FACTORS INFLUENCING THE ADOPTION OF OPEN BANKING BY EMPLOYEES OF COMMERCIAL BANKS IN KENYA

ALEX WOKABI

REG NO: 156996

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STUDENT'S DECLARATION

I declare that this thesis has not been previously submitted and approved for the award of a Master's degree by this or any other university. To the best of my belief and knowledge, no other person has previously written or published the content herein, with the only exception where reference materials are included in the study.

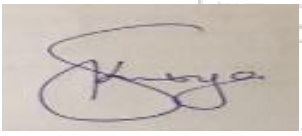
Name of Candidate: ALEX MBUTHIA WOKABI **Date**: …28th May 2025.

Reg. No: 156996

Signature: ……...

SUPERVISOR'S APPROVAL

This research dissertation has been submitted for examination with my approval as the candidate's supervisor.



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DR. STELLA NYONGESA

LECTURER, STRATHMORE UNIVERSITY

DEDICATION

I dedicate this study to God for the wisdom and strength I drew to complete this research. I also dedicate this work to my family for their never-ending support, encouragement, and understanding throughout this research process.

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ABBREVIATIONS AND ACRONYMS

API	Application Programming Interfaces
BRICS	Brazil, Russia, India, China and South Africa
CDR	Consumer Data Right
CMA	Competition and Markets Authority
EFA	Exploratory Factor Analysis
GDPR	General Data Protection Regulation
KBA	Kenya Banker's Association
OBIE	Open Banking Implementation Entity
PEOU	Perceived Ease of Use
PSD2	Payment Services Directive 2
PU	Perceived Usefulness
SPSS	Statistical Package for the Social Sciences
TAM	Technology Acceptance Model
UK	United Kingdom
US	United States
UTAUT	Unified Theory of Acceptance and Use of Technology

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ABSTRACT

The banking sector is experiencing rapid digital transformation, with open banking emerging as a disruptive technology. Open banking enables third-party financial service providers to access customers' banking data through Application Programming Interfaces (APIs). While developed nations increasingly embrace open banking, its adoption in Kenya remains limited. Some factors attributed to this limited penetration include an organisation's readiness, regulatory support or uncertainty, digital literacy, and technological infrastructure. This study explored the factors influencing open banking adoption among employees of Kenya's commercial banks. Specifically, the study examined how regulatory support, technological infrastructure, digital literacy, and organizational readiness determined open banking adoption. The Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) models were the frameworks that allowed for an understanding of the study's variables. Adopting a positivist research philosophy, this study employed a descriptive cross-sectional research design. The researcher then collected data from employees working in Kenya's licensed commercial banks through structured questionnaires using a five-point Likert scale. The sample size of 387 respondents was determined using Yamane's formula to ensure diverse representation across the three bank tiers. Descriptive and inferential statistical methods, including multiple linear regression, were used to analyse the relationships between the variables. The findings revealed that technological infrastructure and regulatory support significantly impact employees' intention to adopt open banking, with organizational readiness influencing adoption moderately. Conversely, digital literacy was found to have a weak influence on bank employees' intention to adopt open banking. The study concluded that banking institutions should prioritise stronger regulatory frameworks, robust technological infrastructure, and organizational readiness for open banking adoption to succeed in Kenya. These findings provide insights to guide policymakers, commercial banks, and regulators in improving the regulatory and technological environment for open banking to flourish in Kenya. Although the study fulfilled its intended purpose, it was limited as its findings were not generalisable to other regions of Kenya, as the focus was on commercial banks in Nairobi County. Another limitation was that the study only focused on a limited set of variables, including regulatory support, technological infrastructure, organisational readiness, and digital literacy.

CHAPTER ONE: INTRODUCTION

1.1.Background to the Study

The United Kingdom (UK) was among the first nations to introduce open banking through the launch of the open banking initiative in 2018. The Competition and Markets Authority (CMA) presented this initiative to ensure increased competition and innovation in the sector (Borgogno & Colangelo, 2020). The initiative specifically gave rise to open banking by requiring the nine largest banks in the UK to open their customer data to third-party service providers through APIs (application programming interfaces). However, the establishment of open banking can be traced to the 1980s when the German Federal Post Office conducted experiments for online banking systems (Schenk, 2024). In Europe, the PSD2 (Revised Payment Services Directive) of 2015 provided a platform for the growth of open banking (Preziuso et al., 2023). Like the CMA initiative, the Payment Services Directive 2 (PSD2) required banks to open their data to third-party service providers. Since 2018, open banking has grown widely, including in the Brazil, Russia, India, and South Africa (BRICS) region (Fang & Zhu, 2023). However, European banks predominantly and currently lead the way in terms of open banking adoption, with inadequate regulatory frameworks limiting penetration in regions like Africa (Nanaeva et al., 2021). Such inadequate regulatory frameworks may also have limited the capacity of commercial banks in Kenya to adopt open banking (Nyawara, 2021).

In Africa, the development of open banking can be traced back to the early 2000s with the rise of mobile banking platforms (Regragui, 2022). Consequently, the 2010s witnessed an explosion of FinTech companies across the continent (Ndung'u, 2022). Specifically, FinTech firms increasingly provided services like digital wallets. However, open banking solutions were still absent, unlike the sector's increased growth in regions like Europe (Preziuso et al., 2023). Even so, Egypt, South Africa, and Nigeria experienced a rise in digital financial services mirroring the open banking trend (Kheira, 2022). Currently, Africa is witnessing more concrete efforts towards the establishment of open banking. For example, the Financial Sector Conduct Authority of South Africa has begun exploring open banking regulations, with such regulations vital for success (Giya et al., 2021; Ziegler, 2021).

In Kenya, open banking can be traced to the mobile banking revolution of 2007, with the current mobile banking culture influencing the journey towards open banking (Kimenyi & Ndung'u,

2009). M-Pesa, for example, has enabled millions of Kenyans to access financial services (Mbiti & Weil, 2015). FinTech's growth, especially its rise between 2010 and 2020, has set the stage for the introduction of open banking (Ndung'u & Moturi, 2020). However, open banking is in the early stages of its penetration, with inadequate regulations and the vast growth of mobile banking limiting its expansion (Nyawara, 2021). Even so, the Central Bank of Kenya has recognised the potential for open banking and included this model in its Digital Finance Policy (FinTech News Africa, 2021). Despite this recognition, there is insufficient research on the factors influencing the adoption of open banking by employees of Kenya's commercial banks.

Open banking enables third-party service providers to access consumers' financial data through regulated APIs (Application Programming Interfaces) (Fang & Zhu, 2023). It fosters competition, enhances financial inclusion, and allows banks to offer personalized services. However, the adoption of open banking varies across markets. In developed economies like the UK and Europe, regulatory frameworks such as the PSD2 have facilitated adoption (Preziuso et al., 2023). Conversely, in Kenya, open banking is still in its nascent stages, and this outcome results from regulatory ambiguity, technological constraints, and limited digital literacy among banking staff.

Several factors impact the likelihood that employees of Kenya's commercial banks will embrace open banking. For example, organizational readiness, technological infrastructure, and digital literacy determine how quickly commercial banks adopt open banking. Banks with modern IT infrastructures and digital transformation strategies are more likely to integrate open banking solutions (Ndung'u & Moturi, 2020). On the other hand, customer demand, regulatory or government support, and competitive pressures from FinTechs, also shape the pace of adoption. Kenya's banking sector has experienced a shift towards digital transformation, and understanding how these factors interrelate is essential to ensure an environment that supports open banking.

1.1.1. Open Banking

Various scholars have defined open banking based on the context of their studies. Broby (2021) defines open banking as a medium for sharing financial information between third-party agents and banks. It revolutionises the banking industry by allowing consumers to provide third-party service providers with their financial data. On the other hand, Mansfield-Devine (2016) views open banking as the ability of an organisation to process payments on behalf of its users. For this

to work, the users must permit the entity to access the bank's application programming interfaces (APIs). Further, Unsal et al. (2020) define open banking as using APIs to enhance customer experience by offering them personalised financial products. Conversely, Ziegler (2021) views open banking as the mandated sharing of financial information to ensure increased competitiveness. Similarly, Ramdani et al. (2020) view open banking as a model that permits banks to cooperate with FinTechs by securely sharing users' financial data. Finally, Mugambi (2022) claims that open banking is becoming the de facto standard for sharing data, where third parties' access to customers' bank information allows them to provide personalised financial services.

Consumer data exchange is built on application programming interfaces (APIs). APIs allow communication among diverse software components, and consumer consent drives this exchange (Unsal et al., 2020). Third-party service providers are interested in accessing this financial data to provide customised financial services. For example, FinTechs analyse past consumer data to ensure loans are approved quickly. As such, open banking empowers consumers to access financial services and products that traditional banks do not offer (Broby, 2021). The data is also exchanged securely. Indeed, security is essential to ensure consumer data is protected and that privacy and confidentiality are assured. Open banking follows a particular process whereby a consumer's bank account generates financial data (Broby, 2021). Subsequently, a third-party service provider accesses the data using an API request. Consumers have increasingly embraced open banking, and this sentiment is reflected in the rapid growth and expected adoption by other players in this sector worldwide (Statista Research Department, 2024).

The levels of API integration, partnerships between banks and third-party service providers, and the frequency of open banking transactions determine whether banks will adopt open banking (Brodsky et al., 2017; Premchand & Choudhry, 2018). It is vital to measure and analyse these factors, which can help identify the extent of adoption of open banking by employees of Kenya's commercial banks. For instance, there is an extent to which a commercial bank has embedded open banking APIs, and this extent equates to the level of open banking adoption. Further, third-party service providers must obtain consent from consumers to access their data (Nyawara, 2021). Banks usually have third-party relationships with FinTechs and other third-party service providers. The quality of these partnerships determines the level of open banking adoption within commercial banks.

Open banking is a system or model where financial institutions allow third-party providers to access customer data through secure digital platforms, such as APIs (Broby, 2021). APIs facilitate this exchange, which enables external financial service providers to provide advanced tech products. On the other hand, open banking services include real-time payments, automated lending solutions, and enhanced customer financial insights. In this study, open banking refers to the overarching framework of data sharing in the banking sector (Unsal et al., 2020). In contrast, open banking services encompass the specific financial products enabled by open banking. While the two terms are related, they are not interchangeable. This study focuses on the adoption of open banking as a system rather than specific services.

1.1.2. Open Banking Adoption

Open banking adoption is the study's dependent variable. Nguyen (2020) defines it as a bank demonstrating its willingness and readiness to embrace and implement open banking. People evaluate the possibility of accepting and using innovations by thinking logically about their technological readiness and then considering this technology's perceived usefulness and ease of use (Sivathanu, 2019). Premchand and Choudhry (2018) claim that open banking uptake is based on whether APIs are well integrated and whether banks and third-party service providers cooperate. A major benefit of open banking is ensuring customers access numerous offerings through personalised recommendations and data analytics. Such an advantage may enhance perceived usefulness and drive commercial banks to embrace open banking (Long et al., 2020).

The technology acceptance model has been used in extant studies for different banking technologies, including the automated teller machine, telephone, internet, and mobile banking, to research the adoption of a new technology (Sivathanu, 2019; Kaulu et al., 2024). In the context of this study, perceived usefulness represents how much the employees found it useful to adopt open banking, while perceived ease of use signifies the extent to which they consider that adopting open banking is effortless (Kaur & Arora, 2020). Bank employees' attitudes may determine whether they will accept or reject open banking (Himel et al., 2021). When employees' attitude towards open banking is favourable, they are likely to support the adoption of open banking. Accordingly, the adoption of open banking is defined as a bank's likelihood, willingness, and readiness to adopt

open banking, and these indicators were derived from Suh and Han (2002), Sivathanu (2019), Himel et al. (2021), and Kaulu et al. (2024) studies.

1.1.3. Factors Influencing Open Banking Adoption

Several factors can influence the adoption of open banking across different contexts. An organisation is usually subject to conditions of the internal and external environment, which affect its operations. The external environment presents an organisation with the necessary resources to develop its internal workings (Shatilo, 2019). Further, Gozman et al. (2022) note that external forces shape banking innovation, and these forces compel institutions to adopt emerging technologies. Accordingly, some of these external pressures include regulatory frameworks, competition, technological advancements, and consumer demand. Regulatory policies set the legal framework for data sharing, and these frameworks ensure security and compliance (Remolina, 2019). FinTechs provide considerable competitive pressure, which forces banks to adopt open banking (Omarini, 2018). Additionally, technological advancements create a favourable environment for digital banking (Hefny et al., 2023). Consumer demand is also a key driver as customers increasingly expect seamless and personalized financial services.

Internal conditions can also impact an organisation's strategic decision making (Shatilo, 2019). These internal conditions determine an organisation's expansion, but that relies on the market or external environment. The top management can control and manage these internal or firm factors at any time (Sadiku, 2022). Engidaw (2021) characterises internal factors as those that emphasize capacity management, entrepreneurship, technological ability, and marketing capabilities. Correspondingly, Sadiku (2022) contends that financial capability, human resources, and technological capacity significantly affect a firm's performance. This study focuses on regulatory support, technological infrastructure, digital literacy, and organisational readiness, which are regarded as factors that affect open banking adoption.

Accordingly, there is a need to analyse a few global, regional, and local studies and their conceptualisation of these factors. Open banking adoption depends on the digital literacy of employees and organisational readiness. In the global context, Hussain and Papastathapoulos (2022) revealed organisational readiness as a considerable element in determining the adoption of new banking technologies. The authors measured organisational readiness using a set of indicators,

including change valence, change efficacy, cultural readiness, partnership readiness, and strategic readiness. These indicators were adopted from the literature and measured using a five-point Likert scale. Consequently, the study indicated that change valence and change efficacy are essential for digital transformation in banking. Further, Cetindamar et al. (2021) linked digital banking innovation with digital literacy. The study focused on the adoption of cloud technology, where technology's use intention and use behaviour were measured using a Likert scale. They noted that examining employees' digital skills and the presence of digital skills training could aid in determining their digital literacy.

On the other hand, Dinckol (2021) investigated whether an association existed between the acceptance of banking technology and the presence of a robust regulatory environment. The data collection process involved 114 semi-structured interviews with challenger banks, FinTechs, regulators, and industry experts. This process was further complemented with archival research. Notably, the study focused on challenges in implementing API standards, experiences regarding partnerships, and challenges regarding open banking adoption. Ultimately, the findings indicated the relevance of effective regulatory standards in open banking adoption.

Regionally, the work of Olaolu (2022) generated useful perspectives on the influence of security and banking regulations. Using TAM, the study analysed 250 questionnaires and measured PU, PEOU, and security and banking regulations using five-point Likert scales. The findings supported the work of Dinckol (2021) in advancing the role of a regulatory framework. Further, Ofusu-Ampong (2021) advanced the influence of technological readiness in digital transformation. A mixed-methods approach was used to measure price value, inherent innovativeness, and technology readiness using Likert scales and thematic analysis.

In Kenya, Nyawara (2021) explored the regulatory landscape for FinTech adoption. The researcher analysed secondary data sources to uncover the factors influencing FinTechs and open banking. Using a literature review, the study analysed key variables related to the regulatory landscape, including regulatory flexibility, consumer data protection, and innovation incentives. The findings show that a rigid regulatory landscape encouraged digital banking innovation. However, this landscape lacked clear data security measures.

Evidently, several factors may determine the adoption of open banking and digital technologies by banking organisations. However, critical literature gaps prevail. For example, the global studies positively link digital innovation with organisational readiness, regulatory frameworks, and digital literacy (Hussain & Papastathapoulos, 2022; Dinckol, 2021; Cetindamar et al., 2021). However, the insights generated lack specificity to open banking adoption within commercial banks. The study by Olaolu (2022) advanced the vitality of security and banking regulations. However, it largely centred on perceived ease of use, while Ofusu-Ampong (2021) did not focus on a specific technology. By focusing on the factors determining the adoption of open banking within Kenyan commercial banks, this study aims to bridge these gaps. In this light, this study examines the specific factors influencing the adoption of open banking, namely regulatory framework, organizational readiness, digital literacy, and technological infrastructure.

The current study identified four key factors that may influence the adoption of open banking in Kenya's commercial banks. The absence of clear open banking regulations in Kenya creates uncertainty. Regulatory policies define data-sharing rules, consumer protection measures, and compliance requirements (Remolina, 2019). Further, banks should have internal capabilities, leadership support, and digital transformation strategies in place (Dinckol, 2021). Organisational readiness determines how well institutions can implement open banking. Additionally, employees should understand and work well with digital tools (Cetindamar et al., 2021). Low digital literacy among banking professionals hinders implementation. Open banking also relies on secure IT systems, cloud computing, and advanced cybersecurity frameworks (Chan et al., 2022). Without proper infrastructure, adoption remains a challenge. These factors may collectively shape how and whether commercial banks can adopt open banking in Kenya.

1.1.4. The Commercial Banking Sector in Kenya

Kenya's banking sector has several critical players, including the regulatory authority, Central Bank of Kenya (CBK), one mortgage refinancing company, one mortgage financing corporation, and 38 licensed commercial banks (Central Bank of Kenya [CBK], 2023). Other key players include money remittance providers, microfinance banks, non-operational bank holding firms, foreign exchange bureaus, and credit reference bureaus (CBK, 2023). The study focuses on the 38 commercial banks licensed by the Central Bank of Kenya (2024). Notably, most of these commercial banks are local or foreign-owned entities. The report included KCB (Kenya

Commercial Bank), Equity, NCBA, and Family Bank, which are among the dominant commercial banks in Kenya's banking sector. While the industry has recently undergone considerable digital transformation, many banks still rely on manual processes (Peter et al., 2021; Koskei, 2020). This attribute may limit the acceptance of open banking. Further, the sector has been disrupted by increased awareness and popularity of sustainable banking systems (Muchiri et al., 2022), consumer acceptance of mobile money platforms (Kingiri & Fu, 2020), and the rise of FinTech organisations (Musamali et al., 2023). These factors increasingly define performance in the market.

The regulation of the Kenyan banking sector is provided under a broad regulatory framework by the Central Bank of Kenya (CBK) under the Banking Act Cap 488. Kenya's commercial banks are supervised and licensed by CBK. The licensed commercial banks are grouped into three tiers depending on the size of market share, the amount of capital available, and the amount of assets held (CBK, 2023). Kenyan commercial banks are grouped into three tiers, Tier I, Tier II, and Tier III, using a composite index that is weighted (Gatuguta & Musau, 2024). The index consists of total deposits, net assets, the number of loan and deposit accounts, and reserves and capital. A bank with an index of 5% or more is regarded as a Tier 1 or large bank. On the other hand, a medium or Tier II bank's composite index lies between 1% and 5%, whereas banks whose index is less than 1% are referred to as Tier III or small banks (CBK, 2023). As of the end of 2023, nine Tier 1 banks had a total market share of 76.6%, eight Tier II banks' market share stood at 15%, and twenty two Tier 1 banks held a market share of 8.4% (CBK, 2023).

The banking sector plays a pivotal role in Kenya's socio-economic development, contributing approximately 13% to Kenya's GDP and facilitating domestic and international trade through financial intermediation. Kenyans now working or associated with this sector of the economy are over 30,000 directly and indirectly, and the total assets of the sector are worth KES 5.4 trillion as of 2024 (Gatuguta & Musau, 2024). The end of 2023 saw an increase in staff levels to 37,933 from 36,107 at the end of 2022, which represents a 5% rise (CBK, 2023). The most significant increase in the number of employees was evident in Tier 1 banks as they opened more outlets and branches. Extensive branch networks and digital banking solutions, specialized lending programs for SME development, and support of government programs for social welfare and development are the basis for attaining financial inclusion.

Despite the evident growth in the banking sector, it is experiencing a number of challenges, including technology integration problems, compliance problems, such as increasing compliance costs, and market dynamics like competing with FinTech. Banks also seem to face challenges with legacy systems and outdated IT infrastructure that are incompatible with modern API integrations necessary for open banking (Babina et al., 2024). However, these challenges are accompanied by opportunities in digital innovation, such as through the adoption of open banking, expansion of mobile banking, opportunities for market expansion through regional integration, as well as opportunities for product development, such as personalized banking and digital lending platforms (CBK, 2023). Therefore, the government should strengthen digital banking regulatory frameworks and encourage innovation through regulatory sandboxes. Moreover, it should create a resilient cybersecurity, while ensuring green banking is supported. The Central Bank of Kenya has outlined ambitious open banking solutions to enhance its adoption nationwide (FinTech News, 2021). However, this acceptance depended on the capacity to mitigate the various challenges that commercial banks experience when adopting open banking.

1.2.Problem Statement

Financial information is one of the most regulated data forms and requires tight legislation to ensure its protection. Owing to this, most economies, especially developing ones, are reluctant to adopt new technologies, such as open banking. In 2018, the European Union (EU) implemented the PSD2 (Revised Payment Services Directive 2) as a measure to adjust how financial data exchanges were handled legally (Gozman et al., 2018; Preziuso et al., 2023). Despite this initiative, commercial banks remain hesitant to adopt open banking, and when they do, it is just to comply. Banks perceive such a move as one that may negatively impact their competitive advantage; hence, they run their operations the same way (Heins & Rigopoulos, 2023). Anagnostopoulos (2018) also notes that large banks with a considerable market share are not interested in adopting innovation. Moreover, their technology departments are focused on meeting the requirements for complicated regulations. The legacy systems in most banks also make such a shift difficult and expensive; hence, they view new technology as an unnecessary expenditure (Heins & Rigopoulos, 2023). Additionally, users of banking services are loyal, skeptical of using third-party applications, and only subscribe to or use applications that their banks promote. Therefore, banks' reluctance and

consumers' trust issues make open banking adoption problematic despite numerous benefits linked to this technology.

Although open banking has the potential to revolutionise Kenya's financial landscape considerably, its penetration in the country remains underexplored (Rutto, 2022; Musamali et al., 2023). Furthermore, despite FinTech and mobile money platforms undergoing significant adoption, open banking in Kenya remains in its embryonic stages (Aicha, 2023). It is evident that Kenya's financial sector has the potential to be transformed through open banking, but its adoption is slow compared to other integrated markets worldwide, like Europe (Aicha, 2023). Factors like out-of-date technological infrastructure, lack of consumer trust, limited resources, and inflexible regulations limit the adoption of open banking in Kenya (Crosman, 2019; Nyawara, 2021; Rutto, 2022; Nel & Boshoff, 2021). The present study is significant given the emergence of regulatory, technological, and organizational challenges in open banking integration into banks' operations. Accordingly, this study sought to address the problem of slow adoption of open banking. Such adoption would contribute to the development of personalized financial products, improved customer experiences, and operational efficiency (Organisation for Economic Co-operation and Development [OECD], 2024). Indeed, this problem is critical since it limits the ability of Kenya's commercial banks to compete internationally, yet the digital financial services environment is evolving rapidly.

The implications of the lack of open banking adoption for stakeholders are numerous. If Kenya's commercial banks fail to embrace open banking, they may lose market share and become uncompetitive, among others, as more global players enter the continent. By excluding open banking services to customers, commercial banks deny them the opportunity to use available financial products (Heins & Rigopoulos, 2023). This will also put pressure on regulatory bodies to develop tight frameworks that support open banking. By doing so, the FinTech firms will miss opportunities to create new business models and partner with traditional banks on new offerings.

Globally, the adoption of open banking has gained significant momentum, especially in European regions with clear and robust regulatory frameworks. The inception of the PSD2 in 2015 mandated banks to provide third-party service providers access to consumer data (Gozman et al., 2018). On the contrary, the lack of a unified regulatory framework in North America, especially the United

States (US), means the continent has also been slow to welcome open banking development (Farrell, 2022). Regionally, African countries have been even slower in embracing open banking, especially due to the dominance of mobile money solutions and underdeveloped regulatory frameworks (Ahmad et al., 2020; Salami, 2024). In Nigeria, however, regulatory sandbox initiatives show some critical movement towards open banking (Olatunji, 2020). However, the progress has been gradual and minimal. South Africa has also conveyed interest through the Financial Sector Conduct Authority. The state of open banking in these continents portrays the appropriateness of strong regulations for the success of this banking model.

Notably, Kenya stands out in Africa as the leading digital financial service hub, especially due to the success of M-Pesa (Jacob, 2016). However, factors such as inadequate infrastructure, unclear regulations (Nyawara, 2021), and consumer issues over data privacy act as key adoption barriers. According to Preziuso et al. (2023), open banking enables personalised financial services and products by allowing third-party providers to analyse a customer's financial data. This benefit is not adequately realised in Kenya due to the limited penetration of open banking solutions. Furthermore, the inadequate penetration of open banking inhibits Kenyan banks' capacity to streamline operations and remain competitive in the global market (Rutto, 2022). Molaro (2023) notes that European banks increasingly provide APIs to third parties. On the contrary, banks in Kenya have not fully harnessed this technology. This is partly due to the dominance and consumer preference for mobile money solutions. Subsequently, this outcome limits the capacity for Kenyan commercial banks to remain competitive globally and provide personalised and streamlined services. However, open banking holds the potential for more innovative financial products beyond what mobile money platforms offer (Frank, 2024). As such, the adoption of open banking is critical to the future of Kenya's banking sector.

Open banking has become an increasingly popular research area, attracting considerable attention, especially in current research (Omarini, 2018; Gozman et al., 2018; Chan et al., 2022). However, most research in developed nations focuses on the role of regulations, competition, and consumer trust, and their conceptualisation of key variables only applies to their studies. Conceptually, studies by Sidani and Harb (2023), Al-Issa and Omar (2024), and Pi and Yang (2023 only advanced leadership as the variable impacting the adoption of open banking. Maharaj and Pooe (2021) and Al-Issa and Omar (2024) also did not offer a robust methodological framework for assessing

resource availability or readiness in complex banking environments. These studies also employed a qualitative methodology, which relies on people's experiences and opinions. On the other hand, African studies like Musau et al. (2022) and Dreyer (2022) have explored how open banking promotes financial inclusion in underserved markets. Locally, studies by Rutto (2022) and Nyawara (2021) highlight the slow pace of open banking adoption due to unclear regulations, the supremacy of mobile money platforms, and low digital literacy levels. However, these studies do not comprehensively examine the influence of the study's key variables. Moreover, they all employed a qualitative methodology, which is subjective and results in generalisation problems.

Although studies on open banking are numerous and add to the body of knowledge, significant gaps remain. There is limited understanding of how specific factors influence the acceptance of open banking. Moreover, most of these studies are set in different contexts; hence, their findings cannot be generalised to the Kenyan context. Additionally, most of the studies employed qualitative methodology. Critical gaps are also evident, especially regarding how organisational readiness, regulatory support, technological infrastructure, and employees' digital literacy are referred to in the literature. Accordingly, this study sought to fill these gaps by improving the conceptual definitions of these factors. It also used a quantitative methodology to address gaps in methodology. Therefore, the goal of this research was to identify the factors influencing open banking adoption by employees of Kenya's commercial banks.

1.3. Research Aim and Objectives

This research aimed to investigate the factors influencing the adoption of open banking by employees of Kenya's commercial banks. Mainly, it focused on technological infrastructure, employees' digital literacy, regulatory framework, and organisational readiness.

1.3.1. General Objective

To determine the factors influencing the adoption of open banking by employees of commercial banks in Kenya.

1.3.2. Specific Objectives

i. To determine the influence of regulatory support on the adoption of open banking by employees of commercial banks.

ii. To establish the influence of technological infrastructure on the adoption of open banking by employees of commercial banks in Kenya.
iii. To establish the influence of digital literacy among employees in the banking sector on the adoption of open banking by employees of commercial banks.
iv. To determine the influence of organizational readiness on the adoption of open banking by employees of commercial banks in Kenya.

1.4. Research Questions

This study seeks to answer the following research questions;

i. What is the influence of regulatory support on the adoption of open banking by employees of commercial banks in Kenya?
ii. What is the influence of technological infrastructure on the adoption of open banking by employees of commercial banks in Kenya?
iii. What is the influence of digital literacy among employees on the adoption of open banking by employees of commercial banks in Kenya?
iv. What is the influence of organizational readiness on the adoption of open banking in commercial banks in Kenya?

1.5. Scope of the Study

The scope of this study was geographically limited to Kenya's Nairobi County. Specifically, the study aimed to determine whether regulatory support, technological infrastructure, organisational readiness, and employees' digital literacy levels influence commercial banks' adoption of open banking in Kenya. The study targeted bank employees who hold management positions to determine the factors affecting open banking adoption. This research particularly targeted users across various demographics, including income levels, age, financial literacy, and educational background. This research employed a mono-method quantitative approach, focusing on surveys as the primary data collection tool. The time scope of this study stretched from September 2024 to May 2025.

1.6. Significance of the Study

The study explored the factors influencing the adoption of open banking in Kenya, which is significantly underexplored. For example, Kenya lacks a clear regulatory framework controlling

data sharing between banks and third-party entities (Nyawara, 2021). Recent studies have not adequately examined how regulatory frameworks and technological infrastructure impact the uptake of innovations. As such, the findings demonstrate the need to create data privacy policies and laws that protect consumers while allowing banks to introduce new technologies. The findings also provide critical insights for policymakers, especially in crafting more robust regulations supporting the adoption of open banking. Particularly, it informs the introduction of comprehensive regulations on privacy, data sharing, and security within the Kenyan banking environment, owing to the uncertain regulatory environment. The study also indicates the requirement for a common regulation framework and the possibility of implementing a model similar to the PSD2.

For industry practitioners, mainly commercial banks, the study sheds light on the factors that should be addressed to adopt open banking successfully. By identifying key barriers and facilitators, the study could guide bank leaders to ensure organizational readiness, invest in technological infrastructure, and train employees to manage banking innovations effectively. The results can enable banks to enhance their competitive edge by embracing open banking and offering customers more personalized and innovative financial products. This outcome may especially be vital for the nation's underbanked populations. Additionally, the findings may educate Kenyan consumers on the benefits of open banking services. Such benefits include more control over financial data, personalised products, and affordable prices (Chan et al., 2022).

Academically, this study fills a significant gap in the literature regarding the adoption of open banking in developing economies, specifically Kenya's commercial banking sector. Current research has focused on open banking in developed countries, with limited exploration in Kenya. This study aims to contribute new knowledge and insights to the emerging markets' growing financial technology and banking services field. Furthermore, there is limited research on the intersection of the influence of regulatory frameworks, organisational readiness, technological infrastructure, and digital literacy on open banking adoption by employees of Kenya's commercial banks. Thus, this study is significant for academicians as it addresses this knowledge gap.

1.7 Chapter Summary

This chapter presented the background of the study, which outlined the evolution of open banking and key factors central to understanding the slow adoption of open banking in Kenya. The problem statement highlighted the gap in existing literature regarding the specific factors influencing open banking adoption in Kenyan commercial banks. In conclusion, the chapter sets the foundation for the study, detailing the research aim and objectives and the importance of addressing the adoption barriers to enhance the competitiveness and innovation capacity of Kenya's banking sector.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

The literature review section details and appraises current studies on factors that influence open banking adoption by employees of Kenya's commercial banks. Particularly, it focuses on understanding global trends in open banking and how and why they depart from the Kenyan market. It then details the TAM (Technology Acceptance Model) and UTAUT (Unified Theory of Acceptance and Use of Technology) models that lay the theoretical foundation for the topic. The

literature review also provides conceptual and empirical reviews on regulatory framework, technological infrastructure, digital literacy, and organisational readiness, as well as how these factors influence open banking adoption. This chapter highlights the critical gaps in these studies while including a comprehensive conceptual framework detailing the relationship between the study's variables.

2.2. Theoretical Framework

This section presents two key theories that guided the research and offered an understanding of the phenomenon under study. Specifically, it looks into the application of the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Technology Acceptance Model (TAM). Both the UTAUT and TAM models are critical for this study and complement each other. The UTAUT explains the independent variable, whereas the TAM model provides insight into the dependent variable.

2.2.1. Technology Acceptance Model

In 1989, Fred Davis formulated this theory, which focuses on two key factors defining technology adoption: perceived ease of use (PEOU) and perceived usefulness (PU) (Khechine et al., 2016). Permatasari and Prajanti define perceived usefulness as the perceived ability of a particular technology to improve or enhance performance (2018). On the contrary, perceived ease of use is the perceived belief that an organisation holds that a new technology would be easy to use (Permatasari & Prajanti, 2018). The technology acceptance model (TAM) assumes that users' behavioural intention predicts their adoption of a technology, which depends on their perception of its ease of use and usefulness (Marikyan & Papagiannidis, 2024). The model explains the adoption of open banking variable, as it allows commercial banks to understand why their users choose or reject a new technology. In this study, perceived usefulness represented how much the employees would find it useful to adopt open banking. On the other hand, perceived ease of use signified the extent to which the employees considered adopting open banking as effortless. Bank employees' attitudes, whether positive or negative, influence their reluctance or acceptance of open banking (Himel et al., 2021). When employees' attitude towards open banking is favourable, they are likely to support the adoption of open banking.

Perceived usefulness and perceived ease of use are the key variables in the technology acceptance model (TAM) (Kaur & Arora, 2020). They directly influence banks' decisions to utilise or adopt open banking platforms. Perceived usefulness is important in markets where FinTech is well established. In such markets, organisations are motivated by the performance gains of open banking (Singh et al., 2020). Commercial banks are more likely to embrace open banking if they believe that they will gain. Open banking elicits benefits like expanded customer offerings through personalised recommendations and data analytics. These benefits are likely to enhance perceived usefulness and may drive commercial banks to accept open banking platforms (Long et al., 2020). For example, some developed countries like the UK have strong regulatory frameworks. In these countries, banks are likely to find value in open banking's associated convenience and control (Mbama & Ezepue, 2018). On the contrary, banks in Kenya have historically prioritised mobile banking platforms, which provide greater ease of use and simplicity (Ritho & Jagongo, 2015). Further, mobile money platforms, such as M-Pesa, dominate the financial sector (Van Hove & Dubus, 2019). As such, consumers' perceived ease of use may mean they are more critical in embracing open banking. This notion is relevant because Kenyans are more accustomed to simpler technologies. As such, Kenyan banks may perceive open banking as resource-intensive, which makes them less likely to embrace the technology.

Perceived usefulness and perceived ease of use determine open banking adoption (Prastiawan et al., 2021). However, perceived trust and security are also critical in determining the success of open banking. Tiwari and Tiwari (2020) emphasise that companies may not be willing to embrace new technologies if they perceive the move as risky. Similarly, open banking introduces security and data privacy risks, as it involves sharing sensitive consumer information between banks and third-party service providers (Chan et al., 2022). As such, this banking model raises concerns over data security and privacy. The extended technology acceptance model considers perceived security a key factor in consumer trust (Acharya & Mekker, 2022). This outcome will likely influence organisation's willingness to embrace open banking platforms. In Kenya, this concern is further magnified by regulatory uncertainty. Specifically, Kenya lacks a comprehensive data protection framework regulating the exchange of sensitive consumer data (Nyawara, 2021). As such, commercial banks resist open banking solutions due to the associated risks in data sharing and the existing regulatory gaps.

In the global context, Singh et al. (2022) utilise this model to explore the drivers of FinTech adoption. However, this model is expanded to include sub-constructs of the Unified Acceptance of Use of Technology (UTAUT). Consequently, these constructs are classified into technology, adoption, and behaviour. Through this expanded model, the study shows that perceived usefulness and social influence determine the behavioural intention to use FinTech services. Perceived ease of use and social influence determine actual use, while behavioural attributes are affected by digital behaviour and characteristics related to technology. Regionally, Olaolu (2022) used the technology acceptance model to explore digital banking adoption in Nigeria. As such, the TAM-based model included variables that would stimulate digital banking's use, including perceived use, perceived ease of use, security, and banking regulations. The study administered questionnaires, while Likert scales measured these variables. Alongside the technology acceptance model variables, the study showed that security and banking regulations positively influenced the embracement of open banking services. In Kenya, the work of Wilter (2023) employed the technology acceptance model to show that the adoption of digital financial technology improved banks' financial performance. The author concluded that the model provided a robust theoretical foundation to comprehend the decision by Kenya's commercial banks to adopt financial innovation. According to Wilter (2023), the model not only pinpoints the factors that either ensure or hinder adoption but also emphasises the need to understand external factors, such as organisational and social cultural aspects, and how they impact adoption.

Despite most scholars referencing the technology acceptance model as ideal for explaining the acceptance of technology, several studies have pointed out that the model does not explain the connection between technology and its actual use and adoption (Ajibade, 2018; Marikyan & Papagiannidis, 2024). Further, the TAM model fails to explain the behaviour of users and does not adequately predict acceptance of information communication technology (ICT) (Ajibade, 2018). Even when the studies used the model, it could not present all precursors to social influence or mobile use and facilitating behaviour conditions. Despite having these limitations, the technology acceptance model has presented strong theoretical underpinnings for the last thirty years and can assess and almost accurately predict people's intention to use technology (Marikyan & Papagiannidis, 2024). In this study, the technology acceptance model is relevant as it explains a person's thought process when deciding whether or not to adopt a certain technology. The model's perceived usefulness and ease of use variables were used to explain how banking

employees' attitude about open banking could influence their likelihood to adopt open banking. The technology acceptance model explains how organisations may utilise and embrace new technology (Khatri et al., 2020). Apart from providing a theoretical foundation for the study, the technology acceptance model was primarily used to explain the likelihood of adoption of open banking among Kenya's commercial banks because it can assess people's attitudes towards embracing new technology.

2.2.2. Unified Theory of Acceptance and Use of Technology

In 2003, Venkatesh, Davis, Morris, and Davis synthesized models derived from the theory of planned behaviour (TPB) and the TAM model to create the unified theory of acceptance and use of technology (UTAUT). The theory proposes four critical factors, including effort expectancy (EE), facilitating conditions (FC), social influence (SI), and performance expectancy (PE), as well as four moderators, such as age, gender, age, experience, and voluntariness (Xue et al., 2024). Accordingly, performance expectancy is viewed as the extent to which a person believes that using a certain technology will enable them to record increased work performance. In contrast, effort expectancy is regarded as how easily a user associates their use of a particular innovation (Venkatesh et al., 2016). Correspondingly, social influence is defined as the extent to which a person perceives that other important people see the need to use the new technology, while facilitating conditions denote the extent to which people believe that technical and organisational infrastructure are available to support the use of the new technology (Xue et al., 2024). The goal of the model was to predict an organization's behavioural intention to utilise actual technology or technology. Venkatesh et al. (2016) determined that social influence, effort, and performance expectancy influenced behavioural intent to use a technology. On the other hand, facilitating conditions and behavioural intention determined the technology's use.

Indeed, the unified theory of acceptance and use of technology presents a more detailed exploration of additional elements, which may affect open banking's adoption. The theory was the primary theory used to explain the independent variables, including regulatory support, organisational readiness, technological infrastructure, and employees' literacy levels. Unlike the technology acceptance model which offers a foundational understanding of how perceived ease of use and perceived usefulness influence technology adoption, the UTAUT model explains the factors that may influence the adoption of open banking. It examines facilitating variables, including social

influence and facilitating conditions (Williams et al., 2015). The study focuses on internal and external enablers of open banking adoption, such as organisational readiness, employee digital literacy levels, and regulatory support. Notably, the unified theory of acceptance and use of technology model focuses on social influence, which represents the extent to which decision-makers try to determine whether stakeholders require that they adopt new technologies (Khechine et al., 2016). It provides insights into how external pressures from consumers, rival companies, and regulators shape adoption decisions.

In their study, Mensah and Khan (2024) modified the unified theory of acceptance and use of technology model and used it to examine behavioural factors that affect adoption of mobile banking services in China. Despite the Chinese population having smart phones, they were reluctant to embrace mobile banking. The researchers found that effort and performance expectancy, awareness, and perceived economic cost determined whether or not this population would take up mobile banking. Further, Mensah and Khan (2024) concluded that technological infrastructure and government support were positively linked to the population's intention to uptake mobile services. Similarly, Mayayise (2021)'s study intended to examine the factors that affect the adoption of the practice of bring your own devise (BYOD). The author used a security standard, ISO/IEC 27001, organisational requirement, and a modified UTAUT model as constructs. They found that effort and performance expectancy, awareness and training, and policy existence influence the likelihood of South African employees to adopt BYOD (Mayayise, 2021). However, social influence and organisational requirements were negatively linked to BYOD adoption.

Locally, Waithaka et al. (2022)'s study sought to explore the factors that affect researchers in Kenya's selected public universities' use and adoption of open access scholarly publishing (OASP). Using a modified UTAUT model, the researchers found that facilitating condition factors, such as management, supportive staff, adequate ICT infrastructure, network literacy, as well as performance expectancy factors like enablement of wider and quicker dissemination and scholars achieving high H-Index influenced the scholars' OASP uptake. Supervisors' motivation and recommendations and support by funders, which were under social influence, also influenced the adoption of OASP. Indeed, the empirical studies demonstrate how the UTAUT model explores specific factors that may affect the adoption and use of a novel technology.

The unified theory of acceptance and use of technology is relevant to this study. Several studies have applied the model in varied subjects, including e-healthcare technology acceptance (Rouidi et al., 2022, adoption of e-government (Amrouni et al., 2019), and mobile payments and applications (Al-Saedi & Al-Emran, 2021; Kamal & Subriadi, 2021; and Mensah and Khan (2024) among others. Given its extensive application uses, it is ideal for this study as the focus is on determining the factors that influence open banking adoption. Particularly, the UTAUT model is useful in examining organisational settings with multiple stakeholders that determine the decisions to be made (Daka & Phiri, 2019). This model provides a clear and detailed comprehension of adoption dynamics. It considers the direct effect of facilitating aspects and social influence and explores their interaction with contextual factors, such as organisational culture. In Kenya, regulatory bodies may influence society by requiring companies to comply with data security standards, while consumers may demand improved financial services (Nyawara, 2021). On the other hand, facilitating conditions, such as APIs, are critical for adoption.

Although the model explains several factors that influence adoption intention, Shachak et al. (2019) and Bayaga and du Plessis (2024) contend that it is narrow and only focuses on the individual. The social, organisational, and technical systems are complex as they encompass organisational culture, governance, and technological aspects. However, the UTAUT model minimises all these factors to a user's expectations or perceptions. Furthermore, Bayaga and du Plessis (2024) feel that the model majorly focuses on behavioural intention as explaining adoption and fails to consider the technology's actual usage or implementation. Despite these limitations, the unified theory of acceptance and use of technology is applicable to this study as it delineates social influence and facilitating conditions as factors influencing adoption, which fall under this study's variables.

More importantly, this study integrates the unified theory of acceptance and use of technology and technology acceptance models, enabling a comprehensive analysis of open banking adoption's drivers. On the one hand, the study focuses on the TAM model, which explains how a person's perceived usefulness and ease of use of technology impact their decision to adopt this technology. The model is critical to this study as it explains the study's dependent variable, open banking adoption. On the other hand, the UTAUT model emphasizes organisational and environmental

dynamics that come into play to affect adoption decisions (Daka & Phiri, 2019). As such, the study relies on a dual model, which helps address the research's specific objectives. It helps generate actionable insights into open banking adoption. The UTAUT model specifically emphasizes the broader ecosystem and shows the link between organisational readiness and external pressures. Ultimately, combining these two theories offers a more holistic perspective and ensures that actionable recommendations can be drawn by Kenya commercial banks' stakeholders.

2.3. Empirical Literature Review

This section reviews the current empirical literature on open banking adoption globally, regionally, and locally. It focuses on factors that influence open banking adoption within commercial banks. Specifically, this section reviews the literature on regulatory framework, digital literacy, organizational readiness, and technological infrastructure.

2.3.1. Regulatory Support and Open Banking Adoption

The current oversight bodies, regulations, and laws should support open banking for its successful implementation by commercial banks. According to Akyildirima et al. (2024), open banking results in opportunities and challenges that are majorly impacted by a bank's capability to survive in new regulatory settings and take advantage of technological improvements. Accordingly, regulatory support is the degree to which the government formulates policies and regulations that ensure a compliant and safe environment for open banking adoption (Ofodile et al., 2024). Supportive regulations are likely to encourage banks to adopt open banking. As such, government policies and regulations promote a safe and compliant environment for effective open banking adoption. Supportive regulations promote adoption by reducing perceived risks. However, unsupportive regulations will likely deter banks from adopting open banking platforms. For this research's purpose, regulatory support encompasses government regulation, which is the support a government authority offers to ensure that organisations adopt technologies, such as open banking. Furthermore, government regulation includes policies that ensure that sensitive data is overseen (Ali & Osmanaj, 2020). Ultimately, the goal of these regulations is to ensure the privacy of consumers is protected and enforce security by guaranteeing integrity, confidentiality, accountability, and availability are upheld.

The research conceptualises regulatory support as the need for the government to ensure economic, social, and administrative regulation for the successful adoption of open banking by commercial banks. Accordingly, economic regulation relates to the quality of services and cost, which determines the successful adoption of open banking and enables banks to deliver services efficiently and affordably. On the other hand, social regulation relates to the need to guarantee privacy and security of data in order to protect the bank's environment (Ali & Osmanaj, 2020). Finally, administrative regulation entails flexibility as well as government and firm-based facilitating conditions that the government provides to encourage the strengthening of banks' capacity for innovation (Ali & Osmanaj, 2020). The conceptualization of regulatory support is based on research by Ali and Osmanaj (2020).

Globally, Zeller and Lynch (2020) investigated the influence of regulatory frameworks on the adoption of open banking. The authors adopted a conceptual analysis approach, whereby they explored regulatory documents, industry reports, and academic literature. The study examined the regulatory impact of the European Union's PSD2 and Australia's CDR initiatives. Notably, Zeller and Lynch (2020) adopted a qualitative approach, which was without a sample size. The researchers focused on key variables, including regulatory requirements, market competition, and consumer protection. The study used a comparative analysis method and demonstrated that regulatory-led frameworks encouraged market competition. Even so, these studies faced challenges with compliance costs and consumer scepticism. On the other hand, Brown (2022) adopted a case study approach of nine major UK banks. The study analysed the regulatory effects of CMA's mandates for open banking. The study used variables like interoperability, data portability, and consumer satisfaction. The document analysis highlighted that the UK's co-regulatory model had influenced a more competitive financial ecosystem. Both studies suggested that regulatory-led approaches could effectively influence open banking adoption. However, these approaches required strong compliance infrastructure and consumer acceptance.

Gozman et al. (2022) examined a more specific view of open banking's influence on stakeholder roles. Notably, the study focused on stakeholder roles within regulatory frameworks. The researchers interviewed 25 industry stakeholders across various open banking roles. They focused on risk exposure and value opportunities, including efficiency and innovation. Subsequently, the study employed a thematic analysis approach to explore open banking roles. The findings

advanced that regulatory clarity is essential for defining responsibilities and minimizing risk (Gozman et al., 2022). Moreover, stakeholders in regulated open banking systems benefited from clear guidelines on responsibilities. Indeed, this suggested that regulatory frameworks should outline distinct roles to support traditional banks and new FinTech companies. Thus, the study highlighted a complex aspect of open banking adoption. Specifically, it conveyed the vitality of well-defined roles for effective open banking integration.

Regionally, Giya et al. (2021) were concerned with the potential and challenges of open banking in South Africa. The study employed a secondary data analysis approach to review policy documents, academic literature, and market data. It examined how South Africa's banking organisations approach regulations surrounding open banking. The researchers included variables like API accessibility, data ownership, data privacy, and competition. Ultimately, they found that the banking market was concentrated and recommended the need for a regulatory-led approach to direct open banking implementation. The study concluded that regulatory frameworks should offer clear guidance on issues that may arise in data security. Correspondingly, Didenko (2017) employed a systematic approach and analysed how Kenya and South Africa regulated FinTechs. The researcher looked into factors like the rule of law, regulatory compliance, and data security. The findings demonstrated that although technological readiness is high, inconsistent enforcement and rule of law issues inhibited adoption. Overall, Didenko (2017) and Giya et al. (2021) advanced the need for regulations to be enforced and improved. These enhancements are essential for open banking growth in Sub-Saharan Africa.

In Kenya, Nyawara (2021) focused on the regulatory landscape. The study analysed secondary data sources to evaluate factors influencing FinTechs and open banking. This literature review examined key variables such as regulatory flexibility, consumer data protection, and innovation incentives. Subsequently, the findings conveyed a flexible regulatory environment that encouraged innovation. Even so, this regulatory environment requires clear and comprehensive data protection measures. Ultimately, the inadequate regulatory environment posed considerable risks to consumer privacy. As such, the results demonstrated that more balanced regulations that emphasise innovation and security could influence open banking adoption. The study concluded that a stronger focus on consumer data protection is needed. Additionally, the researcher showed

that banks may experience challenges adopting open banking due to a lack of consumer trust. Therefore, there is a need for policies that support data security and innovation.

2.3.2. Technological Infrastructure and Open Banking Adoption

Technological infrastructure is pivotal for the implementation and adoption of open banking. Banks require appropriate and adequate infrastructure before starting any project. A technological infrastructure encompasses an infrastructure application or server setup and its content management, data, security, and tools (Nyonje et al., 2018). It also includes operating systems and hardware, development tools for applications, and a management systems platform (Nyonje et al., 2018). Information technology lays the foundation for sharing the capabilities of information technology upon which organisations depend. ICT infrastructure is the shared portion of ICT architecture. Accordingly, this study conceptualises the technology infrastructure variable as the existing IT capabilities within a bank that support data security, integration, and sharing (Sardana & Singhania, 2018; Nyonje et al., 2018). Open banking relies on robust technological infrastructure that ensures data is securely exchanged between systems (Chan et al., 2022). This variable includes system integration capabilities, integration of APIs, and robustness of data security. Nyonje et al. (2018) and Chan et al. (2022)'s studies are used to conceptualise the technological infrastructure variable using the following indicators: robust data security, API compatibility and integration, and ease of data sharing.

In the global context, Lin et al. (2024) comprehensively analysed global banking technological and market shifts. The study was set in the United States, where the researchers examined API adoption among banks. Based on the findings, banks that adopted external APIs experienced an increased return on assets (ROA) and data portability advantages. The study's methodology combined empirical financial analysis from 2007–2022. It focused on API adoption's impact on key performance metrics. As such, the study made a case for open banking policies. However, the work of Flejterski and Labun (2016) emphasised macro-level trends through a theoretical synthesis. The study specifically leveraged the disruptive innovation and core competencies theories. These theories suggested a shift toward an "opti-channel" model, where FinTech and banks cooperated to maximize customer engagement. Despite these contributions, a methodological gap exists in measuring specific API-related variables. As such, there is a need for studies that offer concrete empirical data on API compatibility and system integration. In this light,

this study fills this gap by evaluating the impacts of API infrastructure in a Kenyan banking context.

Regionally, the work of Nnaomah et al. (2024) highlighted the regional dynamics of digital banking across Africa. The study employed a comparative analysis between Nigeria and the US. Notably, the study used a mix of secondary data, policy document reviews, and stakeholder interviews. Their findings underscored digital banking's positive effect on financial inclusion. However, regulatory and infrastructural challenges persisted, especially in Nigeria. The researchers applied a quantitative model with 179 participants in South Africa. The study examined digital banking's role in underserved communities facing bank branch closures. The study revealed significant barriers limiting digital innovation and adoption. Such barriers included internet connectivity issues, electricity access, and digital literacy (Mdluli, 2022). Both studies lacked an emphasis on technological infrastructure factors like API compatibility and data security robustness. These factors are otherwise central to seamless digital banking. Accordingly, this study assesses the influence of infrastructure indicators, including API compatibility, on open banking adoption within Kenya.

In Kenya, a study by Ooko and Muchelule (2024) provided essential empirical insights into digital banking. The study analysed data from 42 licensed banks in Nairobi and focused on service automation and integration technologies. Notably, the findings demonstrated that these elements significantly impacted the integration of digital banking. The study used a descriptive survey design and a composite indicator to statistically show the importance of these technologies. However, the study was limited in estimating compatibility of APIs. Similarly, Mulee (2019) focused on the association between digital innovation and economic growth. The study used quarterly data over ten years. It examined variables like mobile money transfer volume and internet banking transactions. The results generated an R-squared value of 0.992, implying that the study strongly correlated digital transaction growth with economic impact. However, the study did not demonstrate how API compatibility impacted digital integration. Thus, the proposed study aims to address these methodological and theoretical gaps by including measurable factors like API compatibility and evaluating their effects in the context of open banking adoption.

Evidently, a literature gap is evident regarding the specific role of technological infrastructure indicators, such as data security, API compatibility, and integration. Global and regional studies focused on the theoretical and widescale effects of API adoption (Lin et al., 2024; Nnaomah et al., 2024). However, few studies addressed these infrastructural aspects statistically or by targeting a specific region, such as Kenya. Furthermore, empirical data was lacking. For example, scarce data demonstrates the relationship between infrastructural indicators and financial inclusion in open banking adoption. Therefore, this study bridges the gaps of previous research by employing a quantitative approach that includes empirical analysis of Kenya's commercial banking data and infrastructure. Furthermore, the study emphasises security robustness and system integration. In this way, the study provides a more comprehensive framework for understanding the role that technological infrastructure plays in open banking adoption by Kenya's commercial banks.

2.3.3. Digital Literacy in Technology and Open Banking Adoption

Digital literacy encompasses employees' abilities or competencies in using innovations or digital technologies when working, which could ultimately enhance the use of these technologies at the organisational level (Vuorikari et al., 2016; Cetindamar et al., 2021). In this study, digital literacy was regarded as expressions like learning, knowledge, and competence instead of the past perception of literacy, which was limited to a person's capability to use printed texts, write, and read in different contexts (Cetindamar et al., 2021). Competence depicts an individual's capacity to be knowledgeable about something and demonstrate it. For this study's purpose, digital literacy is referred to as employees' competence in working with technology, familiarity with digital tools, and willingness to learn or be trained on innovations. Accordingly, the digital literacy variable consists of employees' levels of training, their familiarity, understanding of digital banking tools, and employee adaptability, which were adopted from studies by Khoja et al. (2007), Lokuge et al. (2018), and Cetindamar et al. (2021).

In the global context, Cetindamar et al. (2021) provided important insights into digital literacy's effects on the embracement of new technologies. The study specifically focused on the influence of this factor on the use of cloud technology within Australian organizations. By utilizing the theory of planned behaviour (TPB), the study demonstrated that employees' attitudes, subjective norms, and perceived behavioural control influence the adoption of digital tools. As such, the study conveyed the importance of digital literacy. However, the study's focus on the Australian context

limits its direct relevance to the Kenyan banking sector. Similarly, Bansal (2020) explored how employee training contributed to the adoption of digital banking services in India. Notably, the data collection process comprised 412 questionnaires, which were subsequently analysed using SPSS (The Statistical Package for the Social Sciences). Subsequently, the study emphasised the importance of training in reducing operational costs and enhancing service usability. However, the study predominantly focused on the unorganized sector in India. Further, it lacked specificity regarding tool familiarity or adaptability, a critical research gap that this research aims to fill.

At the regional level, Okoro (2024) explored the role of digital literacy within the context of the banking sector in Africa. Notably, the study examined the role of digital human resource practices in Nigerian banks. The study employed a document analysis of nonfiction books, academic journals, and print encyclopaedias. Consequently, the findings suggested that digital literacy and skill development are vital for improving recruitment, training, and employee development (Okoro, 2024). These outcomes were critical to digital innovation. The study's emphasis on broader human resource practices provided useful insights. Even so, the research did not focus on the specific factors that directly influenced the adoption of open banking systems. The study overlooked factors such as tool familiarity or employee adaptability. Meanwhile, Kagoya and Yapkoreny (2024) investigated the relationship between financial literacy and technology adoption in Uganda. To attain its objectives, the researchers employed a cross-sectional and quantitative research design with a sample size of 108 employees and analysed the data using SPSS. The study found that financial literacy strongly correlated with the adoption of banking technology. However, it overlooked the broader scope and role of digital literacy. Evidently, the study did not integrate the specific aspects of employee adaptability and tool familiarity. In effect, this leaves a gap in understanding how employee digital literacy influences the adoption of open banking systems.

Locally, Okuku (2024) offered some insights into the adoption of digital technologies in Kenya's banking sector. However, these insights were not directly tied to open banking adoption. Through a qualitative literature review, the researcher highlighted the importance of talent development and skill enhancement in Kenyan banks. The study focused on the relevance of these factors, particularly in response to disruptions in mobile banking and FinTech innovations. It identified digital literacy as a key factor in improving strategic planning. However, the research did not

address the role of digital literacy in adopting specific systems like open banking. Okuku (2024)'s focus on mobile banking also restricted its applicability to the broader scope of digital banking systems. On the other hand, Kimathi (2024) examined the impact of digital organizational innovations on the financial performance of Kenyan banks. Notably, the study selected a sample size of 315 employees across 39 commercial banks in Kenya and used descriptive statistics to analyse data. Ultimately, the findings suggested a positive correlation between digital innovations and financial outcomes. However, the study did not delve into how digital literacy affects the adoption of open banking systems.

2.3.4. Organisational Readiness and Open Banking Adoption

Organisational readiness for open banking is influenced by how well the firm is prepared in terms of resources and technology. For a bank to demonstrate resource readiness, it should be flexible in addressing its banking technological needs. On the other hand, an organisation demonstrates IT readiness by its ability to adopt open banking through IT infrastructure (Taganoviqa et al., 2024). Organisational readiness is also dependent on cultural and partnership readiness. Partnership readiness is an organisation's association with external stakeholders that support open banking, while cultural readiness is an organization's valuable central values that lead to the adoption of open banking (Lokuge et al., 2018; Taganoviqa et al., 2024). When the organisation's members are aligned with embracing and implementing organizational change and top management works on leading this initiative, organizational readiness is higher. For this study's purpose, organizational readiness' operational definition is a bank's level of preparedness to adopt new technologies by having supportive management, adequate resources, technology, and displaying cultural readiness through its organizational culture. Therefore, the indicators for the variables included cultural readiness, top management support, resource availability, and IT readiness, which were adopted from Lokuge et al. (2018) and Taganoviqa et al. (2024)'s studies.

Sidani and Harb's (2023) study provided a global perspective on innovation in banking. It focused on the influence of transformational leadership in Lebanon's financial services industry. Notably, the study employed qualitative interviews with senior executives to collect data. Consequently, the findings revealed that intellectual stimulation and inspirational motivation are key to fostering banking innovation. However, other leadership dimensions, such as idealized influence and individualized consideration, had limited impact. Similarly, Pi and Yang (2023) explored how

board culture influenced bank innovation across China's state-owned banks. Using a sample of A-share listed banks, their quantitative analysis found that cultural diversity on the board significantly impacted innovations. As such, the findings suggested that innovation drivers are influenced by board diversity and a low power distance. This outcome illustrated the importance of Eastern cultural values like collectivism and risk aversion in banking innovation. Both studies conveyed the vitality of organisational culture and leadership in influencing technology adoption. However, they did not examine how these variables intersect with open banking adoption. Specifically, the studies did not focus on the needs and challenges that may arise in specific technological environments, such as open banking.

In the regional context, Al-Issa and Omar (2024) examined the roles of digital leadership, innovative culture, and techno-stress inhibitors. The study focused on how these factors promote digital innovation within Libyan banks. Most notably, the study emphasised the need for digital engagement among bank employees. Using structural equation modelling on survey data from five banks, their study identified techno-work engagement's mediating role and technostress's moderating role in digital innovation. As such, the findings underscored the significance of leadership and digital readiness in fostering innovation. On the other hand, Maharaj and Pooe (2021) focused on the challenges South African banks faced during digital transformation. The study found that integrating diverse business units led to sub-cultural clashes. The qualitative study specifically applied Kurt Lewin's change theory, revealing that effective change management required addressing employee engagement and cultural alignment. Thus, the study conveyed the vitality of organisational culture in successful technology adoption. Notably, both studies touched on elements of digital transformation and organizational readiness. However, neither study delved into the organizational factors essential for open banking adoption.

In the local Kenyan context, Chimakati and Macharia (2024) explored innovation in the banking sector. The study specifically focused on leadership and digital transformation in KCB Kenya. Subsequently, the findings showed that leadership drives innovation through technology adoption collaboration. The study also identified critical gaps in transformational leadership competencies. Similarly, Kimathi (2023) assessed the effect of digital innovations on growth among banks. Using a descriptive quantitative approach, Kimathi's study reported that 76% of financial performance variation can be attributed to digital innovations. Moreover, it advanced the role of leadership in

successful digital transformations. These studies were valuable in exploring organizational readiness within Kenyan banks by emphasising management support and leadership as key determinants of digital success. However, neither study directly examined open banking, which involved unique challenges related to data-sharing and security (Chan et al., 2022).

The reviewed studies magnified the need to explore organizational readiness in open banking contexts comprehensively. Methodologically, existing research was fragmented, with few studies linking organizational culture, management support, and resource availability as factors affecting open banking adoption. Although Sidani and Harb (2023) and Pi and Yang (2023) addressed leadership and culture in broader banking innovation, they lacked insights into the specific resources and management support necessary for open banking. Regional studies, like Maharaj and Pooe (2021) and Al-Issa and Omar (2024), highlighted the need for structured leadership and change management. However, they did not offer a robust methodological framework for assessing resource availability or readiness in complex banking environments. In Kenya, Kimathi (2023) identified financial and regulatory challenges in digital innovation adoption. Even so, there was little empirical data on organizational factors tailored to open banking adoption. In this light, this study examines organizational readiness in the context of management support, culture, and resource availability. The study focuses on how these factors impact open banking adoption within Kenyan commercial banks.

2.4. Summary of Literature Gaps

The existing literature on open banking highlighted critical gaps across key factors influencing open banking adoption. Several studies advanced the vitality of balanced regulatory frameworks, such as Giya et al. (2021) and Gozman et al. (2022). However, there was limited empirical evidence on how these regulatory models impact open banking adoption in Kenya. Most studies highlighted regulatory influence in general and failed to assess key indicators like economic, social, and administrative regulation. Moreover, the research predominantly relied on secondary data and qualitative insights. This focus limited quantitative methodological understanding of regulatory support's impact on open banking. In this light, this study sought to bridge this gap by providing quantitative data on government policy effectiveness and ease of compliance in the context of open banking adoption in Kenya. Thus, this study offered a precise, evidence-based understanding of Kenya's regulatory landscape. This way, the study targeted to fill the

methodological gap by conducting an empirical analysis to gauge the effectiveness of regulatory frameworks.

Furthermore, considerable gaps exist in understanding the influence of digital literacy and technological infrastructure in open banking adoption. Notably, global and regional research studies highlighted the theoretical importance of technological infrastructure for digital adoption (Lin et al., 2024; Nnaomah et al., 2024). However, these studies lacked region-specific, measurable data on these factors within Kenya. Only a few studies examined how these technological indicators align with the infrastructure of Kenyan banks. As such, there is a considerable empirical gap on how APIs, security robustness, and system integration impact open banking adoption, a gap that this study aims to fill by measuring these variables.

Conceptual, contextual, and methodological gaps were evident in studies exploring organisational readiness. Conceptually, studies by Sidani and Harb (2023) and Al-Issa and Omar (2024) only explored leadership as the variable impacting the adoption of open banking. They did not link organizational culture, management support, and resource availability as factors affecting open banking adoption. Although Sidani and Harb (2023) and Pi and Yang (2023) addressed leadership and culture in broader banking innovation, they lacked insights into the specific resources and management support necessary for open banking. Maharaj and Pooe (2021) and Al-Issa and Omar (2024) also did not offer a robust methodological framework for assessing resource availability or readiness in complex banking environments. All these studies also were set in different contexts; hence, the findings may not apply to the Kenyan context. In this light, this study examines organizational readiness in the context of management support, culture, and resource availability. Additionally, employee-level digital literacy remains an underexplored area in open banking. On the one hand, broader themes of cloud technology and mobile banking were examined (Cetindamar et al., 2021; Okuku, 2024). On the other hand, current studies did not conceptually define literacy levels in the context of open banking, a gap this study aims to fill (Cetindamar et al., 2021). They overlooked the role of digital literacy, including how training, adaptability, and tool familiarity impacted open banking. Thus, this research was concerned with addressing these critical gaps, which was achieved by quantitatively analysing the role of technological infrastructure and digital literacy in open banking adoption. As a result, it offered a comprehensive framework to assess the

influence of these factors on open banking adoption by employees of Kenya's commercial banks. The table below summarizes the literature gaps.

Table 2.1. Summary of Literature Gaps

Author (s)	Aim	Method	Finding	Gap
Zeller and Lynch (2020)	To assess the impact of PSD2 and CDR regulatory initiatives on the adoption of open banking.	Conceptual analysis of regulatory documents, industry reports, and academic literature.	Regulatory-led frameworks encourage market adoption. However, they experience compliance costs and consumer scepticism challenges.	Methodological gap- The study utilised a qualitative methodology. Contextual gap- The study was based in Europe and Australia Lack of empirical evidence on the direct influence of regulatory variables.
Brown (2022)	To evaluate the regulatory effects of CMA's mandates for open banking in the UK.	Case study approach with nine major UK banks.	Co-regulatory models promote competitiveness in the financial ecosystem.	Methodological gap evident as the researcher employed a case study approach. Contextual gap- Lack of insights into how co-regulatory frameworks can be adapted to Kenya's open banking context.
Gozman et al. (2022)	To explore stakeholder roles within regulatory frameworks for open banking.	Interviews with 25 industry stakeholders. Thematic method for data analysis.	Regulatory clarity enhances role definition, reduces risks, and improves stakeholder collaboration.	Methodological gap- The study utilised a qualitative methodology as interviews were conducted.

				Contextual gaps- limited focus on the impact of role definitions in emerging economies.
Giya et al. (2021)	To assess the potential and challenges of open banking in South Africa.	Secondary data analysis of policy documents, academic literature, and market data.	Highlighted the need for regulatory guidance on data security and ownership.	Methodological gap- The study utilised a qualitative methodology Contextual gap- Lack of region-specific insights on technological readiness and security robustness in open banking adoption.
Lin et al. (2024)	To analyze API adoption's impact on financial performance in the US banking sector.	Empirical financial analysis (2007–2022).	API adoption improves return on assets (ROA) and supports data portability.	Contextual gap- Limited empirical research addressing API compatibility in Kenya's banking context.
Nnaomah et al. (2024)	To compare digital banking's impact on financial inclusion in Nigeria and the US.	Mixed methods. It included secondary data, policy reviews, and interviews.	Digital banking positively influences financial inclusion, but infrastructural challenges persist.	Methodological gap- The study utilised a mixed methods methodology Conceptual gap- Limited focus on the role of APIs and data security robustness Methodological gap- Study set in Nigeria and the U.S

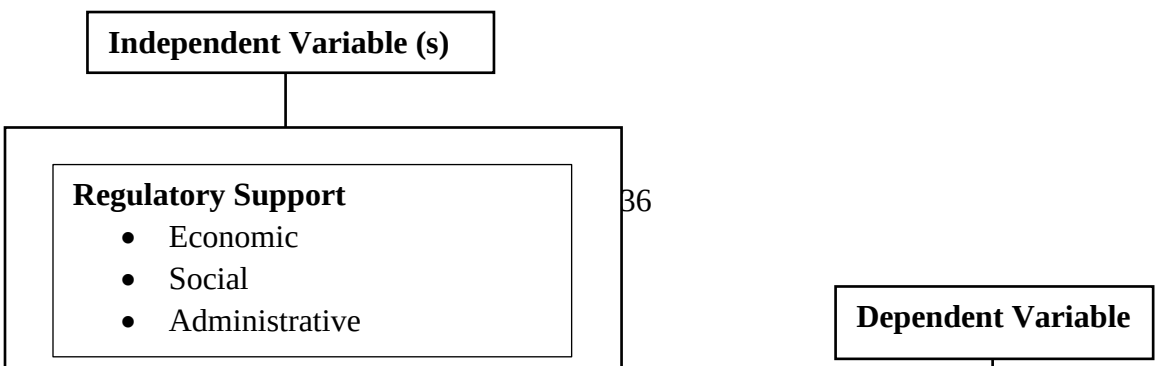
Cetindamar et al. (2021)	To investigate digital literacy's role in cloud technology adoption in Australian organizations.	Theory of Planned Behavior (TPB); quantitative analysis.	Digital literacy influences tool adoption through attitudes, norms, and perceived control.	Contextual gap- Study set in Australia Conceptual- lack of focus on tool familiarity and adaptability
Kimathi (2023)	To examine the impact of digital innovations on financial performance in Kenyan banks.	Descriptive quantitative approach. A sample size of 315 employees.	Digital innovations correlate positively with financial performance.	Conceptual- limited analysis of how digital literacy and employee adaptability influence open banking adoption.
Sidani and Harb (2023)	To explore leadership's role in fostering innovation in Lebanon's banking sector.	Qualitative interviews with senior executives.	Intellectual stimulation and motivation drive innovation, while leadership gaps exist.	Methodological gap- The study utilised a qualitative methodology Contextual gap- Study set in Lebanon Conceptual gap- Focuses on only leadership as influencing open banking implementation.

Source: (Author, 2025).

2.5. Conceptual Framework

Research entails systematic, careful, and planned research of an issue, where the goal is to solve the problem and either advance practice or theory in a specific field. Doing so requires the researcher to incorporate constructs, concepts, or variables that should be tested to solve such a problem, whereby their interrelationships are supposed to provide meaning (Chukwuedo et al., 2021). The interconnections of these constructs, concepts, or variables result in a conceptual model or framework. This study's independent variables included organisational readiness, technological infrastructure, regulatory support, and digital literacy, while the dependent variable was open banking adoption.

Figure 2.1. Conceptual Framework



Source: (Author, 2025).

2.6. Operationalization of the Study's Variables

The table below shows how the study's variables were operationalised.

Table 2.2. Operationalization of the Study Variables

Variable	Type of Variable	Measurement (5-point Likert Scale)	Indicators	Sources
Regulatory Support	Independent	(1 = strongly disagree, 5 = strongly agree)	• Economic regulation through affordable costs for service delivery. • Social regulation	(Ali & Osmanaj, 2020) (Ali & Osmanaj, 2020)

			through safety and privacy • Administrative regulation through government and firm facilitating conditions.	(Ali & Osmanaj, 2020)
Technological Infrastructure	Independent	(1 = strongly disagree, 5 = strongly agree)	• Applications compatibility and integration, such as API compatibility. • Data security robustness. • Ease of information sharing securely	(Chan et al., 2022); Lin et al., 2024). (Nyonje et al., 2018). (Nyonje et al., 2018).
Digital Literacy	Independent	(1 = strongly disagree, 5 = strongly agree)	• Level of provided training • Employee adaptability • Familiarity with digital banking tools	(Khoja et al., 2007). (Lokuge et al., 2018). (Khoja et al., 2007; Centindamar et al., 2021).
Organisational Readiness	Independent	(1 = strongly disagree, 5 = strongly agree)	• Resource availability • IT readiness • Cultural readiness • Top management support.	(Lokuge et al., 2018). (Lokuge et al., 2018). (Taganoviqa et al., 2024). (Lokuge et al., 2018).
Adoption Intention	Dependent	(1 = very unlikely, 5 = very likely)	• Likelihood of adopting open banking • Willingness to adopt open banking • Available resources to	(Suh & Han, 2002). (Sivathanu, 2019; Himel et al., 2021). (Kaulu et al., 2024).

			invest in new technologies.	

Source: (Author, 2024).

2.7. Chapter Summary

This chapter has critically examined the existing literature on the factors influencing the adoption of open banking, with a focus on global, regional, and local insights. This chapter explored key theoretical frameworks, including TAM and UTAUT. These theories provided a foundation for understanding the adoption of open banking. Specifically, this review focused on regulatory framework, organizational readiness, technological infrastructure, and digital literacy and how they influence open banking adoption. This review also identified critical gaps, which this study aims to fill. Most notably, empirical studies tailored to Kenya's banking sector and region-specific data on organizational culture and technological infrastructure are lacking. This chapter concluded by highlighting the necessity of the study in addressing these gaps.

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CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

This chapter outlines the research methodology employed to investigate the factors influencing the adoption of open banking by employees of Kenya's commercial banks. It is organized into various sections, with the first presenting the research philosophy. The research design is detailed in this section, as well as the rationale for choosing that design. Subsequently, the target population and the sampling technique used are presented. Other sections relate to methods of data collection, instruments used to validate and ensure its reliability, data analysis, and ethical considerations. The chapter aims to present a structured methodology to ensure a robust and credible approach corresponding to the research objectives. It establishes a solid groundwork to explore systematically how organizational, technological, and regulatory factors shape the adoption of open banking in Kenya's banking sector.

3.2. Research Philosophy

This study adopted a positivist philosophy, which is consistent with the quantitative research design and deductive approach (Park et al., 2020). Positivism approach supports studies that determine the causes of a phenomenon and use scientific methods (Maksimovic & Evtimov, 2023). Therefore, it was a suitable approach for this research as it permitted the generation of accurate insights regarding the factors that influence the acceptance of open banking. Additionally, a positivist approach focuses on evidence collected through systematic observation and statistical analysis (Zyphur & Pierides, 2020). This explains why this feature of positivism aligned with this study.

The philosophy of positivism is fundamentally different from that of constructivism and interpretivism, which have many views and diverse meanings (William, 2024). It creates an opportunity for a deductive approach, which entails hypothesis development and theory formulation preceding the data collection (Zyphur & Pierides, 2020). Afterward, data interpretation follows to confirm or refute the hypotheses. In this study, positivism ensured that the research process was controlled, whereby the variables were looked at separately, and the statistical methods were applied rigorously. Statistical methods like regression analysis were utilised to assess the strength and direction of the variables' correlations. Positivism also allows for generalisability (Park et al., 2020). It lessens practical issues mainly linked with qualitative

research, such as minimising biases during data collection (Noble & Smith, 2015). Specifically, the researcher collected a representative sample of Kenya's commercial banks to make conclusions about the entire sector's ability to adopt open banking.

Positivism was chosen for this study since it enables researchers to use valid and reliable tools to discover reality. Saunders et al. (2019) support this notion by asserting that positivism focuses strictly on the scientific empirical methods intended to yield pure facts. Pragmatism philosophy was not used in this study because it emphasizes the usefulness of truth, prioritizing achieving outcomes over using reliable and valid tools. Additionally, realism philosophy was not chosen for this study, as it did not address societal inequities or injustices, nor did it aim to empower those affected by such issues. Interpretivism was also not applied because the study did not focus on understanding individual behaviour or explaining the reasons behind specific actions.

3.3. Research Design

The research design is a critical part of research and acts as a framework that guides the process (Huntington-Klein, 2021). It specifically makes sure that the research objectives are addressed systematically. For this study, a descriptive research design was used. Usually, descriptive research entails cross-sectional surveys, comparative designs, and correlations (Baker, 2017). For this study, the researcher chose a descriptive cross-sectional research design as it is appropriate for discovering the associations between the studied variables without influencing them (Curtis et al., 2016). This design is used to determine statistical associations between variables of interest. The primary strength that led to its adoption was its capacity to enable data analysis through statistical methods (Barnett et al., 2021). Accordingly, this allowed the researcher to investigate any potential associations between the variables.

Quantitative data for this study was collected using questionnaires from professionals in commercial banks in Kenya, which provided relevant information to address the research questions. Aggarwal and Ranganathan (2019) also support the use of a correlational design, emphasizing its ability to assess the relationship between variables using inferential statistics. A descriptive cross-sectional research design was well-suited for this study as it has been used in studies that examine and identify correlations between variables of interest and determine whether the independent variables impact the dependent variable. It allowed the researcher to examine the

effect of regulatory frameworks, technological readiness, digital literacy, and organizational preparedness on the adoption of open banking in commercial banks in Kenya. Research further highlights that cross-sectional studies are cost-effective, time-saving, and offer more generalized results (Seeram, 2019; Setia, 2016). These advantages contributed to the decision to choose this research design.

3.4. Population and Sampling

3.4.1. Target Population

A target population comprises organizations or people with attributes relevant to the research (Stratton, 2021). The target population for this research included all the 38 licenced commercial banks currently operating in Kenya (CBK, 2023). Commercial banks are directly affected by organizational, technological, and regulatory factors related to the adoption of open banking; hence, this population is of vital importance. Kenya's banking sector is broad, ranging from large multilateral banks to smaller domestic banks (Kenya Bankers Association, 2024). This diversity is extremely important in understanding open banking adoption in different contexts. The list encompasses the 38 licensed commercial banks outlined within the Directory of Licenced Commercial Banks by the Central Bank of Kenya as of 2023. Appendix III presents a detailed list of all banks and their accompanying tiers, either large, medium, or small.

The unit of observation is the specific entity or individuals from which data is collected (Casteel & Bridier, 2021). The unit of observation in this study was employees in leadership or decision roles at the selected banks. The roles include heads of customer experience, managers, IT directors, and the likes of compliance officers. These positions were important because these officials directly participate in determining the strategies and processes to drive open banking adoption within their respective organizations. Accordingly, appendix III presents information on the number of branches (population) for the eleven selected banks.

3.4.2. Sampling Technique

The sampling design represents the approach a researcher uses to choose a sample. The study included all 38 commercial banks listed by the Central Bank of Kenya (CBK) within the 2023 directory of licenced commercial banks. These institutions were selected due to their direct involvement in the technological, organizational, and regulatory decisions that shape open banking

adoption in Kenya. They were diverse, encompassing banks of varying sizes, ownership structures, and market segments, from large multinational entities to indigenous firms. The researcher's sampling frame was all employees in leadership positions (11,469) of the 38 commercial banks as represented in the Bank Supervision Annual Report of 2023 (CBK, 2023). To determine the sample size, the researcher used Yamane's formula (1967) for sample size estimation, where n = N/(1+N(e)2. This is a commonly used method in survey research for determining an appropriate sample size while balancing precision and practicality. This formula estimates the required sample size based on the total population and the desired margin of error. Usually, it is applied with a 95% confidence level, even though it can be adjusted for other confidence levels as needed (Ahmed, 2024). Using the data provided by the Central Bank of Kenya through the Bank Supervision Annual Report of 2023 on the number of management staff, 11,469, the sample size was 387.

The researcher then used quota sampling to group the respondents according to the bank's size and determined the number of banks in each tier from which the respondents were drawn. Kenya's commercial banks have three tiers. Tier 1 has the highest number of branches and respondents. Using this sampling approach allowed for the proper representation of the respondents, as it segments the population based on bank size. Quota sampling creates subgroups in a dataset according to various established factors (Thakur et al., 2016). Afterward, the researcher conveniently selected the respondents who would participate in the study. Of note is that the researcher only targeted respondents from Nairobi county branches due to geographical limitations. This sampling method was used since it enabled the researcher access respondents who were willing and available to participate in the study. Furthermore, a majority of the targeted population worked at commercial banks in Nairobi. The respondents primarily comprised employees in management positions in the ICT, operations, finance, compliance, and customer experience departments.

Table 3.1. Sample Frame and Respondents' Distribution

Category of Bank	Number of Banks	Total Branches (Total Population)	Total Respondents to be Selected	Banks to be Contacted per Tier	Sample Size/ Bank Employees
Large Banks (Tier 1)	7	761	= (53.47%*387) 207	= (53.47%*7) =3.742 (4)	207
Medium Banks (Tier 2)	11	365	= (25.65%*387) =99	= (25.65%*11) =2.8 (3)	99
Small Banks (Tier 3)	20	297	= (20.87*387) = =81	(20.87%*20) =4.184 (4)	81
Total	**38**	**1423**	**387**	**11**	**387**

Source: (Author, 2025).

As the table above indicates, 207 participants were drawn from tier 1 banks, 99 from medium banks, and 81 from small banks. For tier 1 banks, the 207 respondents were drawn from KCB Bank (52 respondents), Equity Bank (52 respondents), Co-operative Bank (52 respondents), and ABSA Bank (51 respondents). For tier 2 banks, 99 respondents were drawn, whereby 33 respondents were each drawn from Family Bank, National Bank of Kenya, and Diamond Trust Bank. The study also collected data from employees of four tier 3 banks, including SBM Bank Kenya Limited (20 respondents), Sidian Bank Limited (20 respondents), Kingdom Bank (20 respondents), and Access Bank Plc (21 respondents). Evidently, most of the participants were drawn from tier 1 banks, which have the highest numbers of employees and branches. The study focused on the branches in Nairobi, Kenya's capital city. Focusing on Nairobi would reduce time and geographical-related constraints.

3.5. Data Collection Tool

A structured questionnaire was the primary data collection tool for this study. For this study, primary data were collected using a structured questionnaire, which is designed to gather

quantitative data. A structured questionnaire is ideal as it is straightforward, cost-effective, and facilitates higher response rates (Dalati & Marx Gomez, 2018). It is also less prone to bias and simplifies the analysis process. The questionnaire for data collection comprised closed-ended questions. In order to allow the researcher to measure all the study variables, the questionnaire was self-constructed. The questionnaire was divided into three sections. The first section was intended to gather participants' demographic data.

The questionnaire's second section measured the dependent variable, which is the adoption of open banking. Survey items from Suh and Han (2002), Sivathanu (2019), Himel et al. (2021), and Kaulu et al. (2024) studies were used. The adoption of open banking indicators was likelihood, willingness, and resource readiness to adopt open banking. The last section measured the four independent variables: regulatory support, technological infrastructure, digital literacy, and organizational readiness. The items for each construct were adopted and adapted from previous studies. Specifically, organizational readiness was measured using items from Lokuge et al. (2018) and Taganoviqa et al. (2024) studies, which assess dimensions such as cultural readiness, top management support, resource availability, and IT readiness. Survey items from Nyonje et al. (2018) and Chan et al. (2022) studies were used for the technology infrastructure variable. They included the following indicators: robust data security, API compatibility and integration, and ease of data sharing.

Regulatory support was assessed using items derived from Ali and Osmanaj (2020) research, including economic, social, and administrative regulation as indicators. To measure digital literacy, items from Khoja et al. (2007), Lokuge et al. (2018), and Cetindamar et al. (2021), which include employees' levels of training, their familiarity and understanding of digital banking tools, and employee adaptability as indicators. All items were assessed using a 5-point Likert scale (whereby 1=Strongly disagree, 2= disagree, 3= Neutral, 4= Agree, 5=Strongly Agree), which ensures consistency in the responses.

Data collection was systematic to ensure high reliability and validity. Initially, a pilot study was conducted with a small subset of respondents to refine the clarity and relevance of the questionnaire. According to Brooks et al. (2016), pilot studies reduce risks, enhance feasibility, and improve research quality. Feedback from the pilot study was used to refine the questionnaire,

particularly items borrowed from previous studies. The pilot study targeted 10% of the sample size, equating to 38 respondents. These respondents were selected from Standard Chartered Bank Kenya Limited, one tier 1 bank (18 participants), Bank of Africa Kenya Limited, a tier 2 bank (10 participants), and Guardian Bank Limited, a tier 3 bank (10 participants). Of note is that the pilot study was conducted in different banks that were not selected for the main study. This measure was intended to minimize response bias and enhance the generalizability of the findings (Brooks et al., 2016). The pilot study focused on branches located in Nairobi to minimize geographical constraints.

3.6 Data Collection Procedures

The data collection instrument was improved based on the pilot participants' feedback. The first step of data collection was the identification of participants. A request letter that explained the purpose, objectives and goals of the study was directed to licensed commercial banks for recruitment of participants for the main study. Contact information for potential participants was given to the researcher after the bank management approved. Direct contact was initiated for only potentially interested individuals. Informed consent forms and a study brief were then sent to each participant via email or physically, depending on their preference. When participants agreed to participate by signing and returning the informed consent form, they were sent the questionnaire.

The main data collection process was carried out over four weeks using both online surveys and the physical distribution of questionnaires. This dual approach allowed for comprehensive data capture across participant preferences and accessibility. Each section of the questionnaire represented each key variable of the study. These questions were aligned with the research objectives, and the variables were carefully defined to provide pertinent insights into the study. The first data collection method involved using Google Forms to distribute online surveys. A substantial portion of the survey responses was gathered through this platform. Participants who were willing to participate received an invitation via email, which contained a link to the online questionnaire. They were given 30 days to complete and then submit their responses. Two weeks after providing the survey, a reminder email was sent to anyone who had not completed the survey. This made sure that every willing participant was given a chance to contribute. The responses from Google Forms were automatically compiled into a spreadsheet, making the data collection process

seamless and efficient. The data were securely stored in an encrypted file on a password-protected computer to ensure the confidentiality of the participants.

In addition to the online surveys, the researcher distributed the paper questionnaires manually. It was especially vital for connecting with participants who may not have been comfortable using online spaces or may not have had access to the internet. After obtaining permission from management, the researcher personally gave questionnaires to the sampled participants at their workplaces, where they worked at local commercial banks. There were clear instructions to fill out each questionnaire. Questionnaires were given to the participants for two weeks. A reminder was given one week after the researcher distributed the questionnaires to facilitate the process. Depending on the contact details provided by the bank management, a reminder was sent through email or on the phone. The researcher visited the bank again personally after two weeks and collected the completed questionnaires. The researcher was able to talk to the participants and confirm that they were not unsure of any questions they might have regarding the questionnaire. It also helped to set rapport and get the participants to respond in good time. A second reminder was sent to those questionnaires not returned on the first visit to have a maximum response rate.

Data gathered physically and online was collected with utmost confidentiality. Responses were coded to protect their identities. In the analysis phase, the personal information was deleted, and the data included was anonymized, so that no personally identifiable information was linked to the data. The completed questionnaires were stored securely in locked cabinets for physical copies and on a password protected device for online responses. The responses were systematically compiled into a secure Excel file, and the data was carefully organized for analysis. Since this was restricted, only those allowed to see or change data could. A rigorous approach to data management was developed to preserve research integrity and to protect ethical data handling standards. After the data collection period, the researcher sent a thank you note to all participants who contributed to the study. This was crucial in ensuring that participants felt appreciated for their contribution and building good relationships with them. This also helped to close the data collection process and made participants feel like their input was valued.

3.7. Data Quality

3.7.1 Piloting

Before the main data collection took place, a pilot study was carried out to test the efficiency of the survey and ensure that the data collection process was clear and reliable. The data from the pilot study was used to determine the reliability and validity of the main research. The pilot study included 38 respondents, whereby 18 participants were from tier 1 banks, 10 from a tier 2 bank, and 10 from a tier 3 bank. The pilot study targeted employees within management positions in the ICT, finance, operations, compliance, and customer relations departments. Individuals who participated in the pilot study were excluded from the main study to minimize response bias and enhance the generalizability of the findings.

3.7.2 Reliability

Reliability refers to the degree to which the research instrument yields similar results over multiple trials (Edwin, 2019). This study relied on internal consistency measures for increased reliability using Cronbach's alpha (Polit, 2014). The Cronbach's alpha values were calculated for each variable. Cronbach's Alpha test was used to measure the reliability of the questionnaire. George and Mallery (2003) and Forero (2024) contend that a coefficient >.9 is excellent, >.8 is good, .7 is acceptable, >.6 is questionable, >.5 is poor, and <.5 is unacceptable. For this study, the Cronbach's coefficient was maintained at >.7. Specifically, the reliability for all variables was 0.800, as shown in Table 3.2 below. This study also relied on test-retest reliability, where the same questionnaire was administered to a smaller group within a two-week interval. As such, this method ensured that the responses remained stable over time.

Table 3.2. Reliability Pilot Statistics

Variables	Cronbach Alpha
Organisational Readiness	.790
Technological Infrastructure	.843
Regulatory Support	.826
Digital Literacy	.762
Adoption Intention	.779
	.800

Source: Pilot Study (2025).

Table 3.3 below presents the reliability test results for all the key variables in the study. The Cronbach's alpha coefficient for the variables is 0.727, which indicates an acceptable level of internal consistency, according to Forero (2024). A 0.7 coefficient value implies that the data collection instrument utilized in this study has a reliable internal consistency.

Table 3.3. Reliability Test for All Variables (Primary Study)

Variables	Cronbach's Alpha
Organisational Readiness	.726
Technological Infrastructure	.749
Regulatory Support	.762
Digital Literacy	.683
Adoption Intention	.715
	.727

Source: Primary Data (2025).

3.7.3 Validity

Validity refers to how well a survey tool measures what it was intended to measure (Mo et al., 2023). The researcher established the study's validity through content, construct, and face validity, which is key to ensuring the instrument accurately measures the variables of interest (Ahmed & Ishtiaq, 2021). Content validity was ensured by basing the questionnaire on established

instruments from previous research. The researcher used items from Lokuge et al. (2018) and Taganoviqa et al. (2024) to generate the study's organisational readiness items, while technological infrastructure items were based on Nyonje et al. (2018) and Chan et al. (2022).

Moreover, construct validity was evaluated using exploratory factor analysis. This method ensured items reflected their respective constructs based on the conceptual model. Face validity was further ensured through a pilot study, where the respondents confirmed that the items were clear and relevant. All the ambiguous questions were restructured to enhance the suitability of the questionnaire for the research. Like most studies, the pilot study had a small sample size (N=38). Participants were purposively selected and informed that they would participate in a pilot study that would precede the actual research. In addition, The average variance extracted (AVE) was calculated to test the convergent validity. Usually, the AVE must not be lower than 0.5 to demonstrate an acceptable level of convergent validity (Cheung et al., 2024). The results of the pilot study showed that the questionnaire had an acceptable level of convergent validity, with AVE as shown in Table 3.2 below. These measures collectively ensured instrument validity, ultimately strengthening the accuracy and validity of the findings.

Table 3.4. Average Variance Extracted (AVE) Pilot Results

Variables	AVE
Organisational Readiness	.690
Technological Infrastructure	.862
Regulatory Support	.857
Digital Literacy	.631
Adoption Intention	.834
Extraction Method: Principal Component Analysis.	

Source: (Pilot Study, 2025).

3.8. Data Analysis

Amrhein et al. (2019) define data analysis as the process whereby the researcher cleans up or refines raw data and models it to gain valuable insights. The researcher analysed quantitative data and leveraged IBM SPSS software for data processing and analysis. According to Pallant (2020), SPSS is highly useful in accurately and efficiently performing various statistical tests. Thus, its

use in this study was to promote the accuracy and reproducibility of the results. Data analysis for this research utilized both descriptive and inferential statistics. Descriptive statistics included mean, standard deviation, and frequency distributions (Kaur et al., 2018). They were used to summarize the respondents' attributes for each variable. Inferential statistics, on the other hand, was used to draw conclusions from the sample data and make inferences about the population. The study also relied on diagnostic tests for normality, multicollinearity (Variance Inflation Factor), and heteroscedasticity (Adhikari, 2022). These tests were to determine the appropriateness of the survey data for advanced statistical analysis.

Data collected was analyzed using multiple linear regression analysis. Prior to conducting the regression, the researcher examined the correlations between the independent variables, which included regulatory support, technological infrastructure, organizational readiness, and digital literacy, to understand the strength and direction of the bivariate relationships. This preliminary analysis helped to identify any potential issues of multicollinearity. Subsequently, multiple linear regression was conducted to evaluate the combined effect of the independent variables on the dependent variable, which was open banking adoption intention in Kenya's commercial banks. Multiple linear regression is a statistical technique that models the relationship between a single outcome variable and two or more predictor variables (Amrhein et al., 2019). It enables researchers to estimate each predictor's individual contribution while accounting for the presence of others in the model.

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Before estimating the regression coefficients, the researcher first checked whether the assumptions of regression analysis were met, including normality, linearity, multicollinearity, and homoscedasticity. The Shapiro-Wilk test was used to assess normality, and linearity was checked using scatterplots. Multicollinearity was measured using Variance Inflation Factors (VIFs), and a scatter plot was used to test homoscedasticity (Amrhein et al., 2019). Once these assumptions were validated (See results in Chapter 4, section 4.6.1), the researcher estimated the regression coefficients to determine the strength of the relationship between the predictors and adoption intention.

The statistical significance of each predictor was evaluated using p-values, with a significance level set at 0.05. Additionally, the R-squared (R^2) statistic was used to measure the proportion of

variance in open banking adoption intention that is explained by the study's independent variables. The following is the regression model that was used for the multiple linear regression analysis:

$$Y = b0 + b1X1 + b2X2 + ... + b4X4$$

Where:

Y= Intention to adopt open banking

b0 is the intercept

b1, b2, ... b4: are the regression coefficients for each independent variable (X1, X2, ... X4)

X1 = Regulatory support

X2 = Technological infrastructure

X3 = Organizational readiness

X4 = Digital literacy

ε = Margin of error

3.9. Ethical Considerations

The expectations for ethical research have increased, with greater emphasis placed on maintaining accountability and integrity throughout the research process (Resnik & Shamoo, 2017). This study adhered to rigorous ethical standards to ensure the integrity of the research process and protect the participants' rights (Yang & Yang, 2020). For this study, ethical approval was sought from Strathmore University's Ethics Review Committee, which assessed whether the research complied with the set ethical rules (Appendix IV). After approval from the university's ethical committee, the researcher sought a research permit from the National Commission for Science Technology and Innovation (NACOSTI) (Appendix V), which is a requirement to undertake research in Kenya (Rutto, 2022). The study prioritised the respondents' wellbeing and respected their rights by ensuring that aspects such as informed consent, confidentiality, and anonymity were adhered to. The respondents were also informed of their right to withdraw from participating in the study at any point.

3.10. Chapter Summary

This chapter has detailed the methodology the researcher would follow to determine the factors influencing the adoption of open banking by employees of Kenya's commercial banks. It also

presented the research philosophy, which aligned with the positivist approach, the study design, the target population, and the data collection and analysis methods. The data collection tools were based on validated survey items, while the procedures for gathering and analysing data were explained. Additionally, ethical considerations were addressed to ensure participant informed consent and confidentiality.

CHAPTER FOUR: DATA ANALYSIS AND RESULTS

4.1 Introduction

The chapter presents the findings of the analysis performed on data collected in this study and includes five main sections. The first section presents the response rate, and the second section outlines the respondent's demographics. Further, a section on the descriptive statistics upon which the study's hypotheses are based is provided. Various pre-statistical tests, such as normality and

reliability tests, were utilized to authenticate the gathered data for usage fit. Finally, a section on inferential statistics is provided. The study aimed to investigate the factors influencing the adoption of open banking in Kenya's commercial banks.

4.2 Response Rate

As shown in Table 4.1 below, the response rate for the study was 95.1%, with 368 valid responses collected out of a target sample size of 387. Some responses were removed during data cleaning due to missing values, resulting in a slight reduction in the dataset. According to Nulty (2008), response rates above 70% are considered sufficient for robust data analysis. With a response rate of 95.1%, the study ensures high reliability and validity for subsequent analysis.

Table 4.1. Response Rate

	Frequency	Percent
Response	368	95.1
Non-Response	19	4.9
Total	**387**	**100**

Source: Primary Data (2025).

4.3 Demographic Analysis

This section provides insights into the gender, age, education level, banking tier, and work experience of the respondents. The target population for this study comprises employees working in the banking sector. By examining these demographic factors, the study aims to understand the distribution of respondents across different genders, age groups, educational backgrounds, the banking tiers they are employed in, and their professional experience.

4.3.1 Gender

Table 4.2. Sample Frame and Respondents' Distribution

		Frequency	Percent
Gender	Male	190	51.6
	Female	178	48.4
	Total	**368**	**100.0**

Source: Primary Data (2025).

Males represented 51.6% (190) of the sample population, while females accounted for 48.4% (178). The findings are presented in Table 4.2 above. This shows a relatively balanced gender distribution, with a slight male majority in the sample population.

4.3.2 Age

Table 4.3. Respondents' Age Results

		Frequency	Percent
Age	18-25 Years	76	20.7
	26-35 Years	82	22.3
	36-45 Years	125	34.0
	46-55 Years	85	23.1
	Total	**368**	**100.0**

Source: Primary Data (2025).

Table 4.3, as shown above, demonstrates the age categories of the research participants. The majority (34%) of the respondents were between 36 and 45 years, while 23.1% (85) ranged from 46 to 55 years. Additionally, 22.3% (82) of the participants were between the ages of 26 and 35, and 20.7% (76) were in the 18-25 age group. The research findings indicate that most participants (57.3%) were in their thirties and forties, showing a relatively mature respondent base.

4.3.3 Level of Education

Table 4.4. Respondent's Education Level Results

		Frequency	Percent
Education Level	Certificate	66	17.9
	Undergraduate	102	27.7
	Graduate level	105	28.5
	Post-graduate level	95	25.8
	Total	**368**	**100.0**

Source: Primary Data (2025).

Table 4.4, as shown above, demonstrates the education levels of the research participants. Most respondents (28.5%) had completed graduate-level education, followed closely by 27.7% (102) with an undergraduate degree. Additionally, 25.8% (95) of the participants had attained a post-graduate level of education, while 17.9% (66) had completed a certificate-level education. These findings suggest that a significant proportion of the respondents have higher educational qualifications, with a strong representation of graduate and undergraduate degree holders.

4.3.4 Banking Tier

Table 4.5, as shown below, illustrates the banking tiers of the research participants.

Table 4.5. Banking Tier Results

		Frequency	Percent
Banking Tier	Tier 1 (Large established banks)	176	47.8
	Tier 2 (Medium-sized banks)	88	23.9
	Tier 3 (Small banks)	104	28.3
	Total	**368**	**100.0**

Source: Primary Data (2025).

The majority (47.8%) of respondents were employed in Tier 1 banks, large established banks, followed by 28.3% (104) who worked in Tier 3, the smaller banks. Additionally, 23.9% (88) of participants were employed in Tier 2, medium-sized banks. These results show a diverse distribution of respondents across the different banking tiers.

4.3.5 Work Experience

Table 4.6. Work Experience Results

		Frequency	Percent
Work Experience	0-3 years	83	22.6
	4 – 7 years	74	20.1
	8 – 10 years	82	22.3
	Over ten years	129	35.1
	Total	**368**	**100.0**

Source: Primary Data (2025).

Table 4.6, as shown above, presents the distribution of work experience among the research participants. Most respondents (35.1%) had over ten years of work experience, followed by 22.6% (83) with 0-3 years of experience. Additionally, 22.3% (82) of the participants had between 8 and 10 years of experience, while 20.1% (74) had between 4 and 7 years of experience. These findings indicate that the sample population primarily comprises individuals with significant work experience, with a notable proportion having over ten years of professional experience.

4.3.6 Department at Work

Table 4.7. Department at Work Results

Department	Frequency	Percent
Digital Channels	22	6.0
Customer Relations /Experience / Support	23	6.3
Sales	18	4.9
Marketing	23	6.3
Information Technology (IT)	40	10.9
Products	30	8.2
Credit	16	4.3
Supply Chain & Admin	16	4.3
Digital financial services	14	3.8
Partnerships & Projects	11	3.0

Business banking	11	3.0
Finance	22	6.0
Operations	13	3.5
Risk Management	18	4.9
Compliance	12	3.3
Credit Risk	17	4.6
Branch Support	14	3.8
Business lead	20	5.4
Data Analytics	20	5.4
Digital business	8	2.2
Total	**368**	**100.0**

Source: Primary Data (2025).

Table 4.7, as shown above, presents the departmental distribution among employees in the organization. According to the study results, the most significant proportion of employees (10.9%) belong to the Information Technology (IT) department, followed by 8.2% in the Products department. Customer Relations/Experience/Support and Marketing each represent 6.3% of the total workforce. Departments such as Risk Management, Sales, and Finance each account for 4.9% of the total, while other departments, such as Digital Financial Services and Partnerships & Projects, represent a smaller portion, each contributing around 3.0%. These findings suggest that the organization puts emphasis on IT and product-related functions, with a well-distributed workforce across various departments.

4.4 Descriptive Statistics

The following section presents the summarised results or descriptive statistics of the factors that may influence likelihood of adoption open banking by employees of Kenya's commercial banks. The study sought to find out how varied the respondents answers were, their average answers (mean), and identify noticeable trends. The means and standard deviations for all the key variables are presented in Table 4.8 below.

Table 4.8. Descriptive Statistics Results

	Mean	**Std. Deviation**
Organisational Readiness	31.60	6.067

Technological Infrastructure	16.68	4.172
Regulatory Support	22.78	5.536
Digital Literacy	25.93	4.744
Adoption Intention	23.25	5.363

Source: Primary Data (2025).

The mean scores were calculated by equally weighing the responses from the survey items. For the explanatory variables, organizational readiness had a mean of 31.60 with a standard deviation of 6.067, indicating a relatively high level of readiness within the banks. Technological infrastructure had a mean score of 16.68 and a standard deviation of 4.172, suggesting a moderate level of infrastructure availability. Regulatory support had a mean of 22.78 with a standard deviation of 5.536, reflecting a moderate level of perceived regulatory assistance. Digital literacy scored a mean of 25.93 with a standard deviation of 4.744, indicating a moderately high level of digital literacy among employees. Finally, the adoption intention variable had a mean of 23.25 with a standard deviation of 5.363, indicating a moderate to high level of intention to adopt open banking. Overall, the results suggest that the factors influencing open banking adoption have moderate to high mean values.

4.5 Inferential Statistics

Before carrying out multiple regression analysis, some assumption tests, including normality, multicollinearity, and homoscedasticity tests, were undertaken. The tests ensure that the data is valid and suitable for inferential analysis. The results of these assumption tests are presented in this section.

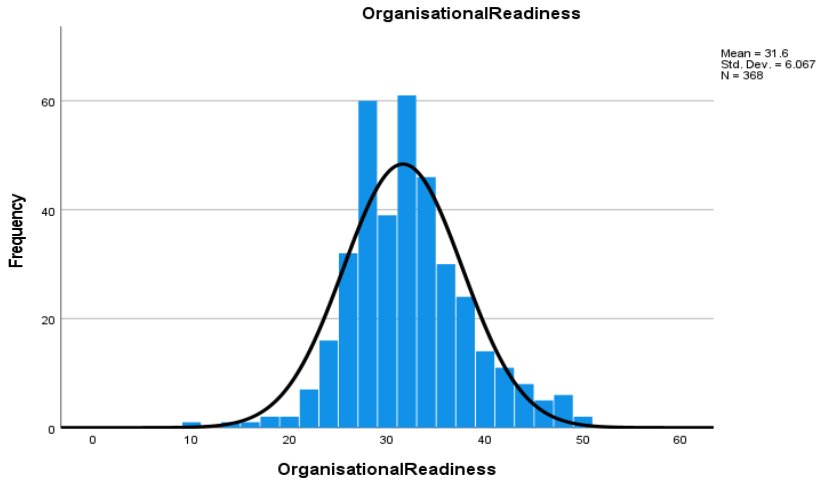
4.5.1 Multivariate Assumption Tests

4.5.1.1 Normality

The researcher should evaluate the normality assumption when performing a parametric statistical analysis. This test is designed to check if the characteristics or attributes of a population follow a normal distribution. (Adhikari, 2022) To predict the population accurately, a sample should accurately reflect the population's distribution pattern. The goal is to ensure that the sample represents the population's characteristics without over or under representing any aspect and is close to the population mean (Sekaran & Bougie, 2016). A histogram of the respondents' data was

created to test the normality of the data. Figure 4.1 below shows the data has a fair and well-distributed normal distribution.

Figure 4.1.Normality Test



Source: Primary Data (2025).

4.5.1.2 Multicollinearity

Multicollinearity refers to the degree of correlation among the explanatory variables. Multicollinearity is the extent to which one variable can explain another. A problem of multicollinearity occurs when the explanatory variables are highly correlated. A strong correlation between these variables can diminish the model's predictive power (Hair et al., 2010). To assess the presence of multicollinearity in the dataset, collinearity statistic, including the Variance Inflation Factor (VIF) and tolerance values, are used. The VIF is the inverse tolerance values, which typically ranges from 0 to 1. A higher VIF indicates higher multicollinearity, and a lower VIF away from 10 indicates less multicollinearity. VIF should not exceed ten, and the tolerance should not be lower than 0.10 (Hair et al., 2010). In this study, the VIF and tolerance values were calculated to test for multicollinearity, and the results are as per Table 4.10 below. Collinearity results showed that the multicollinearity assumption was met as VIF values were not greater than ten and tolerance values were greater than 0.10. It can thus be concluded that the independent variables in the dataset are not highly correlated.

Table 4.9. Collinearity Test

Model	Collinearity Statistics	
	Tolerance	**VIF**
Organisational Readiness	0.811	1.234
Technological Infrastructure	0.694	1.441
Regulatory Support	0.686	1.459
Digital Literacy	0.871	1.149

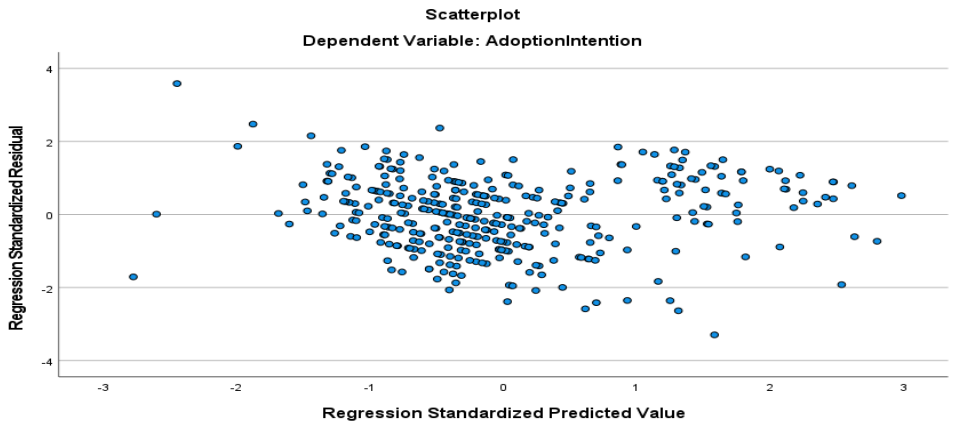
a. Dependent Variable: Adoption Intention

Source: Primary Data (2025).

4.5.1.3 Homoscedasticity Test

A scatter plot was created to illustrate the data pattern used in this study. As shown in Figure 4.2 below, the data exhibits no clear pattern. Instead, the values are evenly spread across the plot area. Indeed, this confirms that the data has been sourced from a homoscedastic population with a constant variance.

Figure 4.2. Homoscedasticity Test



Source: Primary Data (2025).

The tests for normality, multicollinearity, and homoscedasticity confirm that the collected data is statistically appropriate for the study. Therefore, inferential analysis was conducted to examine the relationships between the study variables.

4.6 Correlation Analysis

The study aimed to examine the factors influencing the adoption of open banking among commercial banks in Kenya. A Pearson's correlation analysis was conducted to assess the strength and direction of the relationships between the independent variables (Technological Infrastructure, Regulatory Support, Digital Literacy, and Organisational Readiness) and the dependent variable (Adoption Intention), as presented in Table 8 below. In Table 4.9, a correlation at the 0.01 level between variables is indicated by two asterisks (**). Pearson's correlation was used to examine the relationship between each of the independent variables and the dependent variable (Baker, 2017). In this output, technological infrastructure (TI), regulatory support (RS), digital literacy (DL), organisational readiness (OR), and adoption intention (AI) are the variables. Pearson's correlation coefficient (r) ranges from -1 to 1, where values from 0.00 - 0.19 indicate a very weak relationship, 0.20 - 0.39 indicate a weak relationship, 0.40 - 0.59 indicate a moderate relationship, 0.60 - 0.79 indicate a strong relationship, and 0.80 - 1.00 indicate a very strong relationship (Baker, 2017).

The results in Table 4.11 show a moderate positive relationship between Technological Infrastructure and Adoption Intention ($r = 0.511$, p-value < 0.01), and similarly, moderate positive relationships were observed between regulatory support and adoption intention ($r = 0.501$, p-value < 0.01). Additionally, digital literacy showed a very weak positive relationship with adoption intention ($r = 0.241$, p-value < 0.01). Organisational readiness also showed a weak positive relationship with adoption intention ($r = 0.324$, p-value < 0.01). The findings imply that regulatory support and technological infrastructure are the most critical factors that determine whether respondents will adopt open banking. When banks have supportive and clear regulations as well as strong technological infrastructures set up, their employees are more likely to accept open banking. On the other hand, organisational readiness and digital literacy had a weak association with adoption intention, which imply that an organisation's level of preparedness and digital competence of its employees do not solely determine their staff's willingness to adopt open banking.

Table 4.10. Pearson's Correlation Analysis Results For All Variable

		Technological Infrastructure	Regulatory Support	Digital Literacy	Organisational Readiness	Adoption Intention
Technological Infrastructure	Pearson Correlation	1	.526**	.221**	.326**	.511**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000
	N	368	368	368	368	368
Regulatory Support	Pearson Correlation	.526**	1	.256**	.326**	.501**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000
	N	368	368	368	368	368
Digital Literacy	Pearson Correlation	.221**	.256**	1	.317**	.241**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000
	N	368	368	368	368	368
Organisational Readiness	Pearson Correlation	.326**	.326**	.317**	1	.324**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000
	N	368	368	368	368	368
Adoption Intention	Pearson Correlation	.511**	.501**	.241**	.324**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	
	N	368	368	368	368	368
**. Correlation is significant at the 0.01 level (2-tailed).						

Source: Primary Data (2025).

4.7 Regression Analysis

This section addresses each of the four research questions. The research utilized regression analysis to evaluate both direct relationships and indirect associations which formed the basis of the hypotheses and proposed model. The statistical technique of Multiple Regression Analysis allows researchers to establish potential relationships between variables (Keith, 2019). A

regression method predicts dependent variable values through changes in independent variable positions. By viewing the regression analysis output, the beta weight (β) gives a significant interpretation of the relationship between the explanatory variable and dependent variable (Keith, 2019). The β value can be positive or negative, showing how much the predicted variable will decrease or increase if the explanatory variable increases by one unit.

The regression analysis output also presented the correlation coefficient (r), coefficient of determination (R^2), and the adjusted coefficient of determination (adjusted R^2) that indicate how well the researcher can predict the dependent variable with the explanatory variable(s). R^2 is the proportion of the variance in the dependent variable that can be explained by the explanatory variables (Romeo, 2020). R^2 indicates the percentage of the total variance in the dependent variable explained by the explanatory variables in the regression model. The F-value used to assess the usefulness of the regression model is used to determine whether the model can predict, analyze, or explain the differences in the predicted variable (Romeo, 2020). A significant relationship between variables is said to exist if he F value is greater than 0.05 (Prob > F). SPSS was used to perform the regression analysis between each predictor variable and the dependent variable. The main objective was to explore the kind of relationship (if any) between the explanatory variables and the dependent variable.

4.7.1 The Influence of Regulatory Support on the Adoption of Open Banking

The researcher conducted a linear regression analysis to examine the relationship between the predictor variable, regulatory support, and the predicted variable, adoption intention. The results are presented in the tables below.

Table 4.11.Model Summary Results For Regulatory Support and Bank Adoption

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate

1	.501[a]	.251	.249	4.646

a. Predictors: (Constant), Regulatory Support

b. Dependent Variable: Adoption Intention

Source: Primary Data (2025).

Table 4.12. ANOVA Results For Regulatory Support and Bank Adoption

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2653.161	1	2653.161	122.890	.000[b]
	Residual	7901.839	366	21.590		
	Total	10555.000	367			

a. Dependent Variable: Adoption Intention

b. Predictors: (Constant), Regulatory Support

Source: Primary Data (2025).

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Table 4.13. Coefficients Results For Regulatory Support and Bank Adoption

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta	T	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	12.185	1.027		11.864	.000	10.166	14.205		
	Regulatory Support	.486	.044	.501	11.086	.000	.400	.572	1.000	1.000

a. Dependent Variable: Adoption Intention

Source: Primary Data (2025).

The findings from the regression analysis show that regulatory support explained 25.1% of the total variance in adoption intention ($R^2 = 0.251$), with the remaining variance attributed to other factors outside the model. The model was statistically significant, as indicated by the ANOVA results, $F(1, 366) = 122.890$, $p = 0.000$, which is well below the 0.05 significance level. Moreover, the beta coefficient for regulatory support ($B = 0.486$, $p < 0.05$) suggests a positive relationship with adoption intention. Specifically, it implies that for every one-unit increase in regulatory support, adoption intention increases by 48.6%. This means that higher levels of regulatory support are strongly associated with greater adoption intention in open banking. The results provide the regression model shown below;

$$Y = 12.18 + 0.486X+e$$

4.7.2. The Influence of Technological Infrastructure on the Adoption of Open Banking

To examine the influence of technological infrastructure on the adoption of open banking by employees of Kenya's commercial banks, the researcher conducted a linear regression analysis. The results are presented in the tables below.

Table 4.14. Model Summary For Technological Infrastructure and Bank Adoption

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.511[a]	.261	.259	4.615

a. Predictors: (Constant), Technological Infrastructure

b. Dependent Variable: Adoption Intention

Source: Primary Data (2025).

Table 4.15. ANOVA Results For Technological Infrastructure and Bank Adoption

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2758.246	1	2758.246	129.479	.000[b]
	Residual	7796.754	366	21.303		
	Total	10555.000	367			

a. Dependent Variable: Adoption Intention

b. Predictors: (Constant), Technological Infrastructure

Source: Primary Data (2025).

Table 4.16. Coefficients Results For Technological Infrastructure and Bank Adoption

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.	Collinearity Statistics

		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	12.292	.993		12.384	.000		
	Technological Infrastructure	.657	.058	.511	11.379	.000	1.000	1.000

a. Dependent Variable: Adoption Intention

Source: Primary Data (2025).

The regression analysis results show that technological infrastructure explained 26.1% of the variance in adoption intention ($R^2 = 0.261$), with other factors contributing to the remaining variance. The model was statistically significant, as indicated by the ANOVA results, $F(1, 366) = 129.479$, $p = 0.000$, which is well below the 0.05 significance level. The beta coefficient for technological infrastructure ($B = 0.657$, $p < 0.05$) suggests a positive relationship with adoption intention. Specifically, for every one-unit increase in technological infrastructure, adoption intention increases by 65.7%. One can deduce that improved technological infrastructure significantly enhances the intention to adopt open banking among commercial banks. The results provide the regression model shown below;

$$Y = 12.29 + 0.\ 657X+e$$

4.7.3 The Influence of Employees' Digital Literacy on the Adoption of Open Banking

The researcher conducted a linear regression analysis to examine the influence of digital literacy among employees on the adoption of open banking by employees in Kenya's commercial banks. The results are presented in the tables below.

Table 4.17. Model Summary Results For Digital Literacy and Bank Adoption

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.241[a]	.058	.055	5.212

a. Predictors: (Constant), Digital Literacy

b. Dependent Variable: Adoption Intention

Source: Primary Data (2025).

Table 4.18. ANOVA Results For Digital Literacy and Bank Adoption

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	610.976	1	610.976	22.488	.000[b]
	Residual	9944.024	366	27.169		
	Total	10555.000	367			

a. Dependent Variable: Adoption Intention

b. Predictors: (Constant), Digital Literacy

Source: Primary Data (2025).

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Table 4.19. Coefficients Results For Digital Literacy and Bank Adoption

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	16.198	1.512		10.715	.000	13.225	19.171		

	Digital Literacy	.272	.057	.241	4.742	.000	.159	.385	1.000	1.000

a. Dependent Variable: Adoption Intention

Source: Primary Data (2025).

The results from the regression analysis show that digital literacy explained 5.8% of the variance in adoption intention ($R^2 = 0.058$), with other factors contributing to the remaining variance. The model was statistically significant, as indicated by the ANOVA results, $F(1, 366) = 22.488$, $p = 0.000$, which is well below the 0.05 significance level. The beta coefficient for digital literacy ($B = 0.272$, $p < 0.05$) suggests a positive relationship with adoption intention. Specifically, for every one-unit increase in digital literacy, adoption intention increases by 27.2%. This indicates that higher digital literacy among employees positively influences the intention to adopt open banking in commercial banks. The results provide the regression model;

$$Y = 16.20 + 0.272X + e$$

4.7.4. The Influence of Organisational Readiness on the Adoption of Open Banking

The researcher conducted a linear regression analysis to examine the influence of organizational readiness on the adoption of open banking by employees of commercial banks in Kenya. The results are presented in the tables below.

Table 4.20. Model Summary Results For Organisational Readiness and Bank Adoption

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.324[a]	.105	.103	5.080

a. Predictors: (Constant), Organisational Readiness

b. Dependent Variable: Adoption Intention

Source: Primary Data (2025).

Table 4.21. ANOVA Results For Organisational Readiness and Bank Adoption

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1111.443	1	1111.443	43.076	.000[b]
	Residual	9443.557	366	25.802		
	Total	10555.000	367			

a. Predictors: (Constant), Organisational Readiness

b. Dependent Variable: Adoption Intention

Source: Primary Data (2025).

Table 4.22. Coefficients Results For Organisational Readiness and Bank Adoption

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta	T	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	14.186	1.406		10.088	.000	11.420	16.951		
	Organisational Readiness	.287	.044	.324	6.563	.000	.201	.373	1.000	1.000

a. Dependent Variable: Adoption Intention

Source: Primary Data (2025).

The results from the regression analysis show that organizational readiness explained 10.5% of the variance in adoption intention ($R^2 = 0.105$), with other factors contributing to the remaining variance. The model was statistically significant, as indicated by the ANOVA results, $F(1, 366) = 43.076$, $p = 0.000$, which is well below the 0.05 significance level. The coefficient for organizational readiness ($B = 0.287$, $p < 0.05$) suggests a positive relationship with adoption intention. Specifically, for every one-unit increase in organizational readiness, adoption intention increases by 28.7%. This indicates that higher organizational readiness positively influences the intention to adopt open banking in commercial banks. The results provide the regression model shown below;

$$Y = 14.19 + 0.\ 287X+e$$

4.8 Overall Regression Model

After establishing the linear regression results for organisational readiness, technological infrastructure, regulatory support, digital literacy and adoption intentions, the following section presents ANOVA results, model summary, and coefficient estimates for every variable. The overall regression model aimed to assess the influence of multiple factors, including digital literacy, technological infrastructure, organizational readiness, and regulatory support, on the adoption of open banking by employees of Kenya's commercial banks. The results from the regression analysis are summarized in several tables below, which show how well these predictors explain the variance in adoption intention.

Table 4.23. Model Summary Results For All Variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate

1	.594[a]	.353	.346	4.337

a. Predictors: (Constant), Digital Literacy, Technological Infrastructure, Organisational Readiness, Regulatory Support

b. Dependent Variable: Adoption Intention

Source: Primary Data (2025).

Table 4.24. ANOVA Results For All Variables

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3727.180	4	931.795	49.539	.000[b]
	Residual	6827.820	363	18.809		
	Total	10555.000	367			

a. Dependent Variable: Adoption Intention
b. Predictors: (Constant), Digital Literacy, Technological Infrastructure, Organisational Readiness, Regulatory Support

Source: Primary Data (2025).

Table 4.25. Coefficients Results For All Variables

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta	T	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	5.341	1.590		3.360	.001	2.215	8.467		
	Organisational Readiness	.097	.041	.110	2.337	.020	.015	.178	.811	1.234
	Technological Infrastructure	.400	.065	.311	6.137	.000	.272	.528	.694	1.441

Regulatory Support	.277	.049	.285	5.599	.000	.179	.374	.686	1.459
Digital Literacy	.073	.051	.064	1.419	.157	-.028	.173	.871	1.149

a. Dependent Variable: Adoption Intention

Source: Primary Data (2025).

Based on the regression results, the regression model was as shown below;

$$Y = 5.341 + 0.097X_1 + 0.400X_2 + 0.277X_3 + 0.073X_4 + e$$

Where:

Y = Adoption Intention

X_1 = Organizational Readiness

X_2 = Technological Infrastructure

X_3 = Regulatory Support

X_4 = Digital Literacy

e = Error term

The model summary reveals that the explanatory variables accounted for 35.3% of the variance in adoption intention ($R^2 = 0.353$). This suggests that while these variables explain a significant portion of the variation in adoption intention, other factors outside the model also contribute to the decision to adopt open banking. Model Adjusted R Square of 0.346 indicates that the model is robust, and the Standard Error Estimate of 4.337 indicates the average distance between observed and predicted values.

The ANOVA results also help to confirm that the model is statistically significant. The F value is 49.539 ($p = 0.000$), which is much smaller than 0.05 significance level, implying that the model was able to predict adoption intention with a good fit. The results indicate that when one breaks down the individual predictors, Technological infrastructure has the most effect on adoption intention (coefficient = 0.400, $p < 0.01$). It implies that for every one unit increase in the technological infrastructure, adoption intention increases by 40%. This highlights the critical role of technological infrastructure in facilitating the adoption of open banking within commercial

banks. Regulatory support also significantly influences adoption intention (B = 0.277, p < 0.01), suggesting that stronger regulatory backing enhances the likelihood of adopting open banking, with a 27.7% increase in adoption intention for every unit increase in regulatory support.

Organizational readiness is another significant predictor, with a positive coefficient of 0.097 (p = 0.020), indicating that organizations that are more prepared for digital transformation are more likely to adopt open banking. Specifically, a one-unit increase in organizational readiness leads to a 9.7% increase in adoption intention. However, digital literacy (B = 0.073, p = 0.157) does not show a statistically significant effect on adoption intention at the 0.05 significance level, suggesting that while digital literacy is important, it may not be as influential as the other factors in predicting adoption.

4.9 Conclusion

This chapter presents a comprehensive analysis of the factors affecting the adoption of open banking among Kenya's commercial banks. The findings of the regression analyses indicate that Technological infrastructure, regulative support, and organisational readiness contributed significantly to the understanding of open banking adoption intention, with technological infrastructure having the most significant influence. A positive correlation between the adoption intention and digital literacy was evident, but the associations are statistically insignificant. These findings suggest that banks with robust technological systems, supportive regulatory frameworks, and high organizational readiness are more likely to adopt open banking. The findings point to how such factors are key drivers of digital transformation in Kenya's banking sector; hence, the importance of improved technology development and support from strategic organizational structures to promote open banking adoption.

CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

5.1. Introduction

In this chapter, the researcher discusses the research findings, the conclusion derived from the analysis, and the recommendations for practice and research. This study aimed to determine the factors influencing the adoption of open banking by employees of Kenya's commercial banks. Four factors were researched: regulatory support, technological infrastructure, digital literacy, and organizational readiness. Interpretations of the study findings are discussed below, with references to the literature review to support the interpretations.

5.2 Summary of the Study

The study explored the factors influencing the adoption of open banking by commercial banks in Kenya. Open banking has enabled third-party providers to access customers' financial data through Application Programming Interfaces (APIs), reshaping the global financial landscape. Open

banking has taken root in developed countries but has hardly been adopted in Kenya. This paper explored the reasons for this and established the most significant factors influencing open banking adoption by Kenyan commercial banks.

The study was grounded on the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). These theories helped the researcher to understand the factors determining the acceptance of new technology and assess the probability that Kenya's commercial banks will adopt open banking. The researcher also adopted a positivist research philosophy, which is objective and uses quantitative methods to study variables. The researcher then employed a descriptive cross-sectional research design and collected primary data through structured questionnaires.

The researcher then used quota sampling to derive a sample of 387 respondents who were employees in the three tiers of Kenya's commercial banks. They were employees holding leadership positions in different departments, including management, technology, operations, and customer service, to ensure a wider understanding of open banking adoption underpinning factors across various functional areas. The researcher then measured regulatory support, technological infrastructure, digital literacy, and organizational readiness using a five-point Likert scale questionnaire. The data was analyzed using descriptive and inferential statistics consisting of multiple linear regression analysis to determine the relationship between the factors identified and employees of commercial bank's intention to adopt open banking.

The results of the study indicated that regulatory support has a positive impact on open banking. Regression analysis yielded a statistically significant positive relationship between regulatory clarity and the likelihood of adopting open banking ($B = 0.486$, $p < 0.05$). This suggests that banks will more readily embrace open banking as long as clear regulatory frameworks are present, inform data sharing, and protect consumers. The findings also indicate a lack of regulatory clarity potentially creates uncertainty, hindering adoption. Technological infrastructure also had a significant impact on adoption. Multiple linear regression analysis revealed a strong positive relationship between the availability of secure, robust technological systems (such as API integration and cybersecurity frameworks) and open banking adoption ($B = 0.657$, $p < 0.05$). This suggests that banks with modern IT infrastructure are more likely to adopt open banking solutions.

Organizational readiness showed a moderate influence on the adoption of open banking. The regression analysis indicated that banks with supportive management, adequate resources, and a culture of innovation were more likely to implement open banking solutions ($B = 0.287$, $p < 0.05$). While organizational readiness is a contributing factor to open banking adoption, its influence was weaker compared to regulatory support and technological infrastructure. Lastly, digital literacy had a weak effect on open banking adoption. The analysis revealed a small but statistically significant positive relationship between employees' digital literacy skills and adoption ($B = 0.272$, $p < 0.05$). However, this factor had the least impact compared to the other variables, indicating that digital literacy alone is not sufficient to drive adoption without other enabling factors.

5.3. Discussion of the Findings

5.3.1. Regulatory Support and Open Banking Adoption

The study's first objective was to determine the influence of regulatory support on open banking adoption by employees of Kenya's commercial banks. The results revealed that regulatory support was critical role in facilitating open banking adoption. Analysis of Pearson's correlation and regression results indicated a significant positive relation between regulatory support and the intention of employees of Kenya's commercial banks to adopt open banking. Each unit of regulatory support increased the intention of adopting open banking by approximately 48.6%. This finding indicates that introducing open banking adoption requires a clearly defined and well-established regulatory framework to help successfully integrate open banking within banks.

This finding is consistent with prior studies. Ali and Osmanaj (2020) established the importance of the regulatory environment in realizing open banking adoption. They point out that open banking adoption is also influenced by the regulatory framework, which has economic, social, and administrative angles. Economic regulation influences service delivery in such a way that financial services are economical and efficient, social regulation ensures data privacy and safety, and administrative regulation requires flexible and supportive government and supportive management and other firm-facilitating factors for open banking adoption (Ali & Osmanaj, 2020). Countries with strong regulatory support for open banking have regulatory frameworks with these features. As stated by Brown (2022) and Zeller and Lynch (2020), the US and the UK have regulatory-led frameworks, which played a role in their adoption of open banking. Such regulations have

contributed to the seamless sharing of data while ensuring its privacy and safety, creating consumer-friendly environments for the adoption of open banking.

Regionally, African countries, including Kenya, are beginning to strengthen their regulatory frameworks, but there is still room for improvement. Nyawara (2021) notes that although Kenya's regulatory framework is evolving, clear and enforceable data protection laws are needed to successfully adopt open banking. The study findings also support the utilisation of the UTAUT model, as regulatory or government support, which is a facilitating condition, significantly influences people's intention to adopt and use open banking. Mensah and Khan (2024)'s study aligns with these findings as they found that technological infrastructure positively influenced the Chinese's population's intention to adopt mobile services. With no comprehensive regulatory framework, Kenyan banks may take time to embrace open banking. Such gaps in Kenya's regulatory framework may hinder growth and competitiveness in the banking sector. Accordingly, the government and stakeholders in the financial sectors should focus on strengthening data protection laws and crafting structured policies for open banking in Kenya to thrive.

5.3.2. Technological Infrastructure and Open Banking Adoption

The study's second objective was to establish how technological infrastructure influences employees of Kenya's commercial banks' adoption of open banking. The key findings indicated that the existence of a robust technological infrastructure influenced open banking adoption. For instance, the regression analysis empirically indicated that for each unit improvement in technological infrastructure, the intention to adopt open banking increased by approximately 65.7%. Indeed, this underlines the direct influence that a strong technological base has on a bank's likelihood to accept and implement open banking.

The study's findings mirror the findings of Chan et al. (2022) and Lin et al. (2024) that robust technological infrastructure is a prerequisite for effective open banking adoption. They note that secure data sharing systems and API compatibility support open banking. A robust technological system incorporating secure APIs is needed to ensure the exchange of financial data between banks and third-party providers is possible. The secure and efficient functioning of open banking would be compromised without these systems. From a global perspective, countries with advanced technological infrastructure, such as the U.S. and UK, have made significant strides in open

banking adoption. In fact, Lin et al. (2024) noted a direct correlation between the availability of enhanced technological infrastructure and financial performance improvement in the banking sector. Their study concluded that banks that adopted external APIs reported an increased return on assets (ROA) and data portability advantages. Evidently, these regions demonstrate high technological readiness, which has fostered the smooth integration of the open banking systems.

On the other hand, technological infrastructure gaps, such as API integration and data security issues, are evident regionally, which impact adoption rates (Babina et al., 2024). For example, Nnaomah et al. (2024) note that Nigeria experienced regulatory and infrastructural challenges. Likewise, although Kenya's banking sector has evolved significantly, outdated technological infrastructure and nonconformance to current API standards continue to pose challenges (Nyonje et al., 2018). Kenyan banks, therefore, should concentrate on ensuring infrastructure compatibility and data security to embrace open banking fully. As a result, it can be inferred that Kenyan commercial banks will greatly benefit if they invest in modernizing their technological infrastructure to facilitate better data sharing, data security, and integration and compatibility of APIs to ensure open banking adoption.

Indeed, these findings support the UTAUT theory by denoting that when organisations have robust technological infrastructure, they can easily support the use of new technology. Xue et al. (2024) confirm these findings by noting that facilitating conditions denote the extent to which people believe that technical and organisational infrastructure are available to support the use of the new technology. Similarly, in their study, Mensah and Khan (2024) concluded that technological infrastructure and government support were positively linked to the Chinese's population's intention to uptake mobile services. In this study, technological infrastructure is a facilitating condition that influences adoption of open banking by Kenya's bank employees.

5.3.3. Digital Literacy and Open Banking Adoption

The study's third objective was to establish the effect of digital literacy on the adoption of open banking by employees of Kenya's commercial banks. Findings indicated that digital literacy was a relatively weaker predictor of open banking adoption than regulatory support and technological infrastructure. Pearson's correlation analysis indicated the presence of a very weak positive correlation between digital literacy and the adoption intention of open banking ($r = 0.241$).

However, the effect was not significant statistically. This demonstrates that even though digital literacy somewhat influences adoption, it is not a determining factor for open banking adoption by employees of Kenya's commercial banks, but other factors such as technological infrastructure or regulatory support.

These findings align with Cetindamar et al. (2021) and Kimathi (2023). In their studies, they did not consider digital literacy as the most significant factor in the adoption of novel technologies like open banking, but rather other aspects, such as technological infrastructure and regulatory support. Although the influence of digital literacy on the adoption of innovations is weak, it is still crucial, as it allows employees to have the necessary skills and knowledge to make informed decisions. In fact, Khoja et al. (2007) and Lokuge et al. (2018) noted that digital literacy ensures that employees are comfortable with digital tools and innovations, which is essential for open banking adoption. Okoro (2024) adds that digital literacy and skill development are vital for ensuring recruitment, training, and employee development. Therefore, banks should invest in training programs that will ensure employees are familiar with digital tools supporting open banking adoption.

Although Okoro (2023) and Khoja et al. (2007) emphasise on the link between digital literacy and open banking adoption, the study findings do not support the UTAUT and TAM theories. Digital literacy had a weak link to open banking adoption by Kenyan banks' employees. Kabakus et al (2023) also concluded the same in their research demonstrating that digital literacy had no positive effect on performance expectancy and user's intention to adopt new technology. Further, Nikou et al. (2022) study, which utilized the TAM model, noted that digital literacy had no significant direct relationship with perceived usefulness. They also concluded that digital literacy was an indirect determinant of intention by employees to use technology at work. In this study, it is evident that employees of Kenyan banks did not find that adopting open banking would be useful. Even though digital literacy is a critical factor in the adoption of new technologies worldwide, most studies report that it is not considered critical compared to technological infrastructure and regulatory support. Cetindamar et al. (2021) and Bansal (2020) contend that technological infrastructure usually greatly influences the likelihood of most organisations to adopt novel technologies than digital literacy. As African nations strive for digital transformation, digital literacy remains a key challenge. While digital literacy among employees is improving in Kenya, it still lags behind other

regions, necessitating focused investment in training programs to enhance technological adaptability.

5.3.4. Organizational Readiness and Open Banking Adoption

The study's fourth objective was to determine the influence of organizational readiness on the adoption of open banking by employees of Kenya's commercial banks. The findings indicate that organizational readiness has a moderate positive relationship with open banking adoption. In particular, for every unit increase in organizational readiness, the adoption intention increases by 28.7%. These findings align with Lokuge et al. (2018) and Taganoviqa et al. (2024)'s studies on the role of organizational culture, top management support, and resource availability in technology adoption, particularly open banking. Enabling banks to embrace the challenges of an open banking system is dependent on organizational readiness.

From a global standpoint, successful open banking adoption is largely driven by organizational readiness, particularly strong leadership and strategic alignment. Banks in Europe, the U.S., and Asia have embraced open banking thanks to leadership and organizational commitment (Sidani & Harb, 2023; Maharaj & Pooe, 2021). Regionally, Al-Issa and Omar (2024) examined the roles of digital leadership, innovative culture, and techno-stress inhibitors. They noted that these factors promote digital innovation within Libyan banks. In Kenya, organizational readiness remains a crucial factor, with banks needing to prioritize leadership development and resource allocation to embrace the potential of open banking. Studies by Chimakati and Macharia (2024) and Kimathi (2023) explored innovation in the banking sector. Particularly, Kimathi (2023) found that 76% of financial performance variation could be linked to digital innovations. Therefore, Kenyan banks should ensure that leadership supports the change, that resources are allocated efficiently, and that employees are aligned with organizational goals to adopt open banking successfully.

Overall, organisational readiness involves banks' readiness to adopt open banking and is highly dependent on supportive management, adequate resources, technology, and displaying cultural readiness through its organizational culture. According to Kimathi (2023), top management support is critical in facilitating digital innovations' integration in Kenyan Banks. In fact, countries in Europe, the U.S., and Asia have successfully adopted open banking due to strong leadership and strategic alignment of banks. Although most studies link an organisation's readiness to an

organisation's likelihood to adopt new technology, the study findings only found a moderate link. Therefore, the findings partially support the UTAUT theory as facilitating conditions, which in this case is organisational readiness, is linked to a likelihood of open banking adoption. For example, Mayayise (2021) study found a negative link between organisational requirement to adoption of BYOD. On the other hand, while using the modified TAM model, Marei et al. (2023) found that organizational readiness had a positive moderating effect on the relationship between competitive pressure and technological compatibility and adoption of fintech adoption. Despite these contradictory results, the need for organisational readiness in open banking adoption cannot be underscored. Therefore, Kenyan banks should prioritize leadership development and the need for adequate resources for the successful integration of open banking.

5.4 Conclusion

The study findings indicate that regulatory support, technological infrastructure, and organizational readiness are key factors that predict the intention of employees of Kenya's commercial banks to adopt open banking. In particular, technological infrastructure is identified as the most critical factor in open banking adoption. The study found that adoption of open banking is only possible if commercial banks have secure and robust IT systems, including API compatibility and data security measures. These technological advancements ensure that financial data sharing between banks and third-party providers is seamless and secure. Further, while digital literacy impacts open banking adoption, it is less significant than regulatory support and technological infrastructure. Nonetheless, commercial banks' leaders should still emphasise digital literacy and ensure employees can comfortably use new banking technologies. Particularly, they can focus on initiating training programs for their employees to enhance their digital skills.

The study also highlighted that a stable regulatory landscape was critical for the adoption of open banking by employees of Kenya's commercial banks. A stable regulatory framework includes well-articulated laws on data protection and policies. Moreover, the study emphasized the need for oganisations to be ready by investing in technology and supportive management. The emphasis was on the need for commercial banks to embody an innovation culture and ensure that the top management committed to driving the digital transformation process. Overall, this study encourages a move toward the successful adoption of open banking in Kenya through coordinated efforts on multiple fronts. Accordingly, the findings reinforce that open banking in Kenya will

only succeed when there is a bolstered regulatory environment, robust technological infrastructure, and organizational readiness to support its adoption.

5.5. Recommendations

Based on the findings, the following recommendations are made. Firstly, the Kenyan government should develop and enforce banking regulations. Policymakers and regulators should collaborate to create clear, enforceable regulations that focus on consumer data protection, privacy, and cybersecurity. Kenya's commercial banks should operate in a supportive regulatory environment that guarantees privacy and consumer data protection, which fosters trust. On the other hand, regulatory bodies should work to reduce compliance costs for banks while ensuring robust data protection standards. A supportive regulatory environment will ultimately facilitate the adoption of open banking.

Kenya's commercial banks should also invest in modern technological infrastructure, including APIs and secure data-sharing systems, to support open banking adoption. Particularly, this involves updating IT systems to ensure compatibility with a new set of APIs and strengthening cybersecurity measures to ensure the safe transfer of financial data. Further, this will ensure seamless integration with third-party service providers and improve data security. A robust technological infrastructure allows banks to easily integrate open banking into their existing ecosystem and address the increasing need for online financial services. Furthermore, banks should enhance organizational readiness by ensuring that leadership supports digital transformation, providing adequate resources, and fostering a culture that embraces change. Banks should also prioritize training and development to equip employees with the skills to adopt open banking technologies. Lastly, although digital literacy was not the most important predictor of open banking adoption, it matters. Banks should continue to invest in employee training to prepare their staff to work with new technologies and promote the broader adoption of open banking systems.

5.6 Contributions of the Study

5.6.1. Contribution of the Study to Theory

The major contribution of this study is to the theoretical understanding of the adoption of open banking within Kenya's commercial banking sector. In the study, the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), were

incorporated to evaluate the factors leading to the adoption of open banking. Applying these models, the study shows that regulatory support, technological infrastructure, organizational readiness, and digital literacy influence open banking adoption. The dual-theory approach offers a holistic understanding of technology adoption in banking, especially in developing economies. Additionally, it expands existing literature by offering empirical insights on how these factors impact each other in advancing and determining the adoption of open banking in Kenya.

5.6.2. Contribution of the Study to Academia

From an academic point of view, this study will fill an important gap in existing open banking adoption literature based in Kenya and other developing nations. Despite most existing research focusing on industrialized countries with well-developed regulatory frameworks, this research presents new opportunities and challenges that Kenyan commercial banks face. The study employs quantitative research, providing empirical data which shows how regulatory support, technology infrastructure, organisational readiness, and digital literacy affect the adoption of open banking. It also provides a complete understanding of commercial bank's adoption process in a developing economy while examining the intersection of these factors. This work can be informative to future studies aimed at understanding open banking and digital banking adoption in emerging markets.

5.6.3. Contribution of the Study to Policy

From a policy perspective, the study is critical as it can provide insights into the need for regulatory bodies to provide an enabling regulatory environment for open banking in Kenya. Evidently, the absence of a clear regulatory framework is a major obstacle to open banking adoption. As per the findings, clear, comprehensive, and enforceable rules in place, particularly those concerning data privacy, consumer protection, and innovation, are critical determinants for open banking adoption. As such, the study emphasizes the need for regulators to have frameworks in place that encourage secure data-sharing protocols while enticing banks to invest in the needed technological infrastructure to aid open banking adoption. The study also stresses the importance of regulatory flexibility that enables innovation while protecting consumer data security and privacy. Apart from this, the government should encourage banks, FinTech companies, and regulatory bodies to collaborate in creating an ecosystem that facilitates open banking. Policymakers can foster a supportive regulatory environment to propel technological infrastructure and organizational readiness to encourage competition, innovation, and better financial services.

5.7. Limitations of the Study

While the study provides valuable insights, several limitations were notable. The first limitation was that data collection was restricted to commercial banks in Nairobi, making the findings not generalisable to other regions of Kenya. This study also considered limited variables, including regulatory support, technological infrastructure, organisational readiness, and digital literacy. It did not consider other factors influencing open banking adoption, such as consumer trust and security. Furthermore, the study relied on self-reported data, which may have introduced biases.

5.8. Suggestions for Future Research

Future research should expand the scope by examining additional regions in Kenya to understand other factors that affect open banking adoption. This would give a broader view of how adoption could be different in various geographical locations where regional differences in infrastructure, regulations, and a bias in consumer behavior could be expected. Future studies may extend these results by examining other variables, such as consumer trust, competition, and financial inclusion, among others that may influence adoption. Qualitative research methods such as interviews, case studies, and ethnographic research should also be used to explore the experiences of banks that have already embraced open banking. This would help provide deeper insights into the challenges and opportunities linked with implementing open banking in Kenya.

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VT OMNES VNVM SINT

APPENDIX I: TRANSMITTAL LETTER

Alex Mbuthia Wokabi,

Strathmore Business School,

P.O Box 59857-00200,

Nairobi, Kenya.

(Date)

Dear Sir/ Madam

RE: REQUEST FOR YOUR PARTICIPATION IN MY STUDY

I am currently pursuing a Master's degree at Strathmore University. As part of my program's requirements, I am conducting a study titled: *"Factors Influencing the Adoption of Open Banking by Employees of Commercial Banks in Kenya."* The goal of this research is to examine the specific factors influencing open banking adoption. Mainly, this study focuses on organisational readiness, technological infrastructure, regulatory support, and digital literacy.

I kindly request your assistance in completing the attached questionnaire. Your participation is entirely voluntary, and I will ensure that your responses are handled with utmost confidentiality. The information you provide will only be used for academic and research purposes. Your insights will contribute significantly to the understanding of open banking adoption, and its potential impact on Kenya's banking sector.

Thank you for your valuable input and time. Please do not hesitate to contact me in case you have any questions.

Yours faithfully,

Alex Wokabi

Alex.wokabi@strathmore.edu

Strathmore University.

APPENDIX II: QUESTIONNAIRE

I appreciate your willingness to participate in this study titled; *Factors Influencing the Adoption of Open Banking by Employees of Commercial Banks in Kenya.* This questionnaire is divided into five sections. Each section assesses a specific construct using a Five-point Likert scale. For the independent and dependent variables, the scale ranges from 1 (Strongly Disagree) to 5 (Strongly

Agree), whereby 1=Strongly disagree, 2= disagree, 3= Neutral, 4= Agree, 5=Strongly Agree). All data collected was treated with high levels of confidentiality and used solely for academic purposes.

PART 1: General Information

1. What is your gender?

- Male ( ) Female ( )

2. What is your age group?

- 18 – 25 ( ) 26 – 35 ( ) 36 – 45 ( ) 46 – 55 ( ) 56 – 65 ( ) 66 – older ( )

3. What is your highest education level?
    - Certificate ( ) Undergraduate ( ) Graduate level ( ) Post-graduate level ( )
4. Which banking tier does your employer fall under?
    - Tier 1 (Large established banks) ( )
    - Tier 2 (Medium-sized banks)
    - Tier 3 (Small banks)
5. What is your work experience level?
    - 0-3 years ( ) 4 – 7 years ( ) 8 – 10 years ( ) Over ten years ( )
6. What is your department in your organisation?
        - Information Technology (IT) ( )
        - Customer Relations /Experience / Support ( )
        - Operations ( )
        - Compliance ( )
        - Marketing ( )
        - Finance ( )
        - Products ( )
        - Digital Channels ( ) Other ( )

PART 2: Organisational Readiness

Kindly indicate your level of agreement with the following statements on the readiness of your commercial bank to adopt open banking services in box 1, 2, 3, 4, or 5,

where 1=Strongly disagree, 2= Disagree, 3= Somewhat agree, 4=Agree, 5=Strongly agree

Statement	1	2	3	4	5

7. My organization is flexible in allocating adequate financial and human resources to adopt open banking. 8. My bank is flexible in allocating adequate IT infrastructure resources necessary for open banking					
9. My bank has a well-established way of sharing ideas to engage with innovations like open banking.					
10. My bank has a decentralized decision-making process that facilitates the engagement of all business areas to use the IT infrastructure for open banking.					
11. My bank takes reasonable risk assessment of engaging IT to facilitate innovations.					
12. Our bank's strategic goals are clear to me when engaging the technology infrastructure to facilitate open banking.					
13. Our bank's strategic goals are relevant to me when facilitating open banking.					
14. I am well aware of our organizational strategic goals regarding open banking adoption.					
15. Enterprise systems in my banks are stable, up-to-date, and reliable.					
16. I have access to a range of new technologies like cloud, mobile, open banking, and big data					

PART 3: Technological Infrastructure

Kindly indicate your level of agreement with the following statements which seek to determine the role of technological infrastructure in ensuring open banking adoption in your bank in box 1, 2, 3, 4, or 5, where 1=Strongly disagree, 2= Disagree, 3= Somewhat agree, 4=Agree, 5=Strongly agree

Statement	1	2	3	4	5
17. Technological infrastructure is considered crucial in open banking implementation and adoption					
18. Technology infrastructure is a modern infrastructure that enable sharing of information technology capabilities upon which banks depend.					
19. Underestimating the importance of information security can lead to unauthorized access to sensitive data and loss of trust which can lead to failure in open banking utilization					
20. IT standards are crucial for adoption of open banking. IT standards are specifications for hardware and software that are widely used and accepted or sanctioned by a standard organization					
21. Telecommunication infrastructure required to enable sharing of information is inadequate.					

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PART 4: Regulatory Support

Kindly indicate your level of agreement with the following statements which depict the extent of regulatory support available for banks to adopt open banking services in box 1, 2, 3, 4, or 5, where 1=Strongly disagree, 2= Disagree, 3= Somewhat agree, 4=Agree, 5=Strongly agree

Statement	1	2	3	4	5

22. Regulatory support is important to control the cost related to adoption of open banking.					
23. The government should create specific regulations to control the quality of services that banks provide through the adoption of open banking.					
24. Creating specific government regulations related to the security aspects of open banking adoption is critical.					
25. Creating specific government regulations related to privacy aspects and open banking adoption is critical.					
26. Flexibility of government regulations make adoption of open banking easier.					
27. Government-based facilitating conditions intensify or amplify the adoption of open banking					
28. Firm-based facilitating conditions strengthen the adoption of open banking.					

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PART 5: Digital Literacy

Kindly indicate your level of agreement with the following statements depicting the level of digital literacy by employees of your bank in box 1, 2, 3, 4, or 5, where 1=Strongly disagree, 2= Disagree, 3= Somewhat agree, 4=Agree, 5=Strongly agree

Statement	**1**	**2**	**3**	**4**	**5**

29. Personnel and programs are in place for training on adoption of innovations such as open banking					
30. Programs exist for continuous education on new bank products, such as open banking.					
31. ICT/Internet is readily used in continuous education and training					
32. Our staff members have the appropriate knowledge (i.e., technical, business process, and organizational) to facilitate open banking adoption					
33. Our staff members have the appropriate skills to facilitate open banking adoption.					
34. Our staff members have the appropriate adaptability to facilitate open banking adoption					
35. I can comfortably use digital tools and technologies for collaborative processes					
36. There is general comfort among staff in using technology to facilitate open banking.					

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PART 6: Adoption Intention

Kindly indicate the likelihood of adoption of open banking based on the following statements in box 1, 2, 3, 4, or 5, where 1=Strongly disagree, 2= disagree, 3= Neutral, 4= Agree, 5=Strongly Agree

Statement	1	2	3	4	5
37. I believe that adoption of open banking is a good idea					
38. I think that adoption of open banking is an appealing idea					
39. I believe that adoption of open banking is beneficial for monetary transactions					
40. I intend to use open banking technology for my banking transactions					
41. I expect my bank to adopt open banking technology in the future					
42. I am likely to suggest to my colleagues to use open banking technology offered by banks.					
43. My bank is willing to spend resources to understand how to use and implement open banking.					

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APPENDIX III: TARGET POPULATION

Bank Tiers	Bank Name	Branches (Population)	% of Total

Large (Tier 1)	ABSA Bank Kenya PLC	85	
	Co-operative Bank of Kenya Limited	155	
	Equity Bank Kenya Limited	191	
	I&M Bank Limited	41	
	KCB Bank Kenya Limited	198	
	NCBA Bank Kenya PLC	60	
	Standard Chartered Bank Kenya Limited	31	
	Total for Tier 1	**761**	**53.48%**
Medium (Tier 2)	Bank of Africa Kenya Limited	30	
	Bank of Baroda (Kenya) Limited	14	
	Bank of India	5	
	Citibank N.A Kenya	3	
	Diamond Trust Bank Kenya Limited	70	
	Ecobank Kenya Limited	18	
	Family Bank Limited	91	
	Guaranty Trust Bank (K) Ltd	9	
	National Bank of Kenya Limited	79	
	Prime Bank Limited	20	
	Stanbic Bank Kenya Limited	25	
	Total for Tier 2	**365**	**25.65%**
Small (Tier 3)	Access Bank (Kenya) PLC	28	
	African Banking Corporation Limited	13	
	Consolidated Bank of Kenya Limited	18	
	Credit Bank PLC	18	
	Development Bank of Kenya Limited	2	
	DIB Bank Kenya Limited	5	
	First Community Bank Limited	18	
	Guardian Bank Limited	19	
	Gulf African Bank Limited	17	
	Habib Bank A.G Zurich	4	
	Kingdom Bank Limited	27	

	Middle East Bank (K) Limited	4	
	Mayfair CIB Bank Limited	6	
	M-Oriental Bank Limited	8	
	Paramount Bank Limited	7	
	SBM Bank Kenya Limited	45	
	Sidian Bank Limited	42	
	Spire Bank Ltd	12	
	UBA Kenya Bank Limited	3	
	Victoria Commercial Bank PLC	5	
	Total	**297**	**20.87%**
	Total of Tier 1, Tier 2, and Tier 3	1423	100%

Source: (Central Bank of Kenya, 2024).

APPENDIX 1V: ETHICAL REVIEW APPROVAL

Strathmore UNIVERSITY

14th March 2025

Mr. Alex Wokabi,
Alex.Wokabi@strathmore.edu

Dear Mr. Wokabi,

RE: The influence of market and firm factors on adoption of open banking by employees of commercial banks in Kenya.

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** proposal. Your application reference number is **SU-ISERC2692/25.** The approval period is from **14th March 2025 to 13th March 2026.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used.
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-ISERC
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-ISERC within 72 hours of notification.
iv. Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-ISERC within 72 hours.
v. Clearance for the export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days of completion of the study to SU-ISERC.

Before commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology, and Innovation (NACOSTI) https://research-portal.nacosti.go.ke/ and obtain other clearances needed.

Yours sincerely,

Mr Ambrose Rachier,
Chairperson; SU-ISERC

Ole Sangale Rd, Madaraka Estate. PO Box 59857-00200, Nairobi, Kenya. Tel +254 (0)703 034000
Email admissions@strathmore.edu www.strathmore.edu

APPENDIX V: NACOSTI RESEARCH PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **291114**

Date of Issue: **27/February/2025**

RESEARCH LICENSE

This is to Certify that Mr.. Alex Mbuthia Wokabi of Strathmore 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: THE INFLUENCE OF MARKET AND FIRM FACTORS ON ADOPTION OF OPEN BANKING BY EMPLOYEES OF COMMERCIAL BANKS IN KENYA for the period ending : 27/February/2026.

License No: **NACOSTI/P/25/416388**

291114

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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See overleaf for conditions