. However, while the study highlighted the positive impact on various operational aspects, it didn't explicitly address the concept of competitive advantage.

Ndeje and Nagib (2017) undertook research to assess the impact of relying on retail payments on the performance of banks in Kenya. Their study considered several factors, including the composition of lending portfolios, the size of customer bases, the extent of branch networks, and the effectiveness of deposit mobilization. Employing a mixed-methods approach that incorporated both primary and secondary data sources, the study involved engaging managers, retail managers, and relationship managers from various banks. The outcomes were intriguing, demonstrating significant effects on retail banking and the overall financial performance of banks. However, it's important to note that this research didn't directly investigate the influence

of payment channels and transaction costs on retail payments but rather centered on broader financial performance indicators.

Mohammed, Ibrahim, and Muritala (2022) turned their attention to Nigeria, exploring the impact of payment system innovations on the performance of commercial banks in the country. The focus was on innovations within retail payments, including mobile payments, POS transactions, and internet-based payments. Employing an ex post facto research design, this study relied on data from Nigeria's central bank. The findings of this research were highly illuminating, revealing a positive and significant influence of retail payment innovations on bank performance. These findings underscored the critical role that such innovations play in enhancing the competitiveness of banks in the modern financial landscape.

Kanjogu (2018), on the other hand, chose to examine the effect of adopting electronic retail payment systems on the financial performance of supermarkets located in Nairobi County, Kenya. Utilizing a descriptive cross-sectional research design, this study targeted a specific group of businesses, namely 87 medium and large supermarkets. The results of this research were notable, as they demonstrated that the adoption of electronic retail payment systems had a positive impact on the financial performance of these supermarkets. However, it's important to emphasize that the primary focus of this study was on supermarkets rather than commercial banks.

Maina (2021) ventured into the microfinance sector in Nairobi City County, Kenya, to assess the impact of agency banking strategy on the performance of Microfinance Institutions (MFIs). The study had specific objectives that encompassed the analysis of agency banking transaction volumes, the influence of customer deposits facilitated through agents, and the effects of loan repayments via the agency model on MFI performance. Employing a descriptive research approach, this study involved 13 licensed MFIs and engaged 65 respondents in its research

efforts. The outcomes were noteworthy, as they indicated that transaction volumes conducted through agents significantly influenced the performance of MFIs in Nairobi County.

In summary, these studies, while primarily focused on aspects of financial performance and operational efficiency, indirectly contribute to our understanding of competitive advantage within the banking sector. The positive effects observed in terms of efficiency gains, customer growth, and financial performance enhancement all play a role in shaping a bank's competitive positioning within the industry. Nonetheless, it is important to acknowledge that these studies did not explicitly investigate the concept of competitive advantage in banking. Future research endeavours should aim to bridge this gap by exploring the multifaceted dimensions of competitive advantage in the context of retail payment systems to provide a more holistic view of their role in the banking sector.

### 2.2.3 Mobile Loans on the Competitive Advantage in the Banking Sector

Numerous research studies have delved into the impact of mobile loans on the competitive advantage of commercial banks. These investigations have sought to uncover the relationship between mobile lending practices and various aspects of banks' performance and operational efficiency, shedding light on how this emerging financial landscape influences the banking sector.

One such study conducted by Ndagijimana (2017) aimed to determine the influence of mobile lending on the performance of commercial banks in Kenya. Adopting a cross-sectional research design, this study relied on financial reports from commercial banks and financial performance data collected from the Central Bank of Kenya. The research unearthed significant findings, indicating that mobile lending had a positive impact on the profitability of commercial banks. This influence was attributed to its effects on interest rates, capital adequacy, and liquidity within the banking sector.

Gakuru (2017) embarked on a study that explored the intricate connection between virtual lending and loan repayment within Kenyan banking institutions. The research findings revealed that mobile lending, driven by factors such as lack of loan security and easy accessibility of loans, significantly influenced the rate at which loans were repaid. Moreover, the study highlighted the role of lending policies in monitoring lending rates, ultimately affecting loan repayment and, consequently, the overall performance of banks.

Kinyanzui, Achoki, and Kiriri (2018) sought to determine the impact of mobile credit on the operational efficiency of commercial banks in Kenya. Employing primary and secondary data sources, the study examined access to mobile credit and its effects on organizational performance. Primary data collection involved questionnaires with both closed and open-ended questions. The findings were insightful, revealing that mobile borrowing positively impacted the profitability of commercial banks by enhancing debt collection processes and, in turn, improving overall bank performance.

Masika (2019) conducted research with a specific focus on the impact of mobile-based loans on the profitability of selected banks in Kenya. Employing a descriptive cross-sectional research design and sampling 42 banks in Kenya, the study unveiled a positive correlation between mobile loans and the performance of commercial banks. The results underscored the role of mobile loans in boosting the profits of these banks, attributed to the simplified loan application procedures associated with mobile loans.

Orina and Sporta (2021) conducted an investigation to assess the impact of mobile-based banking on the operational efficiency of commercial banks, with mobile loans as a central focus. The study adopted a census survey approach and collected data from financial reports provided by the Central Bank of Kenya. Based on their findings, the study concluded that

mobile loans had a significant influence on the efficiency of commercial banks in Kenya, shedding light on the transformative role of mobile lending practices in banking operations.

Verah (2022) conducted a study to evaluate the effect of digital credit on the financial performance of selected banks. The study's specific objectives revolved around assessing the impact of mobile network operations, website-based loans, and app-based loans on the performance of these banks. Employing descriptive survey methods, including longitudinal and explanatory non-experimental designs, the research consolidated panel data from secondary sources spanning from 2012 to 2020. The outcomes of the study highlighted the prominent role of mobile network operator-based loans, websites, and applications in influencing the financial performance of selected banks, further emphasizing the transformative impact of digital credit in the banking sector.

In summary, these studies collectively contribute to our understanding of how mobile loans have become integral in shaping the operational efficiency and financial performance of commercial banks. While the primary focus has been on various aspects of bank performance, the positive influences observed in profitability, operational efficiency, and loan repayment patterns indirectly underscore their contribution to the competitive advantage of banks in the dynamic landscape of digital finance. These findings highlight the increasing importance of mobile lending practices in the banking sector, offering insights for banks seeking to leverage this digital transformation to enhance their competitive positioning.

## 2.3 Summary of literature

Absorption or acceptance of new technologies like Mobile banking has been linked to certain attributes. Diffusion of innovation theory states that by focusing on this attribute one can be able to onboard more depositors and consequently increase their market share. Key functions

of mobile banking discussed can be improved by proactively improving the taking into account the attributes discussed.

Reinforcement learning however looks at customer experience and how they make decisions on a purchase based on the customer satisfaction a product or service brings to them. We also see that many banking organizations are looking to improve customer experience for them to retain their clients and increase their customer base.

When looking at the Financial benefits EX theory talks about operational efficiency as a way of increasing which is one of the main reasons why most organizations have switched to mobile banking platforms.

Finally, using mobile banking as one of the organizations resources to gain market share is key in the banking sector as most players are using this platforms. For one to be able to have an edge over the competition they would need to use technology and focus on the attributes mentioned to ensure acceptance of new product.

From the empirical literature, it is evident that bank transfers innovations have a positive effect on the competitive advantage of the financial institution. Mobile banking, online banking, ATMs, and banking via agents have been noted to increase the operation efficiency of the commercial banks. Bank transfers are also noted to have a positive effect on the profitability of the commercial banks as well as the performance of the banks. Reviewed studies have identified that increased financial performance boost the competitive advantage of the bank as it provides the banks with tools for competition i.e Capital for investment, large market share and customer's retention capabilities.

The past studies have identified how retail payment relates to the competitiveness of the commercial banks. From the review of the pest literature it is noted that retail payment have

played key role in improving the competitiveness of the commercial banks through enhanced productivity and efficient service delivery. Electronic methods of retail payment have simplified the banking operation which has positively impacted the management of the banks and also to the employees.. This has improved the service delivery of commercial banks, which have improved the customers' satisfaction.

Previous studies have also identified the relationship between mobile loans on the competitive advantage of the commercial banks. Mobile loans improved the operations efficiency the commercial banks. Mobile based credits also were identified to improve the performance of the commercial banks. This was associated to the easiness in the loan application procedures, which have made them to be more favourable. Mobile loans were found to have positive effect on the competitive advantage of commercial banks.

## 2.4 Knowledge Gap

Despite the numerous attempts by the past studies the findings however do not adequately address how mobile banking applications assist in improving the organizations competitive edge. Many sources talk about the growth of mobile banking but have not linked it to competitive advantage this can be seen where Fin Access (2019), states that digital loans have recorded a high increase in Kenya from 0.6% to 8.3% but does not tie this to competitive advantage.

We also find that the studies are based on primary data and not much participation from the clientele, which help in ensuring the success of banking organisations. (Kinley Mcfadden, 2013), quotes ray kroc who stated that "If you work just for money, you'll never make it, but if you love what you're doing and you always put the customer first, success will be yours." The current research addressed research gap by conceptually linking different aspects of mobile banking to competitive advantage and contextually focusing on the biggest banks, which

apparently have created a competitive advantage due to mobile banking. According to Kenya Banking Association (2020), Equity Bank and KCB rank highest in terms of assets.

# CHAPTER THREE

# RESEARCH DESIGN AND METHODOLOGY

## 3.1 Introduction

This chapter presents the methodology employed in the study. It encompasses the research design chosen for the study, the target population under scrutiny, the sampling techniques employed, the data collection methodology, and the analytical techniques employed in scrutinizing the gathered data.

## 3.2 Research Design

Research design is the strategy, methods and techniques employed to investigate and answer research questions. ( Blumberg, Cooper, & Schindler, 2008)

The research design chosen for this study was a descriptive research approach. As per Mugenda and Mugenda (2003), a descriptive research approach is a design where the researcher does not manipulate the independence of variables since their characteristics are already established or cannot be controlled during empirical investigations. Descriptive research endeavours to provide an in-depth understanding of a phenomenon by addressing questions related to what, where, and how it occurs, essentially creating a profile of the phenomenon (Mugenda & Mugenda, 2003). The choice of a descriptive research design was apt for this study because it aims to establish a comprehensive profile of the impact of mobile banking on the financial activities of commercial banks in Kenya.

## 3.3 Research Site & Rationale

Data collection for this study took place at 2 Tier 1 banks in Kenya (KCB bank and Equity Bank) and the respondent consisted of the staff and account holders. The two banks were

selected due to their vast market share and client diversity. This spread was able to cover different demographics and thus more accurate data. According to Kenya Banking Association (2020), Equity Bank and KCB rank highest in terms of assets. The study was carried out at the Head quarter branches due to the level of traffic at the sites.

### 3.4 Target Population

The target population, also known as the statistical population, represents the specific group of entities or elements that are the subject of investigation in a study. According to Ngechu (2004), the target population encompasses a defined set of individuals, services, components, events, groups of objects, or households that are the focus of the research. This study encompassed two commercial banking institutions KCB and Equity Bank. The target population for this study consisted of all the banking institutions in Kenya that were registered as of December 2019. Kenya has a total of 41 banks, and due to the substantial population size, the study was conducted within two Tier 1 commercial banks, specifically Equity Bank and KCB, owing to their significant market share. The market share data is sourced from reports provided by the Central Bank of Kenya (CBK) in 2020. The study population primarily comprised the clientele of these banks.

| **Bank** | **Depositors** |
|---|---|
| Equity | 10920000 |
| KCB | 71700000 |
| **TOTAL** | **18090000** |

Source: CBK, Banking Act 2020

## 3.5 Study Sample

### 3.5.1 Sampling Techniques

Sampling techniques refer to the scientific methods used to select participants for the study. Saunders et al, (2012).In this study we used probability sampling whereby the procedure required an element to be selected from an ordered sample frame, the probability sample was selected from a sample frame using the systematic sampling method. Every element in this procedure had a definite and equal chance of selection. The research population under study consisted of walk-in bank account holder. Simple random sampling technique – This is a sampling technique where subjects are selected from a given population to help in data collection. Every individual was selected randomly and this gave them equal chances of being selected. Every possible sample of a given size was the same chance of selection. In this regard, bank account holders at KCB and Equity bank were selected systematically and every walk-in client had an equal chance of being selected.

### 3.5.2 Sample Size

Sample size refers to the number of individuals selected from a population to participate in a research project or study. (Blumberg et al, 2008)

The study employed probability sampling method and in specific Yamane's formulae was used in calculating the sample of the study. Yamane's Formulae is suitable for calculating sample from a large population sizes (Kasiulevičius, Šapoka&Filipavičiūtė, 2006). In calculation of the sample size there are factors are considered to ensure it fits the study. These factors include; the degree of accuracy, the confidence level and the degree of variability of the measured attributes.,. As at 2015 the number of depositors at Equity bank was, 10920000 and KCB had 71700000. The total number of depositors was 18090000.

$$n = \frac{N}{1 - N(e)^2}$$

Where N= Population size = 13910000000

e= level of precision = 0.05

n= sample size

$$\frac{18090000}{1 - 1809000(0.05)^2}$$

**n=400**

**Table 3.1: Sampling Frame**

| **CATEGORY** | **Number of account depositors** | **Percentage** | **Sample size** |
|---|---|---|---|
| Equity | 10920000 | 60.4 | 268 |
| KCB | 71700000 | 39.6 | 132 |
| **TOTAL** | **18090000** | **100** | **400** |

Source: CBK, Banking Act 2020

The sample size is 400 bank depositors

At this point, the researcher used proportional sampling to get a sample for each bank:

10920000 is 60.4% of 18090000 so the equity sample size was 268 depositors

71700000 is 39.4 % of 18090000 so the KCB sample size was 132 Depositors.

The sample size was 400 and was portioned in a way that collected 268 samples from equity and 132 samples from KCB.

## 3.6 Data Collection

### 3.6.1 Data Collection Instruments

The study utilized auxiliary information from the Audited Financial proclamations at the Bank and those kept at the Nairobi Securities Exchange (for recorded banks). The information was gathered utilizing information collection sheet, coded and cleaned. Information was for the most part gotten covering the period from 2007 to 2016. Month to month information was utilized as a part of the analysis throughout the previous 10 years.

When collecting primary data, the researcher first identified the target audience after which he employed data collection instruments such as questionnaires.

The primary information was gathered utilizing organized questionnaires, which was controlled by the researcher. A questionnaire is a research instrument that comprises of a progression of inquiries and different prompts for the reasons for social event data from the respondents. A questionnaire was proper as it gave a chance to accumulate a lot of information inside a moderately snappy period. Questionnaires were administered through a pick and drop strategy where the respondents were asked to pick the questionnaires at the entrance of the bank and spare few times after service delivery to fill the questionnaire. The respondents were then required to drop the questionnaire on their way out from the banking hall. This strategy was efficient for the researcher as it enabled the researcher to well explain to the respondent the importance of the survey. The strategy also was time saving and helped to increase the response rate of the respondents.

### 3.6.2 Pilot Testing of Research Instruments

The research followed a comprehensive procedure, which involved conducting a pilot study. Following the recommendation of Blumberg et al (2008), this methodology proved ideal for analyzing the questionnaires and ensuring they were well-framed and unambiguous. The pilot

was also crucial in gauging the respondents' interest in the study. Saunders et al (2012) further emphasized the significance of pilot studies in evaluating the time it takes to answer questions and assessing their validity. To ensure objectivity and efficiency, the questionnaire was administered to 10 respondents randomly chosen from the sample size of 100. This approach aided the researcher in improving the questionnaire and ensuring a smooth research process.

### 3.6.3 Validity

Validity is the assessment of the degree to which the outcomes obtained from the study accurately reflect the true outcomes among analogous individuals who were not a part of the study (J Bras Pneumol, 2018).

The study conducted a validity test for the research instruments. This was done to ensure that the research instrument produce the required results. This implies that the research instruments b measures what is meant to measure. For internal validity, research instruments are supposed to answer all the research question. Additionally, the research ensured the external validity by generalizing the behaviour of the sample of the entire population (Otieno, 2013). To ensure external validity of the study, random sampling methods were adopted in the selection of the branches. This ensured the generalization of the findings of the study to ensure the entire population is covered.

The study further sought to assess the contextual validity of the research instrument. Contextual validity of the study was ensured through consultations with the research supervisor and other parties skilled in the sector of financial innovation and competitive advantage. The input of the skilled personnel was useful in identifying and correction of the errors that may have been present in the research instruments. This ensured that errors such as biasness, incorrect conceptual logic and faulty research designs were identified and corrected accordingly.

Finally, the study ensured content validity of the research instrument. This entailed thorough analysis. Content validity of the research instrument can be assessed using pilot study based on

the feedback of the respondents (Fraenkel & Wallen, 2012). This is done by improving the quality of the research instruments by improving the unclear and ambiguous questions. Content validity also ensured that the questions in the research instruments were simple and legible and even estimated the time likely spent by the interviewee in answering the question to ensure that adequate time is spent. The relationship between the variables seen in the study was determined to ensure criterion validity.

### 3.6.4 Reliability

Reliability of a research instrument can be defined as its internal consistency, which measures the extent to which the instrument consistently produces the same results when tested repeatedly (Orora, 2018). To be considered reliable, a research instrument must be accurate and capable of generating consistent results even after multiple tests. Reliability tests can be either internal or external. In the case of external reliability, the research instrument should yield similar results when tested repeatedly (Babbie, 2014).

During the pilot study, the internal consistency of the research instruments was assessed using the Cronbach Alpha score. The Cronbach Alpha test is a widely accepted measure for evaluating the internal consistency of research instruments. The Alpha score falls within the range of 0 to 1, with a score of 0.7 or higher generally considered acceptable for ensuring internal validity. The closer the score is to 1, the greater the instrument's reliability (Cooper & Schindler, 2013). Scores between 0 and 0.6 suggest low reliability. These findings were instrumental in making necessary adjustments to the research instruments to enhance their reliability.

## 3.7 Data Analysis and Presentation

Data analysis is the process of organizing and manipulating collected data to draw meaningful conclusions and make deductions. It involves breaking down data into manageable parts,

summarizing it, identifying patterns, and applying statistical tests (Cooper & Schindler, 2013). The collected data first underwent a verification process to ensure accuracy, completeness, and uniformity. Data coding was then performed using Statistical Package for Social Science Software (SPSS), with data classified to facilitate easier identification and processing.

For quantitative data analysis, descriptive statistics were employed. Descriptive statistics involved examining the data to calculate measures of central tendency (such as mean, mode, and median) and measures of dispersion. The results were presented using tables, graphs, pie charts, and frequency distribution tables (Muguchu, 2013). Qualitative data were organized thematically through content analysis to identify patterns and trends in the responses (Nachmias, 2016).

To assess the relationship between the response and predictor variables, both univariate and multivariate regression equations were employed. The regression models were specified as follows:

The overall regression model was

$$Y=\beta_0+ \beta_3X_3+\varepsilon$$

$$Y=\beta_0+\beta_2X2 +\varepsilon$$

$$Y=\beta_0+\beta_1X_1 +\varepsilon$$

Where: Y represented the response variable i.e. competitive advantage

$\beta_{0:}$ represented the constant term which the value of competitive advantage holding the independent variables (Bank transfers, retail payments and mobile loan) at zero.

$\beta_1$, $\beta_2$ & $\beta_3$: Beta Coefficient of variable X which measures the change Y to change in X

$X_1$: Represented Bank transfers

$X_2$: Retail payment

$X_3$: Mobile Loans

$\varepsilon$: Error term

The univariate regression models were used to test for single relationships between the predictor variables and the response variables. This approach allowed for a comprehensive examination of the factors influencing the response variable, considering both individual and combined effects.

### 3.7.1 Tests of Significance

To test the significance of the model the study adopted the F-test and T-test where that level of confidence was set at 95%. The F-test was used to determine the significance of the overall model while as T-test was used to testing the significance of individual parameters.

### 3.7.2 Test for Autocorrelation

The study also conducted the test for Autocorrelation. Autocorrelation refers to the degree by which the adjacent observations are correlated. Autocorrelation is commonly found in the time series data and it is usually problem to the regression model as it affects the independence of the variables. To test for autocorrelation the study adopted the Durbin Watson Statistic test. Durbin Watson Test ranges from 0 to 4 where the accepted value is 2 which indicate that there is no autocorrelation. For Values below 2 show that there is presence of positive correlation while as values above two indicate that there is negative autocorrelation.

## 3.8 Ethical Consideration

In order to address ethical considerations in this paper the researcher put into consideration the following guidelines:

The participation of respondents was voluntary. Secondly, the use of discriminatory, offensive and any other unacceptable language was used in formulation of research instruments. The respondent's privacy and anonymity were of paramount importance. All works by other authors was acknowledged. Finally, maintenance of objectivity though out the research analysis was important.

# CHAPTER FOUR

# DATA ANALYSIS, FINDINGS AND INTERPRETATION

## 4.1 Introduction

In this chapter, the analysis of the findings, their presentation, and interpretation are provided. The primary objective of the study was to assess the impact of mobile banking on the competitive advantage of banks in Kenya. The organization of this chapter follows the variables examined in the study. Additionally, demographic information and diagnostic tests are presented.

## 4.2 Response Rate

Table 4.1: Response Rate

| Department | No. of Depositors | Responses | Response Rate |
|---|---|---|---|
| Equity Bank | 268 | 242 | 90.2 |
| KCB Bank | 132 | 108 | 81.8 |
| **Total** | **400** | **350** | **87.5** |

Table 4.1 presents the response rate of the survey conducted to assess the mobile banking adoption as a tool for competitive advantage in the banking sector, focusing on two banks, Equity Bank and KCB Bank. The survey targeted a total of 400 bank depositors from both banks. In Equity Bank, out of the 268 depositors approached, 242 responded to the survey, resulting in a response rate of 90.2%. This high response rate indicates a strong engagement and willingness of Equity Bank's customers to participate in the survey, suggesting a significant interest in mobile banking services offered by the bank.

Similarly, in KCB Bank, out of the 132 depositors approached, 108 responded to the survey, leading to a response rate of 81.8%. Although slightly lower than Equity Bank's response rate,

KCB Bank still received a considerable number of responses, indicating a reasonable level of interest in mobile banking among its customers.

Overall, for both banks combined, the survey received a total of 350 responses out of the 400 depositors approached, resulting in a response rate of 87.5%. This response rate indicates that the survey managed to collect data from a substantial number of customers, providing a representative sample to draw conclusions about mobile banking adoption in the banking sector (Gall *et al*. 2007) asserts that, a response rate of over 60 percent of the target is adequate for a study. The high response rate in both banks suggests that customers are interested in sharing their views and experiences regarding mobile banking, reinforcing the importance of understanding customer perceptions to enhance mobile banking adoption as a competitive advantage in the banking sector. The survey findings from these responses will be crucial for both banks to assess their mobile banking offerings, identify areas for improvement, and tailor their strategies to better meet customer needs and expectations.

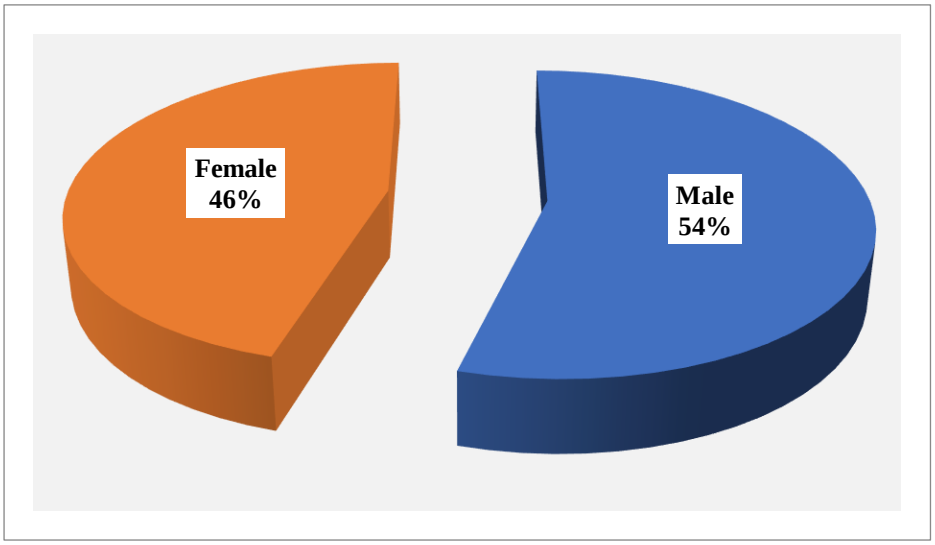
### 4.3 Characteristics of Respondents

This section presents the demographic information of the respondents who participated in the survey to assess mobile banking adoption as a tool for competitive advantage in the banking sector. Understanding the demographic profile of the respondents is essential to gain insights into the characteristics of the individuals who provided their views and experiences regarding mobile banking. Figure 4.1 displays the gender distribution of the respondents. It shows the proportion of male and female participants who took part in the survey. Analysing the gender distribution can provide valuable insights into any potential variations in mobile banking adoption patterns between genders.

Figure 4.2 illustrates the age brackets of the respondents, presenting the distribution of participants across different age groups in years. Age is a crucial demographic factor as it can

significantly influence individuals' technology adoption behaviors, preferences, and expectations. The demographic information presented in this section will allow us to gain a comprehensive understanding of the respondents' characteristics and their implications for mobile banking adoption. It will enable us to explore potential trends, preferences, and challenges related to mobile banking within different demographic segments, contributing to a more nuanced analysis of the study findings.

**Figure 4.1: Gender of the respondent**

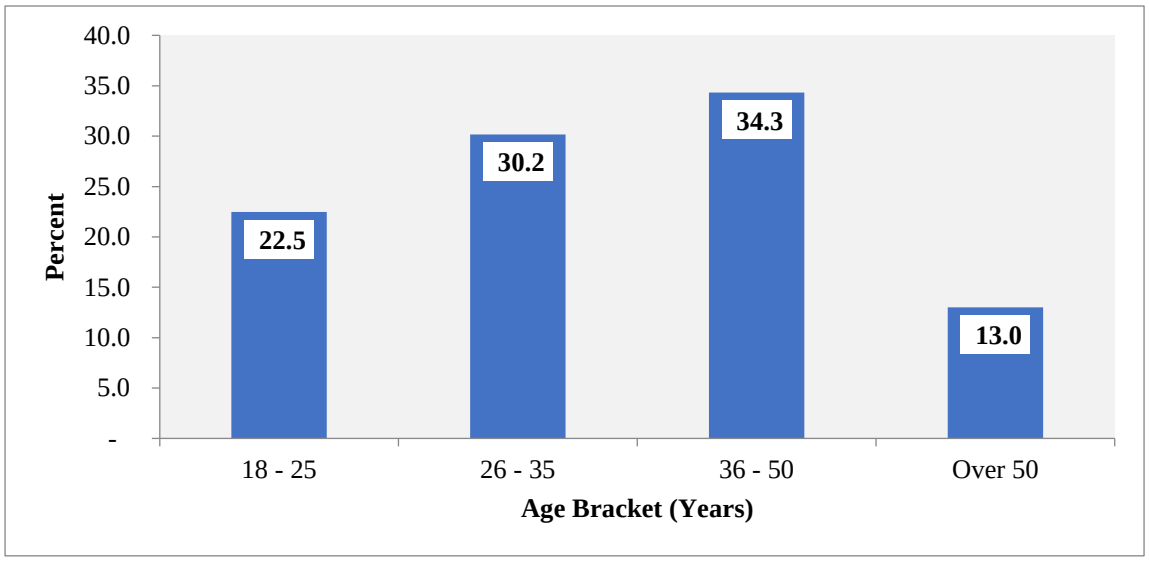



In Figure 4.1, the gender distribution of the respondents was analysed. The survey included both male and female participants. Among the respondents, 54.4% were male, while 45.6% were female. The data indicated that a slightly higher proportion of male participants took part in the survey compared to female participants. This gender distribution provides insights into the representation of different genders in the study and their perspectives on mobile banking adoption.

By examining the gender breakdown, the study sought to understand any potential variations or differences in mobile banking adoption between males and females. Analysing gender-specific trends and preferences can help banks and policymakers tailor their mobile banking strategies to meet the diverse needs of their customer base. It is important to note that this

demographic information reflects the characteristics of the respondents who participated in the survey. The findings can be valuable in informing strategies for promoting mobile banking adoption as a tool for competitive advantage in the banking sector.

**Figure 4.2: Age Bracket (Years)**




In Figure 4.2, the age brackets of the respondents were analysed, showing a relatively even distribution across different age groups. The survey included participants from various age categories. Among the respondents, 22.5% fell within the age range of 18 to 25 years, while 30.2% were between 26 to 35 years old. The age bracket of 36 to 50 years constituted 34.3% of the respondents, and those over 50 years old accounted for 13.0%.

The data indicated that the survey captured a diverse range of age groups, with no single age category dominating the sample. This even distribution of respondents across different age brackets allows for a comprehensive analysis of mobile banking adoption trends and behaviours across various age groups. The study aimed to understand how different age groups perceive and adopt mobile banking services. By analysing age-specific patterns, banks and financial institutions can tailor their mobile banking offerings to cater to the preferences and needs of specific age demographics.

It is important to consider these age demographics when interpreting the survey findings and formulating strategies to leverage mobile banking as a tool for competitive advantage in the banking sector. Understanding how mobile banking adoption varies among different age groups can guide the development of targeted marketing campaigns and user-friendly features to enhance the overall mobile banking experience.

### 4.4 Mobile Banking and Competitive Advantage

This variable was intended to evaluate the extent commercial banks have adopted mobile banking to implement reforms with a view to improving service delivery in the public service. For the purpose of aggregation, the concept mobile banking was treated as a composite variable comprising of four factors that included mobile bank transfers, mobile retail payments, and mobile loans. Inferential statistics included the Coefficient of Determination ($R^2$), Analysis of Variance (ANOVA) and regression coefficient.

**Table 4.2: $R^2$ for the Relationship between Mobile banking and Competitive Advantage**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .956a | 0.913 | 0.911 | 0.214 | 1.764 |

a Predictors: (Constant), Mobile retail payments, Mobile bank transfers, Mobile loans
b Dependent Variable: Competitive Advantage

From the results in the Table 4.1 we can note the $R^2$ of the model is 0.913 and standard error of the estimate 0.214. this indicate that mobile banking (i.e. mobile bank transfers, mobile retail payments, and mobile loans) explains 91.3 percent of any variability in competitive advantage in commercial banks. Autocorrelation was also tested using the Durbin Watson Statistic test. The Durbin Watson Test ranges from 0 to 4 where the accepted value is 2 which indicate that there is no autocorrelation. For Values below 2 show that there is presence of positive correlation while as values above two show that there exists a negative autocorrelation (Field,

2009). The current study had a score of 1.764 which indicate that the there is no autocorrelation for the variable as it falls within the acceptable range.

**Table 4.3: ANOVA for the Relationship Between Mobile Banking and Competitive Advantage**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 44.274 | 3 | 14.758 | 321.674 | .000b |
| | Residual | 15.916 | 346 | 0.046 | | |
| | Total | 60.19 | 349 | | | |

a Dependent Variable: Competitive Advantage
b Predictors: (Constant), Mobile retail payments, Mobile bank transfers, Mobile loans

The results in the table 4.2 show that the calculated F(3, 346)> critical F(3, 346) for a two tailed test at 95% confidence level. From the table we also note that the p-value = 0.000 < 0.05. This confirms that mobile banking has significant impact on competitive advantage.

**Table 4.4: Model Coefficients for the Relationship Between mobile banking and Competitive Advantage**

| Model | | Unstandardized Coefficients B | Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|---|
| 1 | (Constant) | 0.024 | 0.579 | | 0.041 | 0.405 |
| | Mobile bank transfers | 0.461 | 0.059 | 0.333 | 7.814 | 0.000 |
| | Mobile retail payments | 0.372 | 0.134 | 0.117 | 2.776 | 0.001 |
| | Mobile loans | 0.564 | 0.116 | 0.522 | 4.862 | 0.000 |

a Dependent Variable: Competitive Advantage

Findings presented in Table 4.3 show that when mobile banking is held at zero, competitive advantage will be 0.024. At the same time, an increase in mobile bank transfers, mobile retail payments, and mobile loans each by one unit leads to an increase in competitive advantage in

commercial banks by 0.461, 0.372, 0.564, and 0.308 units respectively. The p-values were also less than 0.05 (that is 0.000 for mobile bank transfers, mobile retail payments (0.001), and mobile loans (0.000). This implies that all mobile banking factors considered in this study have a positive relationship with competitive advantage.

The model can be summarized as follows:

$$Y = 0.024 + 0.461X_1 + 0.372X_2 + 0.564X_3 + 0.308X_4$$

Where: $X_1$, $X_2$, $X_3$, and $X_4$ represent mobile bank transfers, mobile retail payments, and mobile loans; Y is competitive advantage.

## 4.5 The Mobile Bank Transfers in Competitive Advantage

### 4.5.1 Descriptive Results on the Mobile Bank Transfers in Competitive Advantage

Descriptive statistics were based on the measures of distribution (frequency and percent), measure of central tendency (mean), as well as the measure of dispersal (standard deviation). Mean was used to rank and rate various assessment areas. In this study, higher mean implied higher prevalence of an assessment area. Conversely, high values of standard deviation were an indication of lower unanimity on responses as opposed to lower values.

**Table 4.5: Descriptive Results on the Mobile Bank Transfers in Competitive Advantage**

| Indicator | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Mean | Standard Deviation |
|---|---|---|---|---|---|---|---|
| a) Am able to get mobile bank transfers from any place | 0.0 | 2.9 | 5.9 | 23.5 | 67.6 | 4.559 | 0.735 |
| b) Money transfers are fast using mobile bank as compared to the traditional banking halls | 2.9 | 5.9 | 8.8 | 29.4 | 52.9 | 4.235 | 1.031 |
| c) I find it cheap to use mobile money transfers rather than withdrawing from other sources | 0.0 | 2.9 | 5.9 | 8.8 | 82.4 | 4.706 | 0.708 |
| d) My bank has made mobile bank transfers more convenient than other forms of transfers | 5.9 | 5.9 | 0.0 | 32.4 | 55.9 | 4.265 | 1.120 |
| e) Bank agents are available in large numbers to ensure a liquid availability of mobile money | 5.9 | 5.9 | 5.9 | 29.4 | 52.9 | 4.176 | 1.150 |

The descriptive results from Table 4.5 reveal the respondents' perceptions of mobile bank transfers as a tool for gaining a competitive advantage in the banking sector. The mean and standard deviation were used to analyse various indicators related to mobile banking adoption. On the first indicator, "Am able to get mobile bank transfers from any place," the respondents, on average, rated mobile banking highly with a mean score of 4.559. This indicates that they perceived mobile bank transfers as highly accessible and convenient from any location. Moreover, the small standard deviation of 0.735 suggests a consensus among respondents regarding the ease of accessing mobile bank transfers, with minimal variability in their responses.

For the second indicator, "Money transfers are fast using mobile bank as compared to the traditional banking halls," the respondents, on average, agreed that mobile bank transfers are

faster than traditional banking halls, with a mean score of 4.235. However, the larger standard deviation of 1.031 indicates some variability in responses, with some respondents strongly agreeing, while others were more neutral or slightly disagreed about the speed of mobile bank transfers. Regarding the cost-effectiveness of mobile banking, the third indicator, "I find it cheap to use mobile money transfers rather than withdrawing from other sources," received a high mean score of 4.706. This suggests that, on average, respondents strongly agreed that mobile money transfers are a cost-effective alternative to withdrawing from other sources. The small standard deviation of 0.708 indicates a high level of agreement among respondents regarding the cost-effectiveness of mobile banking, with minimal variation in their responses.

For the fourth indicator, "My bank has made mobile bank transfers more convenient than other forms of transfers," the respondents, on average, agreed that their bank has made mobile bank transfers more convenient, with a mean score of 4.265. However, the larger standard deviation of 1.120 suggests some variability in responses, with some respondents strongly agreeing, while others were more neutral or slightly disagreed about the convenience of mobile bank transfers. Lastly, on the indicator, "Bank agents are available in large numbers to ensure a liquid availability of mobile money," the respondents, on average, agreed that there are a sufficient number of bank agents available, with a mean score of 4.176. However, the larger standard deviation of 1.150 indicates some variability in responses, with some respondents strongly agreeing, while others were more neutral or slightly disagreed about the availability of bank agents.

In conclusion, the descriptive results using mean and standard deviation indicate that, overall, respondents had positive perceptions of mobile bank transfers as a tool for gaining a competitive advantage in the banking sector. Mobile banking was perceived as highly accessible, cost-effective, and relatively fast compared to traditional banking channels. While

there was some variability in the response's indicators, the consensus among the respondents was favourable towards the advantages offered by mobile banking. These findings highlight the importance of mobile banking as a strategic tool for banks to enhance their competitive edge and attract and retain customers in the dynamic banking industry.

### 4.5.2 Inferential Statistics on the Relationship between Mobile Bank Transfers and Competitive Advantage

To derive the relationship between the mobile banking and competitive advantage the study used inferential statistics which were achieved through Coefficient of Determination ($R^2$), Analysis of Variance (ANOVA) and regression coefficient.

**Table 4.6: $R^2$ for the Relationship between Mobile bank transfers and Competitive Advantage**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .928a | 0.861 | 0.86 | 0.267 | 1.683 |

a Predictors: (Constant), Mobile Bank Transfers
b Dependent Variable: Competitive Advantage

Results in Table 4.6 show an R-Square of 0.861 with the standard error of estimate being 0.267. This implies that mobile bank transfers explain 86.1 percent of any variability competitive advantage. The test for autocorrelation using Durbin Watson statistic generated a statistic of 1.683 which falls within the relatively normal range of between 1.5 and 2.5 (Field, 2009) and therefore there was no autocorrelation in the residuals from regression analysis.

**Table 4.7: ANOVA for the Relationship between Mobile Bank Transfers and Competitive Advantage**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 55.677 | 1 | 55.677 | 777.337 | .000b |
| | Residual | 25.056 | 348 | 0.072 | | |

| | | | |
|---|---|---|---|
| | Total | 80.733 | 349 |

a Dependent Variable: Competitive Advantage
b Predictors: (Constant), Mobile bank transfers

As shown in Table 4.7, F-Calculated (1, 349) = 777.337 which is greater than F-Critical (1, 349) = 3.868 at 2-tail test and 95% confidence level. Results also show that p-value = 0.000 < 0.05. This further confirms that mobile bank transfers have a significant role in competitive advantage in commercial banks.

**Table 4.8: Regression Coefficients for the Relationship between Mobile bank transfers and Competitive Advantage**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | Sig. |
| 1 | (Constant) | 1.400 | 0.121 | | 11.600 | 0.000 |
| | Mobile bank transfers | 0.726 | 0.026 | 0.928 | 27.881 | 0.000 |

a Dependent Variable: Competitive Advantage

Findings presented in Table 4.8 show that when there are no mobile bank transfers in commercial banks, competitive advantage will remain at 1.460 on a Likert Scale of 1 to 5. At the same time, increasing the mobile bank transfers by 1 unit would lead to an increase in competitive advantage by 0.726 units. This implies that mobile bank transfers have a positive relationship with competitive advantage. The relationship is significant given that p-Value<0.05.

The model can be summarized as follows: $Y = 1.400 + 0.726X_1$

Where: Y is competitive advantage; $X_1$ is mobile bank transfers.

## 4.6 Mobile Retail Payments

### 4.6.1 Descriptive Findings

**Table 4.9: Descriptive Results on the Finance Managerial Practices in Competitive Advantage**

| Indicator | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Mean | Standard Deviation |
|---|---|---|---|---|---|---|---|
| a) Banking products offered are a key determinant when opening a bank account | 2.9 | 0.0 | 8.8 | 5.9 | 82.4 | 4.647 | 0.871 |
| b) I consider mobile banking as a product that should be included in all accounts. | 0.0 | 0.0 | 14.7 | 14.7 | 70.6 | 4.559 | 0.735 |
| c) Mobile banking has made it easier for one to access banking services. | 8.8 | 0.0 | 0.0 | 17.6 | 73.5 | 4.471 | 1.144 |
| d) Mobile banking has increased the banking efficiency | 0.0 | 0.0 | 5.9 | 35.3 | 58.8 | 4.529 | 0.606 |
| e) It is easier to make cash payments than use mobile banking | 5.9 | 0.0 | 8.8 | 8.8 | 76.5 | 4.500 | 1.064 |
| f) My money is more secure with mobile banking | 8.8 | 2.9 | 0.0 | 41.2 | 47.1 | 4.147 | 1.167 |
| g) I am able to use Mobile banking anywhere and at any time | 0.0 | 20.6 | 17.6 | 20.6 | 41.2 | 3.824 | 1.175 |

Table 4.9 presents the descriptive results on finance managerial practices related to gaining a competitive advantage in the banking sector. The table includes various indicators, and the responses from the respondents range from "Strongly Disagree" to "Strongly Agree," along with the mean and standard deviation for each indicator. These indicators reflect the finance managers' perspectives on the role of mobile banking in enhancing competitive advantage.

According to the data, a significant majority of finance managers (82.4%) agreed that the banking products offered are a key determinant when opening a bank account. This indicates that the variety and attractiveness of banking products play a crucial role in attracting customers and gaining a competitive edge in the market. Moreover, the small standard deviation of 0.871 suggests a high level of agreement among finance managers regarding the importance of banking products in customer acquisition and retention.

Furthermore, 70.6% of finance managers agreed that mobile banking should be included in all accounts as a product. This result highlights the recognition of mobile banking's significance in modern banking offerings and its potential to add value to customers' banking experience. The mean score of 4.559 and a small standard deviation of 0.735 indicate a strong consensus among finance managers regarding the integration of mobile banking as an essential product. Regarding the impact of mobile banking on banking efficiency, 58.8% of finance managers agreed that mobile banking has increased banking efficiency. This suggests that mobile banking's streamlined processes and convenient services have positively influenced banking operations. The mean score of 4.529 and a small standard deviation of 0.606 indicate a consensus among finance managers regarding the positive effect of mobile banking on banking efficiency.

On the aspect of security, 47.1% of finance managers agreed that their money is more secure with mobile banking. While a significant proportion agreed, there were also responses showing some concerns about security. The mean score of 4.147 and a standard deviation of 1.167 suggest a degree of variability in responses, with some finance managers expressing a higher level of confidence in mobile banking's security measures compared to others. Additionally, 76.5% of finance managers disagreed that it is easier to make cash payments than to use mobile banking. This indicates that mobile banking is perceived as a convenient alternative to cash

payments, aligning with the aim to promote digital payment adoption. The mean score of 4.500 and a standard deviation of 1.064 suggest a relatively consistent view among finance managers regarding the convenience of mobile banking over cash payments.

Lastly, on the aspect of accessibility, 41.2% of finance managers agreed that they are able to use mobile banking anywhere and at any time. This suggests that while mobile banking offers flexibility, some finance managers may still encounter limitations in its use. The mean score of 3.824 and a standard deviation of 1.175 indicate a degree of variability in responses, with some finance managers expressing higher satisfaction with the accessibility of mobile banking than others.

Thus, the descriptive results from Table 4.9 shed light on finance managers' perceptions regarding mobile banking's impact on competitive advantage in the banking sector. The majority of finance managers recognized the importance of banking products, the value of including mobile banking in all accounts, and the enhanced banking efficiency attributed to mobile banking. While most finance managers expressed confidence in the security of mobile banking and its convenience compared to cash payments, there were varying views on the accessibility of mobile banking. These findings offer valuable insights into finance managers' perspectives on mobile banking's role in achieving a competitive edge and inform strategies for further leveraging mobile banking as a strategic tool in the banking industry.

### 4.6.2 Inferential Statistics on the Relationship between Mobile Retail Payments and Competitive Advantage

Inferential statistics on the relationship between mobile retail payments and competitive advantage was achieved through Coefficient of Determination ($R^2$), Analysis of Variance (ANOVA) and regression coefficient.

**Table 4.10: $R^2$ for the Relationship between Mobile Retail Payments and Competitive Advantage**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .919a | 0.845 | 0.843 | 0.283 | 1.760 |

a Predictors: (Constant), Mobile Retail Payments
b Dependent Variable: Competitive Advantage

Results in Table 4.10 show an R-Square of 0.845 with the standard error of estimate being 0.283. This implies that 84.5 percent of any variability competitive advantage is explained by mobile retail payments. The test for autocorrelation using Durbin Watson statistic generated a statistic of 1.760 which falls within the relatively normal range of between 1.5 and 2.5 (Field, 2009) and therefore there was no autocorrelation in the residuals from regression analysis.

**Table 4.11: ANOVA for the Relationship between Mobile Retail Payments and Competitive Advantage**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 54.585 | 1 | 54.585 | 679.253 | .000b |
| | Residual | 27.840 | 348 | 0.08 | | |
| | Total | 82.425 | 349 | | | |

a Dependent Variable: Competitive Advantage
b Predictors: (Constant), Mobile retail payments

As shown in Table 4.11, F-Calculated (1, 349) = 679.253 which is greater than F-Critical (1, 349) = 3.868 at 2-tail test and 95% confidence level. Results also show that p-value = 0.000 < 0.05. This further confirms that mobile retail payments have asignificant role in competitive advantage in commercial banks.

**Table 4.12: Regression Coefficients for the Relationship between Mobile Retail Payments and Competitive Advantage**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | Sig. |
| 1 | (Constant) | -1.770 | 0.250 | | -7.092 | 0.000 |

| | | | | | |
|---|---|---|---|---|---|
| Mobile retail payments | 1.347 | 0.052 | 0.919 | 26.062 | 0.000 |

a Dependent Variable: Competitive Advantage

Findings presented in Table 4.12 show that when there are no mobile retail payments in commercial banks, competitive advantage in commercial banks will be negative (-1.770) units. At the same time, increasing the mobile retail payments by 1 unit would lead to an increase in competitive advantage by 1.347 units. This implies that mobile retail payments have a positive relationship with competitive advantage. The relationship is significant given that p-Value<0.05.

The model can be summarized as follows: $Y = -1.770 + 1.347X_1$

Where: Y is competitive advantage; $X_1$ is mobile retail payments.

## 4.7 The Mobile loans in Competitive Advantage

### 4.7.1 Descriptive Findings

**Table 4.13: Descriptive Results on the Mobile Loans in Competitive Advantage**

| Indicator | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Mean | Standard Deviation |
|---|---|---|---|---|---|---|---|
| a) Mobile banking offers me an easy way of accessing loans from my bank | 0.0 | 0.0 | 0.0 | 35.3 | 64.7 | 4.647 | 0.478 |
| b) Number of loans I have accessed from my bank have increased when using mobile banking | 2.9 | 2.9 | 2.9 | 11.8 | 79.4 | 4.618 | 0.908 |
| c) Mobile loans have affordable interest charges | 0.0 | 2.9 | 5.9 | 23.5 | 67.6 | 4.559 | 0.735 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| d) | It is less costly to use mobile loans than other forms of loans | 0.0 | 8.8 | 8.8 | 41.2 | 41.2 | 4.147 | 0.912 |
| e) | I don’t require to visit retail outlets anymore to access loan | 0.0 | 0.0 | 17.6 | 8.8 | 73.5 | 4.559 | 0.774 |

Table 4.13 presents the descriptive results on the perception of mobile loans as a tool for gaining a competitive advantage in the banking sector. The table includes various indicators, and the respondents' responses range from "Strongly Disagree" to "Strongly Agree," along with the mean and standard deviation for each indicator. These indicators reflect customers' views on the advantages and benefits of using mobile loans as compared to traditional loan offerings. Result indicates that a significant majority of respondents (64.7%) "Strongly Agree" that mobile banking offers them an easy way of accessing loans from their bank. This result highlights the convenience and accessibility of mobile loans, which resonate with customers' preferences for quick and hassle-free loan services. The high mean score of 4.647 and a small standard deviation of 0.478 suggest a strong consensus among respondents regarding the ease of accessing loans through mobile banking.

Furthermore, 79.4% of respondents "Strongly Agree" that the number of loans they have accessed from their bank has increased when using mobile banking. This finding underscores the positive impact of mobile banking on loan accessibility and uptake. The mean score of 4.618 and a standard deviation of 0.908 indicate a general agreement among respondents regarding the increased utilization of loans through mobile banking. Regarding the affordability of mobile loans, 67.6% of respondents "Agree" that mobile loans have affordable interest charges. This suggests that mobile banking offers competitive interest rates, making loans more accessible and attractive to customers. The mean score of 4.559 and a small standard deviation of 0.735 indicate a high level of agreement among respondents regarding the affordability of mobile loans.

Moreover, 41.2% of respondents "Agree" that it is less costly to use mobile loans than other forms of loans. This indicates that mobile loans are perceived as a cost-effective option compared to traditional loan offerings. The mean score of 4.147 and a standard deviation of 0.912 suggest a degree of agreement among respondents, with some variation in their perceptions of cost savings through mobile loans. Additionally, 73.5% of respondents "Strongly Agree" that they no longer require to visit retail outlets to access loans, highlighting the convenience of mobile loan applications. This result reflects the advantages of digital channels in eliminating the need for physical visits and paperwork. The mean score of 4.559 and a standard deviation of 0.774 suggest a strong consensus among respondents regarding the elimination of the need for retail outlet visits.

Generally, the descriptive results from Table 4.13 indicate that customers perceive mobile loans as a valuable tool for gaining a competitive advantage in the banking sector. Mobile banking offers easy access to loans, increases loan uptake, and provides affordability and cost savings compared to traditional loan options. The convenience of mobile loans in eliminating the need for physical visits to retail outlets is also highly appreciated by customers. These findings highlight the importance of mobile loans as a strategic offering for banks to enhance their competitive edge, attract more customers, and promote financial inclusion. Understanding customers' positive perceptions of mobile loans can guide banks in refining their loan products and delivery mechanisms to further leverage mobile banking as a key driver of competitive advantage in the banking industry.

### 4.7.2 Inferential Statistics on the Relationship between Mobile Loans and Competitive Advantage

Inferential statistics on the relationship between mobile loans and competitive advantage was achieved through Coefficient of Determination ($R^2$), Analysis of Variance (ANOVA) and regression coefficient.

**Table 4.14: $R^2$ for the Relationship between Mobile Loans and Competitive Advantage**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .946a | 0.894 | 0.893 | 0.234 | 1.751 |

a Predictors: (Constant), Mobile Loans
b Dependent Variable: Competitive Advantage

Results in Table 4.14 show an R-Square of 0.894 with the standard error of estimate being 0.234. This implies that 89.4 percent of any variability competitive advantage is explained by mobile loans. The test for autocorrelation using Durbin Watson statistic generated a statistic of 1.751 which falls within the relatively normal range of between 1.5 and 2.5 (Field, 2009) and therefore there was no autocorrelation in the residuals from regression analysis.

Table 4.15: ANOVA for the Relationship between Mobile loans and Competitive Advantage

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regressions | 57.778 | 1 | 57.778 | 1054 | .000b |
| | Residual | 19.140 | 348 | 0.055 | | |
| | Total | 76.918 | 349 | | | |

a Dependent Variable: Competitive Advantage
b Predictors: (Constant), Mobile loans

From the above table 4.15, the calculated F (1,349) =1054.004 is greater than F-Critical (1, 349) = 3.868 at 2-tail test and 95% confidence level. Results also show that p-value = 0.000 < 0.05. This further confirms that mobile loans had significant influence on competitive advantage in commercial banks.

**Table 4.16: Regression Coefficients for the Relationship between Mobile loans and Competitive Advantage**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | Sig. |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | (Constant) | 0.769 | 0.123 | | 6.259 | 0.000 |
| | Mobile loans | 0.841 | 0.026 | 0.946 | 32.465 | 0.000 |

a Dependent Variable: Competitive Advantage

Findings presented in Table 4.16 show that when commercial banks do not employ the mobile loans, competitive advantage in the bank will remain at 0.769. At the same time, increasing mobile loans by 1 unit would lead to an increase in competitive advantage by 0.841 units. This implies that use of the mobile loans has a positive relationship with competitive advantage. The relationship is significant given that p-Value<0.05.

The model can be summarized as follows: $Y = 0.769 + 0.841X_1$

Where: Y is competitive advantage; $X_1$ is mobile loans.

**Table 4.17: Hypothesis Test Summary**

| Null Hypothesis | Analysis Used | Interpretation |
|---|---|---|
| $H_{01}$: Mobile banking transfers do not significantly affect competitive advantage in the banking sector in Kenya | Regression Analysis | p-value was < 0.05, therefore we rejected null hypothesis, indicating significant impact of mobile banking transfers on competitive advantage. |
| $H_{02}$: Mobile retail payments do not significantly affect the competitive advantage in the banking sector in Kenya | Regression Analysis | p-value was < 0.05, therefore we rejected null hypothesis, indicating significant impact of mobile retail payments on competitive advantage. |
| $H_{03}$: Mobile loans do not significantly affect the competitive advantage in the banking sector | Regression Analysis | p-value was < 0.05, therefore we rejected null hypothesis, indicating significant impact of mobile loans on competitive advantage. |

Findings presented in Table 4.17 show that The p-values were also less than 0.05 (that is 0.000 for mobile bank transfers, mobile retail payments (0.001), and mobile loans (0.000). This implies that all mobile banking factors considered in this study have a positive relationship with competitive advantage. Therefore, we rejected null hypothesis.

# CHAPTER FIVE

# SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

## 5.1 Introduction

This chapter gives the summary of the findings. The summary of the findings are presented per the objective of the study, the chapter then presents the conclusion, recommendation and suggestion for further studies

## 5.2 Discussion

The aim of this study was to investigate the effect of Mobile banking on the competitive advantage of commercial banks in Kenya. Objectives of the study were to investigate the effect of mobile banking transfers on the competitive advantage of commercial banks in Kenya, investigate the effect of mobile retail payments on the competitive advantage of commercial banks in Kenya and to investigate the effect of mobile loans payments on the competitive advantage of commercial banks in Kenya. The study was conducted within 2 tier 1 banks, specifically KCB and Equity Bank.

### 5.2.1 Effect of Mobile Bank Transfers on Competitive Advantage

Results in this study show an R-Square of 0.861 with the standard error of estimate being 0.267. This implies that mobile bank transfers explain 86.1 percent of any variability competitive advantage. F-Calculated (1, 349) = 777.337 which is greater than F-Critical (1, 349) = 3.868 at 2-tail test and 95% confidence level. When there are no mobile bank transfers in commercial banks, competitive advantage will remain at 1.460 on a Likert Scale of 1 to 5. At the same time, increasing the mobile bank transfers by 1 unit would lead to an increase in competitive advantage by 0.726 units.

### 5.2.2 Effects of Mobile retail payments on Competitive Advantage

R-Square was 0.845 with the standard error of estimate being 0.283. This implies that 84.5 percent of any variability competitive advantage is explained by mobile retail payments. F-Calculated (1, 349) = 679.253 which is greater than F-Critical (1, 349) = 3.868 at 2-tail test and 95% confidence level. Results also show that p-value = 0.000 < 0.05. When there are no mobile retail payments in commercial banks, competitive advantage in commercial banks will be negative (-1.770) units. At the same time, increasing the mobile retail payments by 1 unit would lead to an increase in competitive advantage by 1.347 units.

### 5.2.3 Effects of Mobile loans on Competitive Advantage

Respondents revealed that mobile banking offers them an easy way of accessing loans from my bank (mean = 4.647, standard deviation = 0.478), and the number of loans they had accessed from their respective bank have increased when using mobile banking (mean = 4.618, standard deviation = 0.908). R-Square of 0.894 with the standard error of estimate being 0.234. This implies that 89.4 percent of any variability competitive advantage is explained by mobile loans. F-Calculated (1, 349) = 1054.004 which is greater than F-Critical (1, 349) = 3.868 at 2-tail test and 95% confidence level. When commercial banks do not employ the mobile loans, competitive advantage in the bank will remain at 0.769. At the same time, increasing mobile loans by 1 unit would lead to an increase in competitive advantage by 0.841 units.

### 5.2.4 Competitive Advantage

The current study revealed thin commercial banks have been enjoying a gradual increase in its market share within the banking industry in the past five years. The organization was also found to be offering quality, unique and superior products/services in the industry by continuously introducing distinct innovations that have enabled it to defend and increase its customer base. This has made the bank's profitability to be usually above the industry average. Respondents

were highly optimistic that the bank's profitability and market share would keep growing in the future.

## 5.3 Conclusion

Mobile bank transfers are important for commercial banks to achieve competitive advantage. Some of key mobile bank transfers in achieving competitive advantage is through convenience, availability and affordability of the banking products. At the same time, defined mobile money transfer mechanisms and structures normally assist in generating competitive advantages for commercial banks. Over and above, competitive advantage for commercial banks is also highly influenced by the number and convenience of mobile loans centred on maximizing customer satisfaction while continuously streamlines its operations based on the customer needs. This is further enhanced by commercial banks frequently design and developing new products/services geared towards increasing value to the mobile banking users.

## 5.4 Recommendations

Commercial banks should continually invest in technology for their processes improvement in order to improve its services delivery. This should extend to developing strategies based on the operations capabilities with most of its operations being centred based on reducing the cost of production. For any meaningful gain in competitive advantage, commercial banks should enhance mobile banking through mobile banking transfers, mobile retail payments, and mobile loans.

It is also important for banks to design new mobile banking products that alighted to customer needs such that the products are appreciated by them. Commercial banks should also be highly flexible in instituting strategies that serve the market needs, and always review its marketing strategies frequently in line with the dynamic market needs.

Commercial banks should also consider employee selection procedures that would ensure that the employees in the organization have the right skills for the job with training programs being conducted to emphasize on the job experience.

## 5.5 Suggestions for Further Studies

The study focused only on two tier 1 banks in Kenya, specifically KCB and Equity Bank, leaving out all other commercial banks in Kenya. Future research on the impact of mobile banking on achieving a competitive advantage should be done by extending the study to other banks in Kenya besides KCB Bank and Equity Bank. The current study should also be contextualized to industries other than banking for comparative purposes. It is important to note that mobile banking has evolved, and new features have emerged. Therefore, a study on the influence of mobile banking on achieving a competitive advantage should be carried out while considering other mobile banking aspects than those in this study.

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# APPENDICES

## APPENDIX I: QUESTIONNAIRE

### INTRODUCTION

My name is Roy Osaka from African Nazarene University. I am caring out a research on the impact of Strategic Choice on Mobile Banking in the Banking Sector. This questionnaire will help me collect data that will be useful in analysis of the research topic. Your participation will be very helpful. Your comments will remain highly confidential and you need not write your name.

### INSTRUCTION

1. Do not write your name in the questionnaire.
2. Fill the blank spaces or tick as appropriate.
3. Hand in questionnaire to the person collecting data.

**PARTICIPANT NO. _____**

NB: To ensure anonymity, **Don't Write Your Name** anywhere on this questionnaire or on any other form attached to it.

### SECTION A: GENERAL INFORMATION

Kindly, fill in all the questions by ticking ( √ ) in the brackets.

1. Please indicate your gender

Female [ ] Male [ ]

2. Please indicate your age group

18-30 yrs [ ] 31-40 yrs [ ] 41-50 yrs [ ] 51 yrs and above [ ]

### SECTION B: MOBILE BANK TRANSFERS

Kindly indicted your level of agreement with the given statements. Please tick appropriately; 5= Strongly Agree, 4= Agree, 3=Neutral, 2= Disagree, and 1 =Strongly Disagree

| Indicator | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|
| a) Banking products offered are a key determinant when opening a bank account | | | | | |
| b) I consider mobile banking as a product that should be included in all accounts. | | | | | |
| c) Mobile banking has made it easier for one to access banking services. | | | | | |
| d) Mobile banking has increased the banking efficiency | | | | | |
| e) It is easier to make cash payments than use mobile banking | | | | | |
| f) My money is more secure with mobile banking | | | | | |
| g) I am able to use Mobile banking anywhere and at any time | | | | | |

**SECTION C: MOBILE RETAIL REPAYMENTS**

Kindly indicted your level of agreement with the given statements. Please tick appropriately; 5= Strongly Agree, 4= Agree, 3=Neutral, 2= Disagree, and 1 =Strongly Disagree

| Indicator | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|
| a) Banking products offered are a key determinant when opening a bank account | | | | | |
| b) I consider mobile banking as a product that should be included in all accounts. | | | | | |
| c) Mobile banking has made it easier for one to access banking services. | | | | | |
| d) Mobile banking has increased the banking efficiency | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| e) It is easier to make cash payments than use mobile banking | | | | | |
| f) My money is more secure with mobile banking | | | | | |
| g) I am able to use Mobile banking anywhere and at any time | | | | | |

**SECTION D: STRATEGIC MARKETING PRACTICES**

Kindly indicted your level of agreement with the given statements. Please tick appropriately; 5= Strongly Agree, 4= Agree, 3=Neutral, 2= Disagree, and 1 =Strongly Disagree

| **Indicator** | **Strongly Disagree** | **Disagree** | **Neutral** | **Agree** | **Strongly Agree** |
|---|---|---|---|---|---|
| a) Mobile banking offers me an easy way of accessing loans from my bank | | | | | |
| b) Number of loans I have accessed from my bank have increased when using mobile banking | | | | | |
| c) Mobile loans have affordable interest charges | | | | | |
| d) It is less costly to use mobile loans than other forms of loans | | | | | |
| e) I don't require to visit retail outlets anymore to access loan | | | | | |

**SECTION E: COMPETITIVE ADVANTAGE**

Kindly indicted your level of agreement with the given statements. Please tick appropriately; 5= Strongly Agree, 4= Agree, 3=Neutral, 2= Disagree, and 1 =Strongly Disagree

| **ASSESMENT AREA** | **Strongly agree** | **Agree** | **Neutral** | **Disagree** | **Strongly disagree** |
|---|---|---|---|---|---|
| Mobile banking is an easy way of accessing my bank account | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Number of transactions carried out have increased when using mobile banking | | | | | |
| Mobile banking has increased the service charges | | | | | |
| It is less costly to use mobile banking than other options | | | | | |
| Visit retail outlets more | | | | | |

**THANKYOU FOR YOUR PARTICIPATION**

**APPENDIX II: LIST OF COMMERCIAL BANKS IN KENYA**

| | | | |
|---|---|---|---|
| 1. | African Banking Corporation, Nairobi | 2. | Bank of Africa Kenya, Nairobi |
| 3. | Bank of Baroda, Nairobi | 4. | Bank of India, Nairobi |
| 5. | Barclays Bank of Kenya, Nairobi | 6. | CFC Stanbic Bank |
| 7. | Chase Bank Ltd, Nairobi | 8. | Citibank, Nairobi |
| 9. | City Finance Bank | 10. | Co-operative Bank of Kenya, Nairobi |
| 11. | Commercial Bank of Africa, Nairobi | 12. | Diamond Trust Bank, Nairobi |
| 13. | Consolidated Bank of Kenya Ltd, | 14. | Dubai Bank Kenya Ltd, Nairobi |
| 15. | Credit Bank Ltd, Nairobi | 16. | Equatorial Commercial Bank Ltd |
| 17. | Development Bank of Kenya, | 18. | Equity Bank, |
| 19. | Guardian Bank, Nairobi | 20. | Family Bank, Nairobi |
| 21. | Gulf African Bank Ltd, Nairobi | 22. | Fidelity (Commercial) Bank Ltd |
| 23. | Habib Bank A.G. Zurich. | 24. | Fina Bank Ltd, Nairobi |
| 25. | Habib Bank Ltd, Nairobi | 26. | First Community Bank Ltd, Nairobi |
| 27. | Housing Finance Co. Ltd, | 28. | Paramount Universal Bank Ltd |
| 29. | Imperial Bank, Nairobi | 30. | Prime Bank Ltd, Nairobi |
| 31. | I&M Bank Ltd | 32. | Southern Credit Banking Corp. Ltd |
| 33. | K-Rep Bank Ltd, Nairobi | 34. | Standard Chartered Bank , Nairobi |
| 35. | Kenya Commercial Bank Ltd | 36. | Trans-National Bank Ltd, Nairobi |
| 37. | Middle East Bank, Nairobi | 38. | UBA Kenya Bank Ltd., Nairobi |
| 39. | Victoria Commercial Bank Ltd. | 40. | NIC Bank |
| 41. | M-Oriental Commercial Bank | 42. | |

*25th, March, 2022*

E-mail: researchwriting.mba.anu@gmail.com

Tel. 0202711213

*Our Ref:* 14S03DMBA014

The Director.
National Commission for Science,
Technology and Innovation (NACOSTI),
P. O. Box 30623, 00100
Nairobi. Kenya

Dear Sir/Madam:

**RE: RESEARCH AUTHORIZATION FOR: ROY OSAKA OMULOGOLI**

Mr. Roy is a postgraduate student of Africa Nazarene University in the Master of Business Administration (MBA) program.

In order to complete his program, Mr. Roy is conducting a research entitled: **"An Assessment of Mobile Banking As A Tool for Competitive Advantage in the Banking Sector. A Case Study of Kcb and Equity Bank"**

Any assistance offered to him will be highly appreciated.

Yours Faithfully,

**DR. Kimani Gichuhi,**

**MBA, Coordinator,**

**School of Business,**

**Africa Nazarene University.**

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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Date of Issue: **09/July/2024**

## RESEARCH LICENSE



**This is to Certify that Mr.. Roy Osaka Omulogoli of Africa Nazarene University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: AN ASSESSMENT OF MOBILE BANKING AS A TOOL FOR COMPETITIVE ADVANTAGE IN THE BANKING SECTOR. A CASE STUDY OF KCB AND EQUITY BANK for the period ending : 09/July/2025.**

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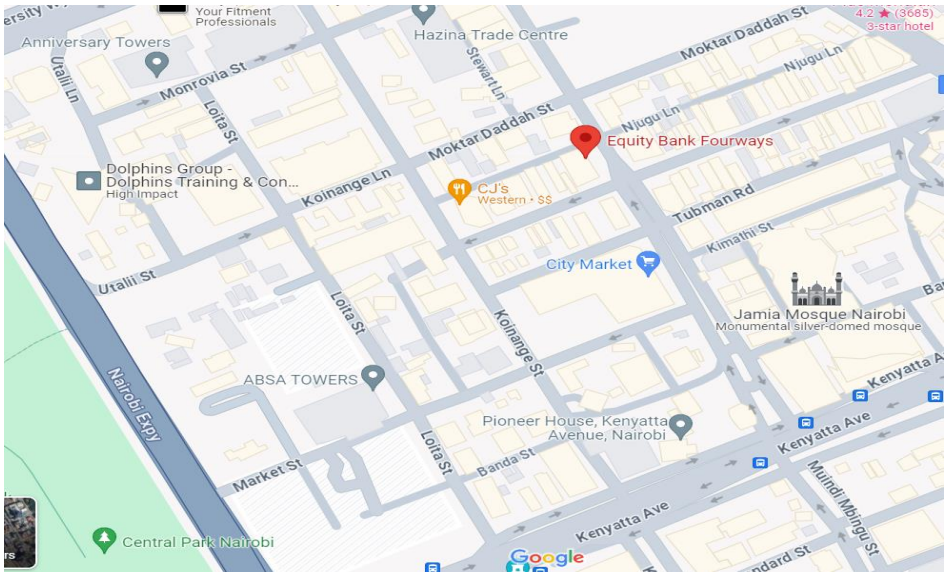
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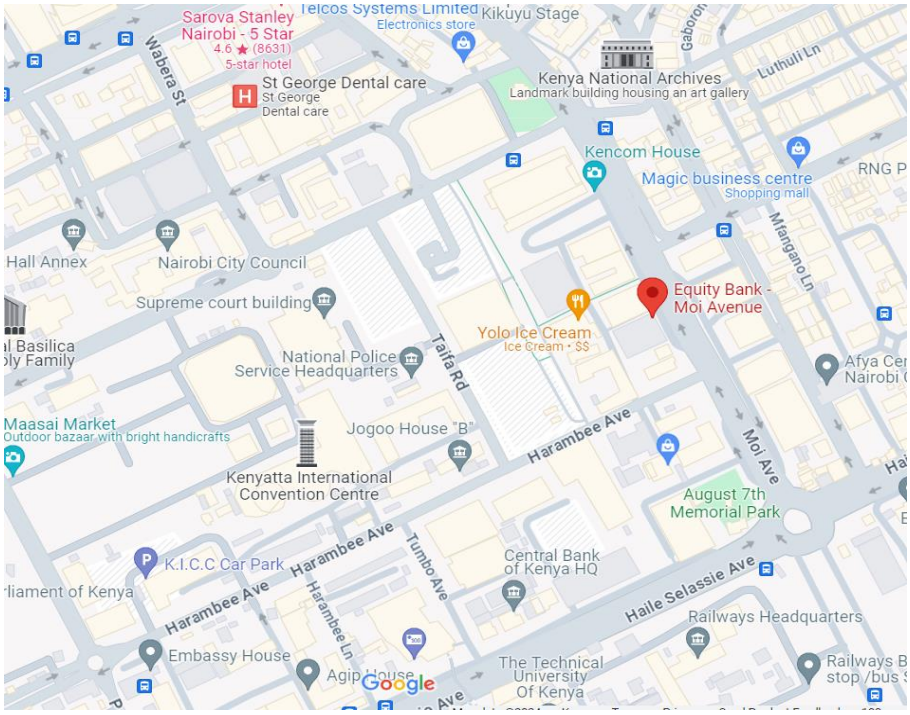
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# Maps to Data Collection Sites

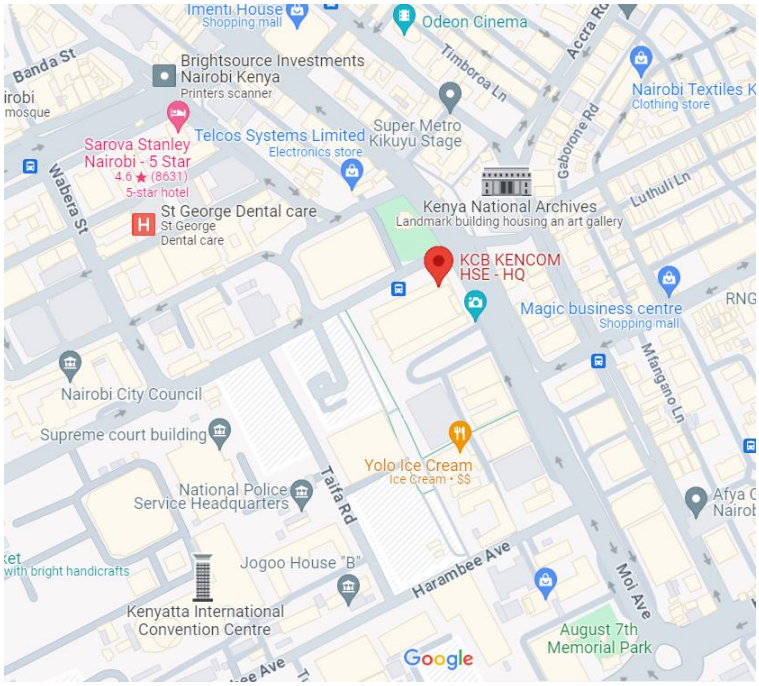
## Equity Bank Fourways




## Equity Moi Avenue



## KCB Kencom




## KCB Mortgage Center

