

**INFLUENCE OF FINANCIAL NOVELTIES ON PERFORMANCE OF  
COMMERCIAL BANKS IN TRANS NZOIA COUNTY, KENYA**

**MAMER PANCHOL**



**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE  
REQUIREMENT FOR THE AWARD OF MASTER DEGREE IN BUSINESS  
ADMINISTRATION OF**

**MOUNT KENYA UNIVERSITY**

**MAY 2024**

## DECLARATION AND APPROVAL

### Declaration by the Student:

This research project is my original work and has not been presented for a degree in any other university or for any other award.

Signature: 

Date: 21/04/2024

MAMER PANCHOL

MBA/2023/41191

### Approval by Supervisor:

I affirm that the work reported in this research project was carried out by the candidate under my own supervision.

Signature...  .....

Date: 21/05/2024

**Dr. RUTHWINNIE MUNENE, Ph.D.**

**School of Business and Economics**

**Mount Kenya University**

## **DEDICATION**

This work is dedicated to Mrs. Lotuliatum whose support have been the foundation of my journey. You are my inspiration and my rock.



## **ACKNOWLEDGMENT**

I would like to express my sincere gratitude to God for the successful completion of this project. I want to convey my heartfelt thanks to my supervisor, Dr. Ruthwinnie Munene PhD, for her guidance, valuable insights, and unwavering support throughout the project. Your expertise has been invaluable. I am also grateful to my colleagues and team members at Mount Kenya University and Mnagei Secondary school for their collaboration and dedication. Your collective efforts played a significant role in achieving the project's objectives.

Appreciation also to my friends and mentors Mr. Dancan Otieno, Jacob Matiop Mayen and Sarah Ayuen Dot , my sister Ayen Panchol, my Aunt Grace Anyier Malou and family for their support .

Thank you to everyone who played a part in this project's success.

## **ABSTRACT**

The rapid evolution of financial innovations, including digital banking platforms, fintech partnerships, blockchain technologies, and automated trading systems, has significantly

reshaped the operational landscape of commercial banks. In this era of financial revolution, from contactless payments to robot-advisors, cryptocurrencies, fintech innovations, and decentralized finance are becoming ubiquitous, traditional banks face a pivotal crossroads. This research project aims to unravel the impact of these financial novelties on performance of commercial banks in Trans Nzoia County, Kenya. Precise objective includes; influence of global connectivity, online trading, diversification and artificial intelligence (AI) on the performance of commercial banks in Trans-Nzoia County Kenya. The study was anchored on Innovation Diffusion and Schumpeterian Innovation Theories. The study utilized a descriptive research design. A sample size of 136 respondents was determined from a target population of 207 people using Yamane's formulae. Questionnaires were used in collecting data. The data was presented using tables. The instruments were tested for reliability using Cronbach's Alpha Reliability test while content validity was assessed using expert opinion. The study employed both descriptive and inferential statistics in analysis and used correlation and regression analysis as key analytical models. Results established varied disparities in performance of commercial banks. Regression results demonstrated that financial novelties (global connectivity, online trading, diversification, and artificial intelligence) all had statistically significant influence on performance of commercial banks. The Coefficient of Determination or R square stood at 0.734, which implied that 73.40% of the variation in the performance of commercial banks was explained by variability in the variables under financial novelties (global connectivity, online trading, diversification, and artificial intelligence). Pearson Correlation Analysis results further demonstrated a positive relationship between global connectivity, online trading, diversification, and artificial intelligence to improve financial novelties on performance of commercial banks. The study recommends more pursuit of financial novelties as demonstrated in the Innovation Diffusion, Schumpeterian Innovation Theory, Intermediation theory and Agency theories of financial novelties to enhance performance of commercial banks. Top Management of commercial banks in Trans Nzoia County, Kenya should embrace on the technologies that improves financial novelties in order to enhance performance of commercial banks in Trans Nzoia County, Kenya.

## TABLE OF CONTENTS

<b>DECLARATION AND APPROVAL .....</b>	<b>I</b>
<b>DEDICATION .....</b>	<b>II</b>
<b>ACKNOWLEDGMENT .....</b>	<b>III</b>
<b>ABSTRACT .....</b>	<b>IV</b>
<b>TABLE OF CONTENTS .....</b>	<b>V</b>
<b>LIST OF TABLE .....</b>	<b>IXX</b>
<b>LIST OF FIGURES .....</b>	<b>X</b>
<b>LIST OF ACRONYM AND ABBREVIATIONS .....</b>	<b>XII</b>
<b>CHAPTER ONE: INTRODUCTION .....</b>	<b>12</b>
1.0 Introduction .....	12
1.1 Background to the Study .....	12
1.2 Statement of Problem .....	15
1.3 Purpose of the Study .....	16
1.4 Objectives of the Study .....	16
1.5 Research Question .....	16
1.6 Significant of the Study .....	17
1.7 Scope of the Study .....	18
1.8 Delimitations of the Study .....	18
1.9 Limitation of the Study .....	18
1.91 Operational Definition of Key Terms .....	19

<b>CHAPTER TWO LITERATURE REVIEW .....</b>	<b>20</b>
2.0 Introduction .....	20
2.1 Theoretical Framework .....	20
2.1.1 Innovation diffusion theory .....	20
2.1.2 The Schumpeterian Innovation Theory .....	<b>Error! Bookmark not defined.</b>
2.1.3 Financial Intermediation Theory.....	20
2.1.4 Agency Theory.....	21
2.2 Empirical Review .....	22
2.2.1 Global Connectivity and Performance of Commercial Banks .....	22
2.2.2 Online Trading on the Performance of Commercial Banks .....	23
2.2.3 Diversification and Performance of Commercial Banks .....	25
2.2.4 Artificial Intelligence and Performance of Commercial Banks .....	25
2.3 Conceptual Framework .....	31
2.4 Research Gaps .....	31
2.5 Research Summary.....	32
<b>CHAPTER THREE: RESEARCH METHODOLOGY .....</b>	<b>33</b>
3.0 Introduction .....	33
3.1 Research Methodology.....	34
3.2 Research Design .....	34
3.3 Location of the Study .....	35
3.4 Targeted Population .....	35
3.5 Sampling and Sample Size Procedure.....	36
3.6 Data Collection Instruments .....	37

3.7 Validity and Reliability of Research Instruments .....	37
3.7.1 Validity of Research Instruments .....	37
3.7.2 Reliability of Research Instruments .....	38
3.7.3 Pilot Study .....	38
3.8 Data Collection Procedure .....	40
3.9 Data Analysis .....	40
3.10 Ethical Considerations .....	42
<b>CHAPTER FOUR .....</b>	<b>43</b>
<b>DATA ANALYSIS, PRESENTATION AND DISCUSSION .....</b>	<b>43</b>
4.0 Introduction .....	43
4.1 Response Rate .....	<b>Error! Bookmark not defined.</b>
4.2 General Information .....	43
4.2.1 Distribution of Respondents by Gender .....	44
4.2.2 Respondents' Age .....	44
4.2.3 Distribution of Respondents by Level of Education .....	45
4.2.4 Distribution of Respondents by Years of Experience .....	46
4.3 Descriptive Statistics .....	46
4.3.1 Global Connectivity and Performance of Commercial Banks .....	47
4.3.2 Online Trading and Performance of Commercial Banks .....	50
4.3.3 Diversification and Performance of Commercial Banks .....	52
4.3.4 Artificial Intelligence and Performance of Commercial Banks .....	54
4.4 Inferential Analysis .....	59
4.4.1 Correlation Analysis .....	59

4.4.2 Regression Analysis .....	60
<b>CHAPTER FIVE .....</b>	<b>63</b>
<b>SUMMARY, CONCLUSION AND RECOMMENDATIONS .....</b>	<b>63</b>
5.0 Introduction .....	63
5.1 Summary of the Findings .....	63
5.1.1 Global Connectivity and Performance of Commercial Banks .....	63
5.1.2 Online Trading and Performance of Commercial Banks .....	64
5.1.3 Diversification and Performance of Commercial Banks .....	64
5.1.4 Artificial Intelligence and Performance of Commercial Banks .....	65
5.2 Conclusions .....	66
5.3 Recommendations .....	66
5.4 Suggestions for Further Study .....	67
<b>REFERENCES .....</b>	<b>1</b>
<b>APPENDICES .....</b>	<b>3</b>
Appendix I: Consent Form .....	3
Appendix II: Questionnaire .....	4
Appendix III: List of Commercial Banks in Trans Nzoia County .....	15
Appendix IV: <b>University Ethical Clearance Certificate</b> .....	13
Appendix V: Introductory letter .....	14
Appendix VI: <b>NACOSTI Research Permit</b> .....	15
Appendix VIII:Authourization Letter from County Commissioner.....	16
Appendix IX:Authourization Letter from County Director of Education.....	17
<b>LIST OF TABLE</b>	

Table 1: Target Population .....	35
Table 2: Sample Size .....	36
Table 3: KMO and Bartlet’s Test Results .....	37
Table 4: Reliability Test Results .....	39
Table 5: Operationalization of Variables .....	41
Table 6: Respondents Response Rate .....	43
Table 7: Gender of the Respondents .....	44
Table 8: Age of the Respondents .....	44
Table 9: Education Level of Respondents .....	45
Table 10: Respondents Experience .....	46
Table 11: Global Connectivity .....	47
Table 12: Online Trading .....	50
Table 13: Diversification and Performance of Commercial Banks .....	52
Table 14: Artificial Intelligence and Performance of Commercial Banks .....	54
Table 15: Correlation Analysis .....	59
Table 16: Model Summary .....	60
Table 17: ANOVA.....	61
Table 18: Coefficients <sup>a</sup> .....	61

**LIST OF FIGURES**

Figure 1: Conceptual Frame Work.....	14
--------------------------------------	----

**LIST OF ACRONYM AND ABBREVIATIONS**

<b>B2B</b>	: Business to Business
<b>CBK</b>	: Central Bank of Kenya
<b>CEO</b>	: Chief Executive Officer
<b>CFO</b>	: Chief Finance Officer
<b>GCC</b>	: Green Channel Counter
<b>GDP</b>	: Gross Domestic Product

<b>KCB</b>	: Kenya Commercial Bank
<b>NPD</b>	: Net Domestic product
<b>SRS</b>	: Stratified Random Sampling
<b>SPSS</b>	: Statistical package for social science
<b>USA</b>	: United States of America



## CHAPTER ONE: INTRODUCTION 1.0 Introduction

This chapter expounds on the background of the study, statement of the problem, purpose of the study, specific objectives, research hypotheses, scope and the justification of the study and operational definition of key terms.

### 1.1 Background to the Study

Bank upgrades are important. They shape today's bank system. These changes help banks adapt to market shifts, meet customer needs, and stay competitive.

Commercial banks' success can be gauged in different ways. These methods can be split into two main groups: financial and non-financial (Inta Kotane, 2015). On one side, financial figures like profitability, debt reduction, liquidity, solvency, and the overall financial wellbeing of the bank can be pivotal. On the other side, non-financial standards are also relevant (Yuliansyah, Shahril & Razimi, 2015). Such measures take into consideration the value to shareholders, the bank's standing in the market, sales, customer growth and repetition, product or service innovation, swift customer service or delivery timeline, productivity efficiency, new abilities employees have acquired, and how many employees work for the bank (Muhlbacher, Siebenaler & Wurflingsdobler, 2016).

Brexit's effects have left a lot of doubt across the world for banks in the UK, the EU, and even the USA. The future is uncertain, so banks must act firmly to keep making money (Global banking report, 2017). To do this, they need to be innovative. Yet innovation isn't simple – banks must deal with several new changes. These include new regulations, new business models and technology, new rivals, and tougher clients. They also need to find new methods to grow steadily (Deloitte, 2018). The changes aren't just global. They also affect both large and small banks all over the world. Some banks have had to change how they deal with markets and customers. But these changes might not always be due to understanding their customers or markets. Sometimes, it's simply because of new regulatory rules (GBR, 2017).

In a piece by Rajmal, Pallavi Chavan, Radheshyam Verma, and Anwesha Das in 2017 about banking globally, they think that how the financial plan of the world changes will set the course for the world's financial system.

Grameen Bank in Bangladesh is making a big difference. This bank helps people who don't have much money and those who are starting their own small businesses. The bank does this by offering small loans, savings programs and insurance services. The aim is to fight against poverty. This also encourages people to take up business activities. In simple words, it's boosting the growth of microfinance institutions and promoting a culture of entrepreneurship.

The Indian economy relies heavily on its service sector (RBI, 2018). The country's banks are well promoted, getting enough cash (RBI, 2018). In 2013, India put modern money ideas into action with easy payment systems and low-cost banks (Tejasvita, 2013). In September 2018, the Government of India launched a new bank, the India Post Payments Bank (IPPB). This was done to make sure everyone could access their money. It also changed the way financial services and government work.

In USA the rise of financial technology (Fintech) has transformed the financial sector and led to introduction of new services such as peer-to-peer lending platforms. Introduction of Mobile payment such as PayPal, contactless payment, mobile wallets and instant payment has enhanced globalization and secured payment. Other novelties include; introductions of robo-advisor such as Wealthfront, digital banking services such as Chime and cryptocurrency led by Bitcoin.

In the USA, new tech in finance, or "Fintech", has changed the world of money. It's brought us new ways to lend money, like platforms where people lend to each other. We also have new ways to pay on our phones, like PayPal or 'tap to pay' services. Paying with our phones is safer and also makes shopping a worldwide thing. There are even robot advisors, called "robo-advisors", such as Wealthfront, for investing money. Banks have turned digital too, like Chime. And let's not forget the rise of digital money led by Bitcoin. All these are pretty cool, aren't they?

The money world in China has seen a big change since the start of new policies and opening up to the world (Rajmal, PallaviChavan, Verma, and Das, 2017). The financial moves in China are led by a powerful money sector, which has a key role to fund the country's economy over the years.

China is one of the top countries when it comes to growing the money market (Min, Weidong, Jingong & Xinzhe, 2018). The Greek bank industry has also seen a lot of changes with new

freedom, advancements in tech, and fierce competition, all of which have changed how banks work (Alexiou & Sofokus, 2009).

Kenya is home to 39 banks. These banks own about 2,825 cash machines. These machines, also known as ATMs, are mostly found in cities. In a place called Trans Nzoia County, there are 14 of these banks.

The banking world in Kenya has seen many shifts recently. These changes come from new government rules, updates in technology, and stronger rivalry. Some competition even comes from phone companies, small finance businesses, and savings and credit groups. The economy is also rough, and customers' tastes are changing. However, mobile banking is providing a new way for customers. It allows them to put away their money and get loans. (Muisyo, Alala & Musiega, 2014)

Mobile banking and bank services have made it possible for users to manage money with their phones. They can send and receive money, and pay for things like utilities. This is a big help because it's so easy to get to this service. Plus, M-pesa agents are everywhere, even in the most out-of-the-way places (Ashta, 2011). Another great thing is M-Shwari. This service lets people save money in special lock saving accounts. These accounts keep you from overspending.

Mobile banking is super cool. You can save money, put more in, and even take some out—all with your phone! It's like having a bank in your pocket all the time (Nicoletti, 2014).

Neat stuff in finance keeps popping up, which makes things interesting. New ways to invest your money, fancy tech solutions for money matters, and fresh rules to keep everything fair are all part of the picture. It's like a vast landscape that just keeps changing and growing! This brings a truckload of chances for different ways to work with money. What this means is that the finance world is a lot more interesting and complex. Teamwork and adapting quickly were the keys to making the most of these hot-off-the-press ways of dealing with finance. With them, the future of finance can be pretty solid, include everyone, and keep an eye on what's around the corner.

Financial performance is the profitability of a business enterprise measured through various measures mostly return on assets and return on equity. Profit-seeking enterprises and individuals are constantly seeking new and improved products, processes, and organizational structures that will reduce their costs of production, better satisfy customer demands, and yield greater profits.

Sometimes this search occurs through formal research and development programs; sometimes it occurs through more informal "tinkering" or trial and error efforts. When successful, the result is an innovation. The consequences of financial innovation in terms of the pay-offs to the innovators and the impact on society as a whole has been a subject for theoretical literature. Innovation generally does seem to have positive effects in raising financial performance of innovators (Boot, & Thakor, 2007)

## **1.2 Statement of Problem**

Understanding the changing financial world, lots of banks use new finance tools and tech solutions. This changes how they work, making them work better, expanding their services for customers, and reducing risk by looking at data. But this has different results with the commercial bank.

For example, the annual real GDP of commercial banks dropped. It went from 7.6 billion in 2021 to 6.2 billion in 2022. By the start of 2023, it was 5.3 billion. This is based on the CBK Annual Report and Financial Statement 2022/2023. Next, the Net Domestic Credit (NDC) also fell. It went from 740 billion in 2022 to 634.4 billion in early 2023. Again, this information is in the CBK Annual Report and Financial Statement for 2022/2023.

According to the CBK Annual report and financial statement for 2022/2023, there's been a drop in numbers. Deposit accounts held fell from 66,315,699 in 2022 to 64,022,315 in 2023. The value of business facilities also decreased. It was 376 billion in 2021, dropped to 365.6 billion in 2022 and further to 360 billion in the first quarter of 2023.

In 2022, small banks owned 8.58% of the market. This was less than in 2021, when they had 8.82% ((CBK Annual report 2022). Medium-sized banks also had less in 2022. They went from owning 16.41% of the market in 2021 to owning 16.29% ((CBK Annual report 2022).

For example, as of June 2020, the net profit margin for the last twelve months for high street banks was roughly 13.9%. That's a significant drop from June 2019, when the net profit margin for these banks stood at a high 27.6%. Strangely enough, this dipped number has been slowly climbing back up from 2021 to 2022, but still remains under 20%. On the flip side, their European and Asian counterparts operate at a healthier margin of 20%. This discrepancy points to something wrong with Kenyan banks' efficiency. The aim of this research is to delve into these troubling differences. The hope is to offer valuable insights that could bridge the gap, serving as the foundation for smarter strategies or policies to boost the performance of banks in Trans Nzoia County.

### **1.3 Purpose of the Study**

This study explored the influence of financial novelties on performance of commercial banks in Trans Nzoia County -Kenya

### **1.4 Objectives of the Study**

This study was hinged on the following specific objectives:

- i. To assess the effect of global connectivity on performance of commercial banks in Trans-Nzoia County Kenya
- ii. To examine the effect of online trading on the performance of commercial banks in Trans-Nzoia County Kenya
- iii. To analyse the effect of diversification on the performance of commercial banks in Trans-Nzoia County Kenya
- iv. To determine the effect of artificial intelligence (AI) on performance of commercial banks in Trans-Nzoia County Kenya

### **1.5 Research Question**

- i. What is the effect of global connectivity on the performance of commercial banks in Trans-Nzoia County Kenya?
- ii. How does online trading affect the performance of commercial banks in Trans-Nzoia County Kenya?
- iii. How does diversification affect the performance of commercial banks in Trans-Nzoia County Kenya?
- iv. What is the effect of artificial intelligence on the performance of commercial banks in Trans-Nzoia County Kenya?

## 1.6 Significant of the Study

**The Business Sector; Provides** the management with a reference point on how financial novelties can significantly influence the performance of commercial banks, and this, in turn, can impact businesses in various positive ways. Businesses can benefit from a wider range of financial services, increased efficiency, better risk management, and improved access to capital and global markets. Therefore, staying abreast of financial novelties and leveraging them to enhance business operations can be crucial for success in today's dynamic financial landscape.

**The Government;** findings of the study, will act as guidance to the government in founding changes that would make investment in novelties worth. The financial industry is undergoing rapid transformation due to technological advancements and innovative financial products. By examining how these financial novelties impact the performance of commercial banks, this research contributes to a deeper understanding of current market dynamics and helps identify trends that may shape the future of banking.

**Public Sector and Customers;** its bans has a ripple effect that positively impacts the public sector and customers. It led to more accessible, affordable and user-friendly financial services, foster financial inclusion, enhances data security and contributes to economic growth, ultimately improving the overall financial well-being and quality of life for public sector and customers

### **Banking Sector**

Financial novelties have a profound effect on the performance of commercial banks within the banking sector. These novelties can enhance the competitiveness, efficiency and overall performance of commercial banks in various ways that contributes to the development and transformation of the banking sector

## 1.7 Scope of the Study

The study was covered Commercial Banks in Trans Nzoia County-Kenya both the local and the foreign owned commercial banks. There are 14 Commercial Banks in Trans Nzoia County Kenya. The study will limit its scope to the Tier 1, 2 and 3 banks in Trans Nzoia County Kenya. Conceptual scope of this study was limited to financial novelties which include global connectivity and bank network, online trading, diversification and securitization and data analytics and artificial intelligence (AI) on the performance of commercial banks in Trans-Nzoia County Kenya

The views of the diffusion of innovation theory and The Schumpeterian innovation theory would be incorporated in this study.

### **1.8 Delimitations of the Study**

This study will analyse the influence of financial novelties contactless payments, roboadvisors, cryptocurrencies, fintech novelties, on the performance of Commercial Banks in Trans Nzoia County, Kenya. The conceptual scope of this study was limited to financial novelties which include global connectivity, securitization of banks, online trading, diversification and accomplishments of Commercial Banks in Trans Nzoia County Kenya as the dependent variable. This study will cover a period of 1 year (May 2023 to May 2024) **1.9**

### **Limitation of the Study**

The respondents may hold vital information which to them appear to be confidential and sensitive. To counter the possibility of respondents withholding vital information, the purpose of the study was clarified to the management and to the respondents.

Inadequate literature review the researcher will utilize available literature

## 1.91 Operational Definition of Key Terms

**Business novelties;** business novelties refer to a process in which an organization introduce new ideas, services or products.

**Block chain technology;** Block Chain technology refers to a distributed ledger that allow for exchange of value between parties

**Cryptocurrency;** A digital asset based on a network that is dispersed among several computers is called a cryptocurrency. They are able to function independently of governments and other central authority because of their decentralized nature. The encryption methods used to protect networks are the source of the term "cryptocurrency."

**Financial instruments;** Financial instruments are tradable assets or contracts that represent a financial value. These instruments can be categorized into two main types: cash instruments and derivative instruments.

**Financial novelties;** Financial novelties is the process of introducing new financial products..

**Mobile banking:** commonly known as M-banking refers to use of a mobile phone to carry out banking activities such as withdrawal and deposit of funds, payment of bills.

**Novelties;** Refers to new and innovative developments or instruments within the financial sector. These could include emerging technologies, regulatory changes or innovative approaches to financial services.

## CHAPTER TWO LITERATURE REVIEW

## **2.0 Introduction**

This chapter expounds on theoretical framework, empirical review, Conceptual framework, gaps and recap.

### **2.1 Theoretical Framework**

The chapter was guided by the following theories;

#### **2.1.1 Innovation Diffusion Theory**

The theory explains how and reason for spreading financial novelties. It compounds on the adoption of new products, idea and technologies within the banking system. In context of financial innovation, the theory helps in broadening the new financial products, services or technologies invented since it as aimed at considering the behaviour and preference of different segments of users and aid in developing strategies to facilitate the adoption of diffusion of these financial novelties in the banking sectors. Its explanation ascertains why and rate which new technologies spread.

The Innovation Diffusion Theory provides a framework for understanding how financial novelties are adopted within the financial sector, considering factors such as perceived advantages, compatibility, observability, and the characteristics of different adopter categories. This contextualization aids in developing effective strategies for the introduction and diffusion of financial innovations.

#### **2.1.2 The Schumpeterian Innovation Theory**

The theory was named after economist Joseph Schumpeter and the theory emphasises the role of novelties in spearheading economic growth .the theory denotes that financial novelties as a crucial factor in the creative destruction process where new concept are replacing the outdated ones in this research study Schumpeterian theory can be applied to understand the role of financial novelties and the impact of replacing old with new technologies for instance the emergency of block chain technology and fintech represents novelties that has reshape the financial institutions. Schumpeter proposed that novelties are a key driver of economic development and that the entrepreneur plays a central role in introducing new ideas, products, and methods.

The Schumpeterian Innovation Theory provides a lens through which we can understand the dynamic nature of financial novelties. It emphasizes the entrepreneurial spirit in driving innovation, the disruptive effects of new ideas on existing financial structures, and the cyclical patterns inherent in the evolution of the financial industry. The Schumpeterian Innovation Theory provides a compelling context for understanding how financial novelties can influence the performance of banks. By embracing entrepreneurial dynamics, adapting to creative destruction, engaging with various types of financial innovation, and navigating the cyclical nature of change, banks can position themselves to thrive in an evolving financial landscape.

### **2.1.3 Financial Intermediation Theory**

The theory explains the role of banks as intercessors between savers and borrowers. As online trading grows, banks extend their intermediation role by offering platforms for retail and institutional clients to trade securities, commodities, and other financial instruments online. Commercial banks offer digital trading services, acting as intermediaries in financial markets through advanced trading platforms and algorithms. They help clients invest in stocks, bonds, forex, and derivatives. The Theory highlights different aspects of how commercial banks engage in online trading, emphasizing the role of technology, market efficiency, and financial intermediation in this rapidly evolving sector. Its various key aspects include; Role of intermediaries, reduction of the cost, risk management, information asymmetry, liquidity provision and efficient capital allocation. In summary, Financial Intermediation Theory highlights how banks and other financial institutions facilitate the efficient functioning of financial markets by connecting savers with borrowers, reducing risks and transaction costs, and ensuring better allocation of resources within the economy.

### **2.1.4 Agency Theory**

Agency theory in commercial banks is critical because it highlights the potential conflicts of interest between shareholders and managers. By understanding the risks of moral hazard and adverse selection, banks can implement strategies such as incentive alignment, robust corporate governance, and monitoring systems to ensure that agents act in the best interests of principals. With the rise of AI, new tools are available to further reduce agency problems by providing realtime data, improving transparency, and supporting decision-making.

## 2.2 Empirical Review

### 2.2.1 Global Connectivity and Performance of Commercial Banks

Global connectivity refers to extent to which financial institutions are interconnected and encompasses seamless flow of information, capital and services across borders, facilitated by advancement in technology, communication and international financial system.

As the global market place continue to expand more businesses are taking advantage of cross border trade. In 2022, customers paid businesses around \$ 2.8trillion in cross border payment, while over \$ 150 trillion in B2B cross border payment occurred that year. (Article on cross border transaction 2023) However, sending and receiving payment across border can be a complex process with various regulatory requirement, fee, and risk to navigate. Despite these diversification, cross border payment is important for banks that want to expand into new market, reach new customers and diversify their new revenue stream and accelerate growth, Recently KCB went into a joint venture with Safaricom and expand their operations in Ethiopia.

You may wonder, what is financial innovation? Well, it's sort of a group of new things in the money world. For example, there are: 1. New products - things like adjustable rate mortgages (which let you change the rate of your home loan) and exchange-traded index funds (which let you invest in lots of stocks at once). 2. New services - here we have online securities trading (like buying and selling stocks on the internet), Internet banking (managing your money online), and mobile banking (managing your money on your phone). 3. New ways to make things - for instance, credit scoring (which is deciding if someone is good or bad with money). 4. New forms of organization - like agency banking (where agents handle banking services) and Internet-only banks (banks without physical branches you can visit). So, financial innovation is all about new stuff in the finance world.



Based on research from EFINA, a group that supports people in getting to use financial services, twenty out of every hundred Kenyans had a bank account and eight out of every hundred could use other official money services in 2006 (Mwangi,2007). Moving to 2011, twenty-three out of every hundred Kenyans had a bank account. Also, roughly nineteen out of every hundred used

other official services, particularly M-Pesa. The amount of people using M-Pesa to store and move money might be even higher today, with about 16 million people reportedly using it (Mwangi, 2011). This success has encouraged banks to act. Now, they don't charge as much to create an account, so more people can afford to have one. Based on research from EFINA, a group that supports people in getting to use financial services, twenty out of every hundred Kenyans had a bank account and eight out of every hundred could use other official money services in 2006. Moving to 2011, twenty-three out of every hundred Kenyans had a bank account. Also, roughly nineteen out of every hundred used other official services, particularly M-Pesa. The amount of people using M-Pesa to store and move money might be even higher today, with about 16 million people reportedly using it. This success has encouraged banks to act. Now, they don't charge as much to create an account, so more people can afford to have one.

Global connectivity has significantly impacted the performance of commercial banks. Some of the key aspects of how of its impacts include; Access to global market; it has allowed commercial banks to expand their investments opportunities, assets and currencies which has led to diversification and increase in profitability rate. Commercial banks are able to conduct transactions securely and effectively hence supporting global trade. Global connectivity has enhanced commercial banks to be more vigilant in mitigating risks which include currency fluctuation, political risks and regulatory risk associated with global trade. The interconnected nature of global financial system has driven commercial banks to withstand competition through adoption to innovative technologies through offering of new financial product and services.

### **2.2.2 Online Trading on the Performance of Commercial Banks**

Refers to the ability of customers to execute trades in financial instruments, such as stocks, bonds, or other securities, through the online platforms provided by banks. It's a service offered by many banks to allow their customers to participate in financial markets and manage their investments conveniently through digital channels.

Abdhul Rahim discovered the pitfalls related to online trading. He suggested that investors should be protected from all hassles and problems so as to remain confident while trading online. Madan Lal reviewed certain facts related to online brokers. He stressed upon the importance of online brokers and the problems they face while trading.

Right now, technology, particularly information and communication tech, is a major gamechanger in the banking business. This technology is driving growth in the economy. Thanks to ebanking systems, handling money matters have become less complicated as banks invest a lot on electronic and communication systems. Users, on their part, find e-banking super handy and uncomplicated to use (Adesina and Ayo, 2010). Changes in the banking business pick up speed because of tech developments, intense competition, worldwide reach, and evolving social norms. This includes making customers more active and improving convenience (Loonam & O'Loughlin, 2008).

Chung and Dutta (2012) have suggested that electronic banking (e-banking) has become a part of everyday life. Banks have not only recognized the potential growth of this sector but have also understood the importance of meshing customer lifestyle and internet facilities within their business plans. Electronic banking allows banks to cut costs and boost profits. The introduction of online banking has seen a rapid growth and a wider global reach in banking systems. E-banking enhances banking institutions and also helps users conduct secure transactions. Furthermore, ecommerce has amplified business transactions, turnover ratio and sales.

In 2008, Ram and his team examined how e-banking influences the financial health of banks. They found that the real impact of e-banking is reflected in a specific profitability index. This index bounces back against a series of measures linked to intense online activities. Their findings revealed that technological adoption is growing. As it becomes a handy way to promote and sell bank services, local banks are seeing a rise in profits.

Online trading serve as a tool to attract and retain customers through creation of customer's loyalty as banks are able provide user-conducive online trading platforms. Retaining this customer through quality services can enhance bank's overall performance Online trading has also enhance cross-selling opportunities since banks will offer investment advice, wealth management to their clients online which potentially increase the overall performance of banks through more revenue collection. Online platform generates additional revenue streams which is done through margin interest, fee and commissions which will contribute to higher profitability for the banks.

### **2.2.3 Diversification and Performance of Commercial Banks**

Diversification refers to strategy employed by financial institutions, particularly banks, to spread their investments and activities across different types of assets, products, services, and markets. The goal of diversification is to reduce risk and enhance overall stability. Banks engage in

diversification for various reasons, including managing risk, maximizing returns, and ensuring resilience in the face of economic uncertainties.

Lerner's research in 2006 revealed that innovations aren't just essential in the finance world, but they can also affect other businesses too. It can help organisations raise large amounts of capital at low costs. Any sector of a modern economy can benefit greatly from these advancements. Financial innovations cause a range of big changes in the financial scene. These changes have a positive impact on finance outcomes, diversify the sector, and rearrange international structures. It also results in a clearer understanding of the financial structure itself. These developments lead to more investment in the financial system and a rise in the ratio of financial assets to total assets. With this in mind, our study explores how finance innovations impact the performance of commercial banks. We focus on Trans Nzoia County, in Kenya. Financial innovation refers to new and different financial products and tools. They stem from surprising alterations in customer needs and preferences, tax policies, technology, and regulatory incentives. (Bhattacharyya and Nanda, 2000).

Early research led by Money in 2018 found that having a spread of incomes and assets doesn't make banks in the GCC region more steady. This matches what Lee et al and others found in their 2014 study.

This research looks at how to make things safer and work better across different areas. It's like putting eggs in many baskets - some in traditional banking, some in investment banking, others in managing assets and insurance. This way, the bank gets income from many sources. This makes the banks stronger and helps them do well in all types of economic conditions.

#### **2.2.4 Artificial Intelligence and Performance of Commercial Banks**

Securitization is the process where financial assets such loans and other receivable are packed to security as sold to potential investors. Securitization has enable commercial banks to convert nonconvertible securities to liquid securities that can be sold either in a primary or a secondary market.

Securitization has enable commercial banks to transfer the credit risk associated with securities other investor who are able to mitigate them. Managing of securitization process through structuring, servicing and selling the securities commercial banks ae bale to generate more

revenues which act as additional source of income and can contribute positively to the bank's overall revenues inflow.

Artificial Intelligence (AI) apart from being an interdisciplinary sector which remains at the edges of knowledge it also suffuses contemporary human life in all features. This day Artificial Intelligence has solved various enigmas in business and in day- to -day life. Overall, execution of tasks that currently involves human intelligence is being improved by AI whereby computer system is provided with freedom including limited human intrusion or supervision (Alford, 2019). Still, the principle doctrine of AI is forecast. While the estimation cost reduces, there is vagueness concerning inverse effects of cheap forecast on decision making (Wang & Siau, 2019). Artificial intelligence stems from Information Technology (IT).

It is habitually applied mutually with concepts such as robotization or automation. According to Jarek and Mazurek (2019), artificial intelligence (AI) is the development of computer systems that can do activities that call for human intelligence. The AI-developed technology has the ability to replicate the cognitive processes that are unique to the human brain and has the capacity to overcome obstacles during assimilation (Syam & Sharma, 2018). The goal of AI is to recognize and analyze data so that it can perform particular jobs (Sterne, 2017). Narrow AI and Artificial General Intelligence (AGI) are the two subcategories of artificial intelligence. Often referred to as "strong AI," AGI carries out activities that are simple for intelligent people to do. Because AI can carry out activities much like humans, artificial general intelligence (AGI) is frequently used in science fiction. According to Cannella (2018), the construction and production of a real artificial general intelligence (AGI) has not yet been completed due to the complexity of beings and the limited knowledge of how human minds function. Due to the advancement of three technologies—machine learning, natural language processing, and deep learning—AI's current capabilities are limited in their ability to carry out tasks. AI has advanced beyond the established guidelines thanks to machine learning (ML). Hence ML has a change in algorithms which have so far been used with Artificial Intelligence. By creating connections between various data elements, machine learning has made it possible for computers to get familiar with the data on their own. The techniques have enabled machine learning to make inferences and establish two generalities based on the survey that was conducted (McIlwraith, Marmanis, & Babenko, 2017). There are several varieties of machine learning (Jarek & Mazurek, 2019). Since deep learning (DL) is based on

comprehending algorithmic rules that must be manually disused, it is an advanced form of machine learning. DL, capitalizing on its calculating ability (of, such as CPU power, cloud computing, server farms) and big data, DL is able to decrypt and offer feedback for a new data element instantaneously (Alpaydin, 2016). Natural language processing is among the applications of DL alongside Machine learning, targeting at recognizing speech. Years of study in this field have made it possible to analyse large amounts of data (text samples) that indicate the origin of syntax, context, semantic meaning, and vocabulary (Jarek & Mazurek, 2019). The technological acceptance model (TAM), developed by Davis (1989), served as the basis for this investigation. According to the principle, people may adopt and utilize innovations. It indicates that people think about whether a technology is easy to use or if people think it is easy to use.

Users also think about how they want to behave and how they feel about utilizing the technology. The four elements have an impact on people's choices about the adoption of a certain technology. Additionally, the idea asserts that the outside world. In the United States, Hirsch (2018) narrates that artificial intelligence can be traced back to 1956; but companies commenced using it recently due to customer service functions that are core in the organization. Enhanced customer experience is the main cause for adoption. AI now permits clients to ask tortuous questions where appropriate also empathetic feedback is given (Fox, 2018). Artificial intelligence is progressively reshaping benefit by performing errands, constituting a major source of development, all while undermining human employments. It is creating in a unsurprising arrange, with mechanical mostly preceding analytical, explanatory for the most part preceding intuitive preceding empathetic insights (Krona, 2016).

In Taiwan, Huang and Rust (2018) posits that AI is to begin with replacing a few of the assignments, a transition stage seen as expansion, and at that point advances to replace human labour completely when it has the capacity to take over all errands. In the United Kingdom, Guzman (2017) expounds that a critical suggestion from artificial intelligence is that expository abilities will become less vital, as artificial intelligence takes over more 3 explanatory errands, giving the natural and sympathetic abilities indeed more significance for benefit workers. There are two fundamental investigation streams associated with advance of artificial intelligence the benefit and innovation literary works tend to centre on the positives of artificial intelligence innovation utilization, whereas the economic literature tends to centre on how AI affects

professions (Bughin, 2017). In China, Jiao and Chen (2016) deduced that four intellects may be both parallel along with ordinal: They are ordinal since a few are natural whereas the compassionate ones are more troublesome to be mirrored by artificial intelligence and in this way take longer to create effective artificial intelligence applications. Be that as it may, a few may be parallel since once artificial intelligence has come to a certain insights level, all lower artificial intelligence can coexist to supply benefit. Artificial intelligence can be broken down into mechanical intelligence, natural insights, and intuitive insights, analytical intelligence and empathetic insights. Mechanical intelligence as observed by Jiao and Chen (2016) concerns the capacity to naturally perform schedule, repeated errands. It may appear not particularly keen but is basic for numerous errands. For humans, mechanical forms do not require much inventiveness since the forms have been achieved many times and therefore can be completed with little or no additional thought (Jiao & Chen, 2016). In Australia, Delpechitre and Beeler (2018) includes that call center specialists, retail salespersons, waiters/waitresses, and taxi drivers are a few cases of employments that require for the most part mechanical aptitudes. To imitate human mechanization, mechanical AI is outlined to have constrained learning and versatile capacity to preserve consistency. Natural insight is the capacity to think inventively and alter successfully to novel circumstances. Intuitive intelligence incorporates difficult thinking proficient aptitudes that require experiences and imaginative issue solving; for illustration, marketing directors, administration experts, attorneys, doctors, sales supervisors, and senior travel operators all make overwhelming use of intuitive intelligence (Yao, Zhang & Chen, 2017). In Nigeria, Bughin (2017) asserts that artificial intelligence can be utilized to recognize and clean messy information or utilize grimy information as it implies building up or setting information for visualization. Since information visualization was one of the primary employments of enormous information, it would be anticipated that AI will advance to encourage extra improvements. One approach seems incorporate capturing master 4 visualization capabilities in an information base planned to encourage examination by other clients as huge information penetrates the venture (Bughin, 2017). In Kenya, Nyang'ang'a, (2016) conducted a research on the AI management system and conducted a study on the AI management and diagnosis system for maize pests in the Uasin Gishu county.

According to the survey's findings, respondents were amenable to implementing artificial intelligence. The results show that farmers and extension agents prefer a web-based system that can be accessed on PCs and mobile devices. According to the study, AI offers precise diagnosis

services. Accordingly, the study concluded that an AI system can provide extension services like illness management and information exchange for diagnoses. Cheruiyot (2018) conducted a study on AI that included the operational performance of Nairobi-based service firms.. According to the research the utilization of Artificial Intelligence is mild, supported by existing set up technologies whose exploitation is not to a maximum capacity.

Additionally, Artificial Intelligence impacts operational performance of service companies. Nevertheless, regression model shows that the variables whose influence is very significant on performance includes; natural language processing machine learning alongside targeted advertising. The research determined the influence of AI on operational performance. The Kenya's banking segment consists of 42 licensed commercial banks and 1 mortgage finance company. Of the 42 banks 12 have foreign ownership while the rest are owned locally. The financial institutions that have local ownership comprise 3 banks with substantial ownership by the State Corporations alongside Government, 1 mortgage finance institution besides 27 commercial banks (CBK, 2019). All these banks are under the rule of; the Central Bank of Kenya Act, the Companies Act, the Banking Act together with several prudent guidance offered by the Central Bank of Kenya (CBK, 2020). The banking sector in Kenya has experienced gradual increase in terms of; assets, product offerings, profitability also deposits. Enhanced innovations along with new entries into the industry have stiffened the competition for the key players in the last few of years. Competition from the local and international banks has also escalated over the last ten 5 years. This has improved the economy in Kenya since the customers also shareholders have profited the most (CBK, 2019). Banking sector is affected by these major issues: growth in demand for nontraditional services besides more attention to the consumer instead of the product; introduction of nontraditional participants issuing financial services products; reducing interest margins because of clients' "pressure" giving rise to mergers and restructuring; variations in the regulatory framework, where liberalization exists. The banking sector is poised for vital enlargement, product as well as market advancement which should result in more mergers in the banking industry (Riba Capital, 2011). ABSA Bank Kenya Plc, is a subsidiary of South Africa-based Absa Group Limited and a Kenyan commercial bank where formerly it was known as Barclays Bank Kenya Limited.

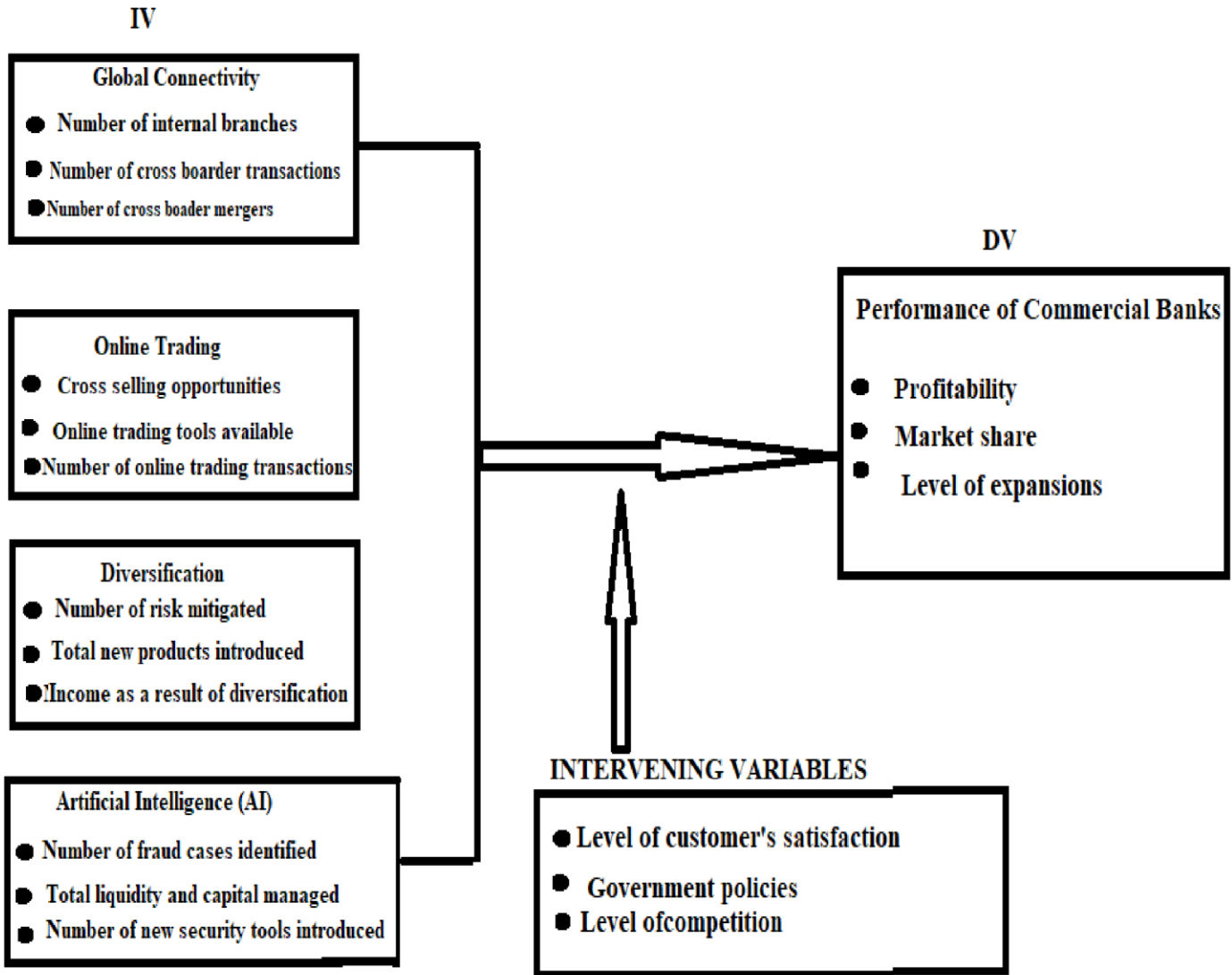
It is licensed by the Central Bank of Kenya, the country's central bank also nationwide banking regulator. As at December 2019, the bank is a huge financial services firm in Kenya, whose asset

base is over KSh: 374.109 billion (US\$3.561 billion), with owners' equity of KSh: 44.079 billion (US\$419.654 million) (CBK, 2020). As at 10 February 2020, Barclays Bank of Kenya renamed to Absa Bank Kenya, after the issue of the required regulatory approvals (ABSA, 2020). With these rebranding and their continued adoption of artificial intelligence, ABSA are in a good position to support the region's economic ambitions, especially easing the execution of the Big Four Agenda that concentrates on; universal healthcare, food security, affordable housing in addition to manufacturing. Being a global bank the provision of full package of financial products as well as services in institutional, corporate, consumer banking also SME will be of great advantage to customers due to improved competence (ABSA, 2020). ABSA aims to remain competitive in the market due to its leads in invention with their digital banking products, strong relationship management and customer service excellence (ABSA, 2020).

Deku Nottingham Trent University's Business School carried out a study. Wang and Chugh in 2014, Nolan & Garavan in 2016, and Danese and others in 2017 were involved. They wanted to see how securitization affects financial stability. They did this by looking at how banks behave. But this study had more goals. It aimed to improve how the bank's balance sheet is managed and to increase liquidity. It also wanted to spread out the risk.

### **2.3 Conceptual Framework**

In simple terms, a conceptual framework connects ideas to help us understand something complex better. Just think of it as a web of linked thoughts (cooper & Scinder, 2003). In this research project, it serves as a kind of map for our study. It points out the main ideas, factors, connections, and basic principles we'll follow in our research.



**Figure 1: Conceptual Framework**

Source: Researcher (2024)

### 2.4 Research Gaps

Several studies seem to focus on a single method of creativity, like those from Segalan (2015), Muluka (2015) and Malenya (2017). These studies examine only the benefits this brings the company. They don't discuss the new and inventive ways it helps financially, or how these novel methods help customers. Meanwhile, other researchers, like Aun (2014), Siddiqui & Qureshi (2017) and Jin-lung et al (2017), didn't use Kenya as the foundation for their work. Other studies didn't discuss commercial banks, such as those by Malenya (2017) and Rosemary (2017). Some even limited their case studies to just one bank, like the works by Muluka (2015) and Owiti (2016). Thus, the scientists fell short in portraying a direct tie between these strategies and the value added for customers. Adding this value directly impacts the growth and success of the company. But there's still room to research this aspect

of financial innovation. Firms can use these new methods to add value for customers and enhance their own performance by trimming costs, improving service efficiency, and satisfying customers.

All the authors in above literature have contributed a lot to the matter at hand, there are many pending issues in relation to the topic of research. For instance, Innovation diffusion theory assumes homogeneity within the adopting population, overlooking diversity in attitudes, needs, and resources, which might affect the adoption of an innovation differently among various groups. The theory doesn't extensively address the influence of cultural, social, or economic factors in the adoption process, thereby oversimplifying the complex interactions that influence innovation adoption. It presents a linear model of the adoption process, whereas the actual diffusion process might involve non-linear pathways influenced by various external factors.

However, contemporary research ought to amend their conclusion, design and methodology by testing their contributions and applicability on various pertinent issues in the banking sector within the Trans-Nzoia County Kenya economy

## **2.5 Research Summary**

The chapter had expounds on theoretical framework which include the Innovation theory and The Schumpeterian innovation theory, empirical review on the four objectives : Global connectivity ,Online trading ,Diversification and securitisation of banking services , Conceptual framework, Research gaps provide a broad understanding of a phenomenon that include the Independent ,dependant and the intervening variables for the research project and the research gap which include ; assumption homogeneity within the adopting population, overlooking diversity in attitudes, needs, and resources, which might affect the adoption of an innovation differently among various groups. The theory doesn't extensively address the influence of cultural, social, or economic factors in the adoption process, thereby oversimplifying the complex interactions that influence innovation adoption. It presents a linear model of the adoption process, whereas the actual diffusion process might involve nonlinear pathways influenced by various external factors



## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.0 Introduction**

This chapter expounds on Research methodology, Research design, location of the study, targeted population, sample size and sampling procedure, data collection instruments, validity and

reliability of research instruments, data collection procedure and ethical consideration of the chapter

### **3.1 Research Methodology**

Research methodology outlines how the research was conducted, from the identification of problems to the analysis and interpretation of the data. It provides a roadmap for executing the study in a systematic and rigorous manner.

This research project will adopt to a quantitative and qualitative approach. Quantitative methods allow for the collection of numerical data, enabling precise and objective measurement of variables. Questionnaires and direct interviews was used to collect information from the target population. This is particularly useful since this research project will aims at quantify relationships, patterns, or trends between the financial novelties and its influence on the performance of commercial banks in Trans Nzoia County Kenya the project will also adopt to qualitative approach since the project will relies on quantifiable observations, analysis, and interpretation of both quantitative and qualitative data and whose findings could be generalized and used to formulate several financial novelties.

### **3.2 Research Design**

The project used a descriptive research design. According to Mugenda and Mugenda, (2003), descriptive design is a process of collecting data in order to answer the question of the current status of the subject under study and hence would be considered for this study. Its merit is that it used to describe behaviour, attitude, characteristic and values, it involves survey and hence help in gathering data without manipulation of the research context. In this research project a descriptive design was used since it will provide a detailed and accurate portrayal the correlation between novelties and performance of commercial banks in Trans Nzoia County Kenya, it will give room to uncover patterns, trends, and variations within the studied population and it provided valuable insights into associations and patterns that can inform further research.

### 3.3 Location of the Study

The research was carry out in Trans –Nzoia County Kenya. Trans-Nzoia County is a county in the former Rift Valley Province, Kenya, located between the Nzoia River and Mount Elgon, 380 km northwest of Nairobi. At its centre is the town of Kitale which is the capital and largest town. The county borders Bungoma to the west, Uasin Gishu and Kakamega to the south, Elgeyo-Marakwet to the east, West Pokot to the north and the republic of Uganda to the Northwest.

### 3.4 Targeted Population

The target populace denotes to the whole collection of people, events or objects that the investigator desires to study (Sekaran, 2014). Mugenda and Mugenda, (2008), also describes the target populace a distinct set of people, things, services, elements and events that are being studied. The study focused mainly on the 14 Commercial Banks in Trans-Nzoia County Kenya licensed by the Central Bank of Kenya with the top management bank employees as the key respondents. The research project targeted 14 managing directors, Chief Officers, Directors Internal Audit, Directors Operation, Directors marketing, Directors Risk Management, Directors Credit management, Human Resource, Directors IT, Directors Bank Investment and sampled customers.

**Table 1: Target Population**

Category of Respondent	Target	Percentage
Managing Director (MD)	14	7%
Chief Finance Officer (CFO)	14	7%
Director Internal Audit	14	7%
Director Operation	14	7%
Director Marketing	14	7%
Director Risk Management	14	7%
Human Resource	14	7%
Director Credit Management	14	7%
Director IT	14	7%
Director Banking Investment	14	7%
Customers using (SRC)	67	30%
<b>Total</b>	<b>207</b>	<b>100%</b>

**Source:** Central Bank of Kenya Structure, (2024)

### 3.5 Sampling and Sample Size Procedure

Mugenda and Mugenda (2004) defined sampling as a list that contains the names of all the elements to be selected to participate in the study from a given population. This study employed complete enumeration of the top management employees and therefore stratified sampling technique would be employed in the study where 9 managing directors, Chief officers, Directors Internal Audit, Directors Operation, Directors marketing, Directors Risk Management, Directors Credit management, Human Resource, Directors IT, Directors Bank Investment and 46 customers would be sampled out.

Using the Yamane formula of 1967

$$n = \frac{N^2}{1 + N(E)}$$

Where n=sample size

N=population size

e=margin of error, usually 5%

$$n = \frac{207}{1 + 207(0.05)^2} = 136$$

Stratified Random Sampling (SRC) was used to select 136 from 207

**Table 2: Sample Size**

Category of Respondent	Target	Percentage
Managing Director (MD)	9	6.6%
Chief Finance Officer (CFO)	9	6.6%
Director Internal Audit	9	6.6%
Director Operation	9	6.6%
Director Marketing	9	6.6%
Director Risk Management	9	6.6%
Human Resource	9	6.6%

Director Credit Management	9	6.6%
Director IT	9	6.6%
Director Banking Investment	9	6.6%
Customers	46	34%
<b>Total</b>	<b>136</b>	<b>100%</b>

Source: Researcher 2023)

### 3.6 Data Collection Instruments

The main data collection method to be use is open ended questionnaires and closed ended questionnaires. Questionnaires are developed to address a influence of global connectivity, online trading, diversification and securitization of banks services on the performance of the commercial banks in Trans Nzoia County, research questions or hypothesis of the study (Mugenda & Mugenda 2003). Both primary and secondary data was use in the research. Questionnaires was used to collect primary data while website, journals and reports to collect secondary data which was analysed to avoid confusing the correspondent or discouraging them to the extent of discarding the questionnaire

### 3.7 Validity and Reliability of Research Instruments

#### 3.7.1 Validity of Research Instruments

Mugenda, (2009) described validity as the reality and essence of assumptions established on study results. In other words, validity is a degree to which results obtained from the analysis of the data actually represent the phenomenon under study. The validity in this research would be guaranteed by having the objectives included in the questionnaire. This would be achieved by the help of supervisor and pre-testing of Instruments to identify ambiguous and offensive questions as emphasized by (Cooper & Schindler ,2003)This investigation was utilize content validity to estimate the extent to which data acquired from research tools meaningfully and accurately reflect or portray a theoretical picture. KMO and Bartlett statistics were used to assess the validity of the research instruments. This type of analysis makes it easier for researchers to examine concepts that are not easily measured directly.

#### Table 3: KMO and Bartlet's Test Results

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.856
	161.1
	11
	.000
	Approx. Chi-Square
Bartlett's Test of Sphericity	Df
	Sig.

**Source:** Field Data (2024)

It can be seen from the results that the KMO value is 0.856, which is greater than the required 0.7, and the Bartlett test statistic is significant ( $p < 0.05$ ). Overall, it was concluded that the research instrument was valid.

### 3.7.2 Reliability of Research Instruments

Reliability is the degree to which the outcomes achieved from the data analysis honestly suggest the order of the studied phenomena. Retesting techniques are used to test the reliability of data research instruments. This test enclosed utilizing a tool twice on a group of people, one week apart. The researcher observed that the instrument constantly measures the phenomenon under study, that is, the questionnaires are sound over time and therefore reliable.

### 3.7.3 Pilot Study

A trial study, also known as a pilot study, is a tiny investigation that is used to determine whether the data collection procedures are trustworthy and whether the data is believable. To ensure the information's quality, this phase is essential (Cooper and Schindler, 2016). Ten percent of the sample size was used in this study to test the questionnaires. This is in accordance with the recommendation of Mugenda & Mugenda (2008), who state that 10% is usually sufficient to guarantee the accuracy of the research instruments. Two West Pokot County banks participated in the questionnaire testing. They selected this area as a potential test site since it is somewhat comparable to the other counties. The Cronbach Alpha Coefficient was used to verify the

questionnaire's reliability, and content validity was utilized to determine the questionnaire's validity.

Potential problems with the research tools, including survey questions, interview procedures, or observation forms, can be found through a pilot study. By using the instruments to a small sample, researcher was able to detect unclear or ambiguous items and refine them for better clarity. Pilot studies help assess how well participants understand the instructions and questions in the research instruments. Any confusion or misinterpretation by participants can be identified and addressed before the full-scale study.

A pilot study is inevitable to carry out in order to establish the degree of reliability of the questionnaire used in the gathering of data. This was done in this study to guarantee validity and reliability of the data collected. Reliability analysis was consequently carried out using the Cronbach's Alpha that measures the internal regularity by determining if various items within a scale measure a similar construct. Easy International a statistical program was applied as the instrument of analysis to show the association between the dependent variable and the four independent variables as pointed out in the table 4.

Cronbach's alpha of above 0.7 means that the tools were adequately reliable for the measurement. As the most entries, total correlations were sensibly high, the construct legitimacy of the tools was considered practical (Brown, 2000). Reliability evaluation was conducted during the research process, and the results are shown in the table 4.

**Table 4: Reliability Test Results**

<b>Variable</b>	<b>Cronbach Alpha Score</b>	<b>Decision</b>
Global Connectivity	.721	Accept
Online Trading	.733	Accept
Diversification	.701	Accept
Artificial Intelligence	.711	Accept

---

**Source: Research Data (2024)**

The results show that Cronbach's alpha values for all models are greater than 0.7. Therefore, each construct was found to be reliable and suitable for further analysis.

### **3.8 Data Collection Procedure**

Data would be collected by administering questionnaires, the mass of raw data collected was systematically organized in a manner that facilitate analysis for instance the responses in the questionnaire was assigned numerical value. To assign meaningful numbers to response, variables was measured at interval or ratio scales. Formulating categories of possible response was done. Both the primary and secondary data was edited, clean and coded, key into a computer and analysed to make the sense of the data been researched.

### **3.9 Data Analysis**

Data was collected using both descriptive and inferential statistic as well as content analysis. According to (Seale 2004) Content analysis is an approach for analysing texts in term of the presence and frequency of specific terms, narratives or concept. Inferences was arrived to by comparing and looking for patterns and trends this would be achieved through pre-analysis of data followed by a quantitative analysis that will enable description of scores or measurements using few indices or statistics and finally qualitative analysis that involved analysing information in a systematic way on order to come up with useful conclusions and recommendations. The results of the descriptive statistics would be availed in tables.

Inferential statistics entailed correlation and regression analysis. Before the analysis be carried out three main assumptions of parametric examination which involves the test for normality, multicollinearity and Homoscedasticity would carry out. Correlation would use to analyse the strength and direction of association between two variables. It ranges from -1.0 to 1.0 (Sekeran & Bougie, 2011). A value closer to +1 shows a strong positive relationship

whereas a value closer to -1 shows a strong negative relationship at a significance level of less than 0.05. Hypothesis testing would be done at a confidence level of 95% where, if the P-value was  $\leq 0.05$  the null hypothesis was rejected. Regression analysis was done to examine whether an independent variable predicts a given dependent variable. Multiple regression analysis would be used to analyse the data after it was checked for consistency and then coded. The ANOVA statistics (F-test) was used to present the regression model significance;

$$Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \varepsilon$$

Where;

Y= Performance of Commercial Banks

$\beta_0$ = Regression Constant. Constant or intercept which is the value of dependent variable when all the independent variables are zero.

$\beta_1, \beta_2, \beta_3, \beta_4$ - Regression coefficient for each independent variable.

$x_1$ =Global Connectivity

$x_2$ =Online Trading

$x_3$ =Diversification

$x_4$ = Artificial Intelligence (AI)  $\varepsilon$

= Random Error component

**Table 5: Operationalization of Variables**

Category	Variable	Indicator	Measurement of variable
Dependent variable	Performance of Profitability	commercial banks	Market share
		Level of expansion	

Independent Variable	Global connectivity and bank networking	Number of internal branches Number of cross border mergers Number of transactions	On a scale of 5 to 1 where 5 is over 80% influence on performance of commercial banks and 1 is below 20% influence on performance of commercial banks
Independent Variable	Online trading	Cross selling opportunities Online trading platforms Online trading transactions	On a scale of 5 to 1 where 5 is to very large extent and 1 is to a very low extent.
On a scale of 5 to 1 where 5 is to very large extent and 1 is to a very low extent.			
Independent Variable	Diversification	Number of risks mitigated Total New products introduced Income as a result of diversification	On a scale of 5 to 1 where 5 is to very large extent and 1 is to a very low extent.
Independent Variable	Securitization and data analytics and artificial intelligence	Number of fraud cases identified Total liquidity and capital managed Number of new security tools introduced	On a scale of 5 to 1 where 5 is to very large extent and 1 is to a very low extent.

---

### 3.10 Ethical Considerations

Ethical considerations encompass a set of principles and guidelines that researcher follow to ensure that their studies are conducted ethically. This involves addressing potential ethical diversification and dilemmas that may arise during the planning, implementation, and dissemination of research. Approval will also be sort from all pertinent institutions including, The researcher sort a certificate of Ethical Clearance from Mount Kenya University Ethical Review Committee and an authority letter to collect information from Mount Kenya University post graduate school. Additionally, the researcher sort a research authorization from the National Commission for Science, Technology and Innovation (NACOSTI) This research study will observe all ethical issues by noting that the main intention was only for commercial banks. purpose , protecting the privacy of participants through ensuring that their personal information and responses are kept confidential and not disclosed without their explicit consent and by ensuring that participants join the study voluntarily

without coercion, and they have the right to withdraw at any time without facing negative consequences.

## CHAPTER FOUR

### DATA ANALYSIS, PRESENTATION AND DISCUSSION

#### 4.0 Introduction

This chapter highlights the data collected, analysis and interpretation. The study sought to explore the influence of financial novelties on performance of commercial banks in Trans Nzoia County, Kenya. To achieve this, the study was based on four objectives; first, to assess the effects of global connectivity, examine the effects of online trading, analyse effects of diversification and determine the influence of artificial intelligence on performance of commercial banks in Trans Nzoia County, Kenya. Questionnaires were used as the main tool for collecting data, and the results are presented and interpreted using frequency distribution tables, mean, and standard deviation.

#### 4.1 Rate of Response

136 questionnaires were given out by the researcher to the different study participants. One hundred and sixty of these individuals submitted their surveys. According to Saunders et al. (2017), who recommend a response rate of 50% as adequate, 60% as acceptable, and over 70% as very excellent, a response rate of 77.94% was therefore obtained, which was deemed very good.

**Table 6: Respondents Response Rate**

	Frequency	Percentage
Returned Questionnaires	106	77.94
Not Returned Questionnaires	30	22.06
<b>Total</b>	<b>136</b>	<b>100</b>

Source: Field Data, (2024)

## 4.2 General Information

The following sub-sections include demographic information pertaining to the respondents, specifically focusing on top management of the commercial bank employees and some sampled customers. This includes data on their gender, age, educational attainment, and professional experience.

### 4.2.1 Distribution of Respondents by Gender

**Table 7: Gender of the Respondents**

Gender	Frequency	Percent
Male	62	58.5
Female	44	41.5
<b>Total</b>	<b>106</b>	<b>100</b>

**Source:** Field Data, (2024)

The objective of this section was to ascertain the gender of the people included in the study. According to the data shown in Table 7, the male participants accounted for 58.5% of the total, while the female participants represented 41.5%. This finding illustrates that, while there was a slight prevalence of male respondents, both genders were adequately represented, suggesting that the responses were not subject to bias.

### 4.2.2 Respondents' Age

The investigation further aimed to determine the demographic distribution of the participants' age, as shown in Table 8.

**Table 8: Age of the Respondents**

Age bracket	Number	Percentage
18-25 Years	14	13
26-35	49	46

36-45	32	30
46 and above Years	11	7
<b>Total</b>	<b>106</b>	<b>100</b>

**Source:** Field Data, (2024)

According to the data shown in Table 8, it can be seen that 46 percent of the participants were within the age range of 26 to 35 years. Additionally, 30 percent of the respondents were aged between 36 and 45, while 13 percent were between 18 and 25 years old. The remaining 7 percent of the participants were found to be above the age of 46. This finding suggests that a significant proportion of the participants (over 80%) were aged 25 or older, implying that they have the ability to provide reliable and dependable data for this research.

#### 4.2.3 Distribution of Respondents by Level of Education

The research documented the educational credentials of the participants, as shown in Table 9.

**Table 9: Education Level of Respondents**

<b>Educational Level</b>	<b>Frequency</b>	<b>Percent</b>
Certificate	8	7.5
Diploma	19	17.9
Undergraduate Degree	63	59.4
Postgraduate	16	15.1
<b>Total</b>	<b>106</b>	<b>100</b>

**Source:** Field Data, (2024)

The results of the survey revealed that a majority of the respondents, namely 59.4%, had undergraduate degree level of education. Additionally, 17.9% of the respondents were diploma graduates, while 15.1%, had postgraduate level of education. A smaller proportion, specifically 7.5%, had attained a certificate level of education. The majority of the participants had an undergraduate degree level of education. Based on their acquired information, the individuals comprehended the research inquiries and provided an accurate and lucid perspective on these inquiries. The aforementioned results also indicate that the participants had the necessary professional qualifications to effectively fulfil their responsibilities in influencing the performance of commercial banks.

#### 4.2.4 Distribution of Respondents by Years of Experience

The researcher aimed to determine the participants' duration of experience in relation to performance of commercial banks and then displayed the results in Table 10.

**Table 10: Respondents Experience**

<b>Years of Experience</b>	<b>Frequency</b>	<b>Percent</b>
Less than 2 years	39	32
2-4 years	35	28
5-8 years	26	21
8-10 years	12	10
More than 10 years	12	10
<b>Total</b>	<b>106</b>	<b>100</b>

**Source:** Research Findings, (2024)

Based on the results, it was seen that 32% of the participants had a banking experience of less than 2 years, while 28% had been banking for a duration of 2-4 years. Furthermore, 21% of the respondents reported having a banking experience ranging from 5-8 years, while 10% had been engaged in banking for a period of 8-10 years. Lastly, an additional 10% of the participants indicated having banking experience beyond 10 years. This finding suggests that a significant proportion of the participants (over 60%) had accumulated considerable professional experience and were thus well-acquainted with the financial novelties used to enhance performance of commercial banks in Trans-Nzoia County, Kenya.

#### 4.3 Descriptive Statistics

Before proceeding with the inferential analysis of the data, it was well analysing the common descriptive statistics of the study sample data. The purpose of the study was to analyse the influence of financial novelties on performance of commercial banks in Trans Nzoia County, Kenya. Several financial novelties were identified among which the participants were requested to state the degree to which they enhance the performance of commercial banks. A Likert scale of five points was provided running from 1= very small extent, 2=small extent, 3= neutral, 4= great

extent, 5= very great extent. From the answers, descriptive measures of central distribution: standard deviation and mean were applied for ease of generalization and interpretation of findings. The following sub-headings represent the findings.

#### 4.3.1 Global Connectivity and Performance of Commercial Banks

The respondents were required to indicate the extent to which they agreed with the statements on how global connectivity influence performance of commercial banks in Trans Nzoia County. The Findings are shown in Table 11.

**Table 11: Global Connectivity**

	<b>Mean</b>	<b>Std. Dev.</b>
Financial novelties are used to forecast the future and therefore good for planning	4.51	0.50
Banks now have much lower entry fees, which means that less wealthy individuals can now afford to open accounts.	4.30	0.72
Customers can access essential services such as cash withdrawal, bills payment and cash deposit at the comfort of their homes or offices	4.19	1.01
That customers are able to access to the bank branches easily in other countries	4.11	0.95
Customers can access essential services such as Cash withdrawal, bills payment and cash deposit through their mobile phones.	4.05	1.17
Customers using mobile banking are more than those who visit the bank.	3.94	0.86
Customers transactions are not restricted to the Banks' currency rates.	3.53	1.04
<b>Overall Mean</b>	<b>4.09</b>	

**Source: Field Data, (2024)**

To a great extent with a mean greater or equal to 4 and standard deviation greater than 0.5 financial novelties are used to forecast the future and therefore good for planning (4.51), banks now have much lower entry fees, which means that less wealthy individuals can now afford to open accounts (4.30), customers transactions are not restricted to the banks' hours and days of operations

(4.1944) and customers are able to access to the bank branches easily in other countries (4.11), customers can access essential services such as cash withdrawal, bills payment and cash deposit through their mobile phones. (4.05).

The respondents also to a great extent with an average less than 4 and a standard deviation less 0.5 indicated that customers using mobile banking are more than those who visit the bank. (3.94) and that customers transactions are not restricted to the banks' currency rates (3.53). This means that global connectivity influence performance of commercial banks largely with an overall mean of 4.09. This finding is in line with Odhiambo, (2008) who revealed by his study on Innovation Strategies at the Standard Chartered Bank (Kenya) Limited that as formal banks offer typical products in order to reach beyond their current client base, they have to understand the needs of the people who are not using their services. To take this forward, the firms have to be willing to put the cash in to support innovation and expansion. There is still a great need to better understand, shape and evaluate market expansion. Competition among financial institutions is intensifying as more African countries relax barriers to entry that have brought in new players.

A survey in 2007 by Oloo looked at banks in Kenya. The study showed that when new banks entered the market, it had beneficial effects. These included lower costs for banking services and more new products and services being offered. The report also found that not many people in Kenya have bank accounts - less than 25% (according to Mwangi's 2007 report). However, the introduction of services that let people transfer money using their phones has changed things. Mobile phone company Safaricom started offering this service in 2007, called M-Pesa. Now, other companies also provide it. This has had a big effect on banks and financial services in Kenya, causing many changes.

As the global market place continue to expand more businesses are taking advantage of cross border trade. In 2022, customers paid businesses around \$ 2.8trillion in cross border payment, while over \$ 150 trillion in B2B cross border payment occurred that year. (Article on cross border transaction 2023) However, sending and receiving payment across border can be a complex process with various regulatory requirement, fee, and risk to navigate. Despite these diversification, cross border payment is important for banks that want to expand into new market, reach new customers and diversify their new revenue stream and accelerate growth, Recently KCB went into a joint venture with Safaricom and expand their operations in Ethiopia.

Innovations in finance can be understood in different ways. We can see them as new products - things like adjustable mortgages and trade funds you can exchange online. They can also be new services - like trading securities online, banking through the internet or your mobile phone. We might think of them as new ways to work - like assessing credit differently. Or, they could be new ways to organise things - like being a bank that only operates on the internet. (Hayashi & Klee, 2003).

A study by a group called Enhancing Financial Innovation and Access (EFInA) found something interesting. This group, also known as EFInA, helps people get access to money services. They found that back in 2006, only 20% of people living in Kenya had their own bank accounts. On top of that, only 8% of people could use other formal ways to manage their money (Mwangi, 2007). By 2011, more people had bank accounts - 23% to be exact, but the use of other services like MPesa had also risen sharply to 19%. Now, these numbers are probably even larger. Reports are that the number of people using M-Pesa to put in and take out money, as well as send money, has grown to 16 million. This is according to Mwangi's 2011 report. New success has sparked changes in banks. Now, it's cheaper to open bank accounts, allowing less rich people to do it too. Changes in laws have allowed a new kind of banking to come through. Banks don't just have to be physical buildings anymore. It's all now getting fresher and simpler. Banks can now team up with different businesses like phone companies and shops that are all across the country. They can let these businesses work for them and provide banking services. This is called working on an "agency basis". In Kenya, a bright spot has been the teamwork between mobile operators and banks. Not only have they nixed monthly fees and charges for account setup, but they also give you interest! Plus, being an account holder means you can borrow in emergencies and access insurance services. Such a great step for making money matters easier in Kenya, thumbs up to that! (Based on King'ori's 2008 findings). In Kenya, King'ori (2008) did a study. It was about what affects how fast money moves in Kenya. For this, he looked at banks and other places where money is kept. He found that new ideas are changing things very fast in Kenya's money world. Now, competition has grown a lot. People can use banks and money services much easier than before. And the costs to use these services have become less. The way money flows shows that more businesses are starting. This makes people who invest money feel safer about where they might put their money. In our time of change and growth, research by Kamau in 2009 suggests that banks must get creative with their products and services.

Global connectivity has significantly impacted the performance of commercial banks. Some of the key aspects of how of its impacts include; Access to global market; it has allowed commercial banks to expand their investments opportunities, assets and currencies which has led to diversification and increase in profitability rate. Commercial banks are able to conduct transactions securely and effectively hence supporting global trade. Global connectivity has enhanced commercial banks to be more vigilant in mitigating risks which include currency fluctuation, political risks and regulatory risk associated with global trade. The interconnected nature of global financial system has driven commercial banks to withstand competition through adoption to innovative technologies through offering of new financial product and services.

#### 4.3.2 Online Trading and Performance of Commercial Banks

Online trading is one of the financial novelties management identified by the respondents. The participants were asked to state the extent to which they agreed on the statements on online trading and performance of commercial banks in Trans Nzoia County, Kenya. The findings are shown in Table 12.

<b>Table</b>	<b>12:</b>	<b>Online</b>	<b>Trading</b>
			<b>Std. Dev.</b>
<b>Mean</b>			
That customers do trade in financial instruments, such as stocks, bonds, or other securities, through the online platforms provided by banks	4.420		0.793
Banks are able to provide user-conducive online trading platforms	4.362		1.008
Online trading serve as a tool to attract and retain customers through creation of customer's loyalty	4.167		0.7745
Approval of online trading enable cost reduction and increased profit making by the banks.	4.140		0.7838
Adoption of technology as a convenient form of selling and advertising services of banks has increasingly raised profits	3.753		1.101
Online trading offers speedy and timely services to customers	3.624		1.018
That online trading tools are effective to customers	3.215		1.533

**Overall Mean**

**3.954**

---

**Source: Field Data, (2024)**

The respondents to a great extent with a mean greater or equal to 4 and standard deviation greater than 0.5 indicated that the customers do trade in financial instruments, such as stocks, bonds, or other securities, through the online platforms provided by banks (4.362), online trading serve as a tool to attract and retain customers through creation of customer's loyalty (4.167), approval of online trading enable cost reduction and increased profit making by the banks. (4.140).

To a great extent with a mean less than 4 and standard deviation less 0.5, the respondents indicated that adoption of technology as a convenient form of selling and advertising services of banks has increasingly raised profits (3.753), online trading offers speedy and timely services to customers (3.624), and that online trading tools are effective to customers (3.215). This makes it clear that the commercial banks in Trans Nzoia County applies online trading to a great extent with a general average of 3.9544.

This matches what Ram, et, al and his team found in 2008. They studied how online banking affects bank profits. They saw that the real impact of online banking showed in how well the bank did. They looked at its profit index and the amount of related activities happening online. The findings? More technology use was tied to bank services being easier to sell and advertise. This helped local banks make more money.

Nowadays, in the banking world, everyone is talking about information and communication technology. It's what's cool and important. It helps banks to grow and improve our economy. Think of it as the secret sauce for a better banking industry.

Nowadays, in the banking world, everyone is talking about information and communication technology. It's what's cool and important. It helps banks to grow and improve our economy. Think of it as the secret sauce for a better banking industry. Online banking has changed the way we handle money. Big investments have been made by banks in electronic systems and communication. This has mixed things up in the financial world. Online banking has become very popular because it is easy and helpful (Adesina & Ayo, 2010). Banking is changing a lot because of things like better technology, more competition, people connecting all over the world, and new

social trends. These changes make banking more convenient and encourage customers to be more involved (Loonam & O'Loughlin, 2008).

E-banking is popular now, say Chung and Dutta in 2012. They explain that big financial institutions see how helpful internet banking can be. These institutions recognize that it's important to mix customers' lifestyles with internet services in their business plans. Thanks to e-banking, cutting costs and making more profits is now a breeze for the banks. With the birth of online banking, their growth speed has soared like never before. It's not just that, online banking plays a big global role in how bank systems work. It has helped financial institutions to do better. Plus, it's easier and safer for people to do their banking. On top of that, e-commerce has led to a big boom in business. It's resulted in more deals, more sales, and a higher turnover ratio.

Online trading serve as a tool to attract and retain customers through creation of customer's loyalty as banks are able provide user-conducive online trading platforms. Retaining this customer through quality services can enhances bank's overall performance Online trading has also enhance cross-selling opportunities since banks will offer investment advice, wealth management to their clients online which potentially increase the overall performance of banks through more revenue collection. Online platform generates additional revenue streams which is done through margin interest, fee and commissions which will contribute to higher profitability for the banks.

#### 4.3.3 Diversification and Performance of Commercial Banks

The respondents were required to indicate the degree to which they agreed on the statements; diversification and performance of commercial banks in Trans Nzoia County. The Findings are shown in Table 13:

**Table 13: Diversification and Performance of Commercial Banks**

	Mean	Std. Dev.
That commercial banks engage in diversification for reasons, of managing risk, maximizing returns, and	4.632	0.818
ensuring resilience in the face of economic uncertainties.		
That the commercial banks are prepared to handle risks	4.324	0.901
That the commercial banks are doing enough to increase their financial bases	4.125	0.733

That diversifications help improve the commercial banks income	3.671	1.074
That commercial banks help in producing tailor made products to meet specific needs of a particular group of customers	3.540	1.083
That the commercial banks are target a particular category of customers	3.342	1.078
That the commercial banks are serving all or most of the customers' needs in the particular category	3.042	1.053
<b>Overall Mean</b>	<b>3.811</b>	

---

**Source: Field Data, (2024)**

The respondents to a very great extent with a mean greater or equal to 4 and standard deviation greater than 0.5 indicated that commercial banks engage in diversification for reasons, of managing risk, maximizing returns, and ensuring resilience in the face of economic uncertainties (4.632), commercial banks are prepared to handle risks (4.324) and that commercial banks are doing enough to increase their financial bases (4.125).

To a great extent with a mean less than 4 and standard deviation less 0.5, the diversifications help improve the commercial banks income (3.671), commercial banks help in producing tailor made products to meet specific needs of a particular group of customers (3.540), the commercial banks are target a particular category of customers (3.342) and the commercial banks are serving all or most of the customers' needs in the particular category (3.042). Diversification influence performance of commercial banks to a great extent as shown by an overall mean of 3.811

This discovery matches Lerner's 2006 study. It says improvements don't just help monetary firms. They also boost other businesses. For example, they help organizations gather a lot of money at low costs. This way, improvement becomes important in every part of a modern economy. Innovations in finance, or creative ways we handle money, bring on big changes. These changes improve the overall financial result, and also bring more variety. They can shape up global structures and teach us more about finance itself. With these innovations, we see more money flowing into the finance system. This means that the value of financial assets (like stock or bonds) in relation to total assets tends to grow. This study aims to understand how new financial products can affect the success of commercial banks in Trans Nzoia County, Kenya. Changes in customer

needs, technology, and rules often lead to these unexpected new financial offerings. The investigation doesn't take the previous background into account. (Bhattacharyya & Nanda, 2000).

Diversification refers to strategy employed by financial institutions, particularly banks, to spread their investments and activities across different types of assets, products, services, and markets. The goal of diversification is to reduce risk and enhance overall stability. Banks engage in diversification for various reasons, including managing risk, maximizing returns, and ensuring resilience in the face of economic uncertainties. Previous studies on diversification, In 2018, Money discovered that in the GCC region, having varied sources of income and different kinds of assets doesn't help keep banks stable. Lee et al. made a similar discovery in 2014.

This research project is all about trying to do a lot of different things to help banks earn more money and be safer. It's like putting your eggs in different baskets to avoid losing everything if one basket breaks. The idea is to help banks spread their activities and risks across different areas, like traditional banking, investing, managing assets, and insurance. This way, they can potentially earn more and handle different economic cycles better. In simple terms, it's about making banks stronger and more flexible in changing economic conditions.

#### 4.3.4 Artificial Intelligence and Performance of Commercial Banks

The respondents were required to state the extent to which they agreed on the statements on the influence of artificial intelligence on commercial banks in Trans Nzoia County, Kenya. The Findings are shown in Table 14.

**Table 14: Artificial Intelligence and Performance of Commercial Banks**

	Mean	Stdev
Customers who do not have an account with the bank can still borrow bank loan using their mobile phones	4.309	0.737
That the commercial banks can easily detect security threats by the assistance of artificial intelligence technologies	4.285	0.708
The technology created on AI is competent to mimic the cognizable affairs which are characteristic to human brain	4.125	0.302
That artificial intelligence can be utilized by commercial banks to recognize and clean messy information	4.123	0.301

Enhanced innovations along with new entries into the industry have stiffened the competition for the key players in the last few of years	4.119	0.562
With AI in place, duration taken to handle complaint from customers is minimized or reduced	4.023	0.214
<b>Overall, Mean</b>		<b>4.164</b>

---

**Source:** Field Data, (2024)

As shown in Table 14, to a very great degree with a mean superior or equal to 4 and standard deviation greater than 0.5 the respondents indicated that customers who do not have an account with the bank can still borrow bank loan using their mobile phones (4.309), that the commercial banks can easily detect security threats by the assistance of artificial intelligence technologies (4.285), the technology created on AI is competent to mimic the cognizable affairs which are characteristic to human brain (4.125), that artificial intelligence can be utilized by commercial banks to recognize and clean messy information (4.123), enhanced innovations along with new entries into the industry have stiffened the competition for the key players in the last few of years (4.119) and with AI in place, duration taken to handle complaint from customers is minimized or reduced (4.023). This indicates that the commercial banks in Trans Nzoia County applies the artificial intelligence to improve financial performance as evidenced by a high extent of 4.164

This finding is in line with the finding of Wang and Siau, (2019) who assert that Artificial Intelligence (AI) apart from being an interdisciplinary sector which remains at the edges of knowledge it also suffuses contemporary human life in all features. This day Artificial Intelligence has solved various enigmas in business and in day- to -day life. Overall, execution of tasks that currently involves human intelligence is being improved by AI whereby computer system is provided with freedom including limited human intrusion or supervision (Alford, 2019). Still, the principal doctrine of AI is forecast. While the estimation cost reduces, there is vagueness concerning inverse effects of cheap forecast on decision making Artificial intelligence stems from Information Technology (IT).

Hence ML has a change in algorithms which have so far been used with Artificial Intelligence. Machine learning has facilitated computers to get acquainted on their own founded on the data at hand by forming connection amidst distinct datum items. The know-hows have empowered Machine learning to draw conclusions as well as form 2 generality on the grounds of undertaken

survey (McIlwraith, Marmanis, & Babenko, 2017). Various types of Machine learning exists (Jarek & Mazurek, 2019). Deep learning (DL) is an upper class of ML since it is founded on understanding algorithmic rule which require disuse by hand. DL, capitalizing on its calculating ability (of, such as CPU power, cloud computing, server farms) and big data, DL is able to decrypt and offer feedback for a new data element instantaneously (Alpaydin, 2016). Natural language processing is among the applications of DL alongside Machine learning, targeting at recognizing speech. The possibility to undertake huge data (text samples) which represent origin of; the syntax, the context, the semantic meaning including the vocabulary is owed to the many years of research in this area (Jarek & Mazurek, 2019).

In the United States, Hirsch (2018) narrates that artificial intelligence can be traced back to 1956; but, companies commenced using it recently due to customer service functions that are core in the organization. Enhanced customer experience is the main cause for adoption. AI now permits clients to ask tortuous questions where appropriate also empathetic feedback is given (Fox, 2018). Artificial intelligence is progressively reshaping benefit by performing errands, constituting a major source of development, all while undermining human employments. It is creating in a unsurprising arrange, with mechanical mostly preceding analytical, explanatory for the most part preceding intuitive preceding empathetic insights (Krona, 2016).

In Taiwan, Huang and Rust (2018) posits that AI is to begin with replacing a few of the assignments, a transition stage seen as expansion, and at that point advances to replace human labour completely when it has the capacity to take over all errands. In the United Kingdom, Guzman (2017) expounds that a critical suggestion from artificial intelligence is that expository abilities will become less vital, as artificial intelligence takes over more 3 explanatory errands, giving the natural and sympathetic abilities indeed more significance for benefit workers. There are two fundamental investigation streams associated with advance of artificial intelligence the benefit and innovation literary works tend to centre on the positives of artificial intelligence innovation utilization, whereas the economic literature tends to centre on how AI affects professions (Bughin. 2017). In China, Jiao and Chen (2016) deduced that four intellects may be both parallel along with ordinal: They are ordinal since a few are natural whereas the compassionate ones are more troublesome to be mirrored by artificial intelligence and in this way take longer to create effective artificial intelligence applications. Be that as it may, a few may be parallel since once artificial intelligence has come to a certain insights level, all lower artificial

intelligence can coexist to supply benefit. Artificial intelligence can be broken down into mechanical intelligence, natural insights, and intuitive insights, analytical intelligence and empathetic insights. Mechanical intelligence as observed by Jiao and Chen (2016) concerns the capacity to naturally perform schedule, repeated errands. It may appear not particularly keen but is basic for numerous errands. For humans, mechanical forms do not require much inventiveness since the forms have been achieved many times and therefore can be completed with little or no additional thought (Jiao & Chen, 2016). In Australia, Delpechitre and Beeler (2018) includes that call center specialists, retail salespersons, waiters/waitresses, and taxi drivers are a few cases of employments that require for the most part mechanical aptitudes. To imitate human mechanization, mechanical AI is outlined to have constrained learning and versatile capacity to preserve consistency. Natural insight is the capacity to think inventively and alter successfully to novel circumstances. Intuitive intelligence incorporates difficult thinking proficient aptitudes that require experiences and imaginative issue solving; for illustration, marketing directors, administration experts, attorneys, doctors, sales supervisors, and senior travel operators all make overwhelming use of intuitive intelligence (Yao, Zhang & Chen, 2017). In Nigeria, Bughin (2017) asserts that artificial intelligence can be utilized to recognize and clean messy information or utilize grimy information as it implies building up or setting information for visualization. Since information visualization was one of the primary employments of enormous information, it would be anticipated that AI will advance to encourage extra improvements. One approach seems incorporate capturing master 4 visualization capabilities in an information base planned to encourage examination by other clients as huge information penetrates the venture (Bughin, 2017).

According to the research the utilization of Artificial Intelligence is mild, supported by existing set up technologies whose exploitation is not to a maximum capacity.

Additionally, Artificial Intelligence impacts operational performance of service companies. Nevertheless, regression model shows that the variables whose influence is very significant on performance includes; natural language processing machine learning alongside targeted advertising. The research determined the influence of AI on operational performance. The Kenya's banking segment consists of 42 licensed commercial banks and 1 mortgage finance company. Of the 42 banks 12 have foreign ownership while the rest are owned locally. The financial institutions that have local ownership comprise 3 banks with substantial ownership by the State Corporations alongside Government, 1 mortgage finance institution besides 27 commercial banks (CBK, 2019).

All these banks are under the rule of; the Central Bank of Kenya Act, the Companies Act, the Banking Act together with several prudent guidance offered by the Central Bank of Kenya (CBK, 2020). The banking sector in Kenya has experienced gradual increase in terms of; assets, product offerings, profitability also deposits. Enhanced innovations along with new entries into the industry have stiffened the competition for the key players in the last few of years. Competition from the local and international banks has also escalated over the last ten 5 years. This has improved the economy in Kenya since the customers also shareholders have profited the most (CBK, 2019). Banking sector is affected by these major issues: growth in demand for nontraditional services besides more attention to the consumer instead of the product; introduction of non-traditional participants issuing financial services products; reducing interest margins because of clients' "pressure" giving rise to mergers and restructuring; variations in the regulatory framework, where liberalization exists. The banking sector is poised for vital enlargement, product as well as market advancement which should result in more mergers in the banking industry (Riba Capital, 2011). ABSA Bank Kenya Plc, is a subsidiary of South Africa-based Absa Group Limited and a Kenyan commercial bank where formerly it was known as Barclays Bank Kenya Limited. It is licensed by the Central Bank of Kenya, the country's central bank also nationwide banking regulator. As at December 2019, the bank is a huge financial services firm in Kenya, whose asset base is over KSh: 374.109 billion (US\$3.561 billion), with owners' equity of KSh: 44.079 billion (US\$419.654 million) (CBK, 2020). As at 10 February 2020, Barclays Bank of Kenya renamed to Absa Bank Kenya, after the issue of the required regulatory approvals (ABSA, 2020). With these rebranding and their continued adoption of artificial intelligence, ABSA are in a good position to support the region's economic ambitions, especially easing the execution of the Big Four Agenda that concentrates on; universal healthcare, food security, affordable housing in addition to manufacturing. Being a global bank the provision of full package of financial products as well as services in institutional, corporate, consumer banking also SME will be of great advantage to customers due to improved competence (ABSA, 2020). ABSA aims to remain competitive in the market due to its leads in invention with their digital banking products, strong relationship management and customer service excellence (ABSA, 2020).

#### **4.4 Inferential Analysis**

After successfully analysing the properties of the research variables, the study chose to infer the findings through conducting inferential analysis. The averages from the primary data collected on

the dependent variable (performance of commercial banks ) and the independent variables (global connectivity , online trading, diversification and artificial intelligence) was used to further compute correlation, ANOVA, model summary and coefficient of determination.

#### 4.4.1 Correlation Analysis

The researcher conducted a Pearson moment correlation in order to determine the correlation of the study variables and results presented in Table 15.

**Table 15: Correlation Analysis**

		Performance of Commercial Banks	Global Connectivity	Online Trading	Diversification	Artificial Intelligence
Performance of Commercial Banks	Pearson Correlation	1	-.718*	-.849**	-.731*	-.273
	Sig. (2-tailed)		.045	.008	.039	.512
Global Connectivity	Pearson Correlation	.718*	1	.937**	.891**	.622
	Sig. (2-tailed)	.045		.001	.003	.099
Online Trading	Pearson Correlation	.849*	.937**	1	.810*	.538
	Sig. (2-tailed)	.008	.001		.015	.169
Diversification	Pearson Correlation	.731*	.891**	.810*	1	.761*
	Sig. (2-tailed)	.039	.003	.015		.028
Artificial Intelligence	Pearson Correlation	.273	.622	.538	.761*	1
	Sig. (2-tailed)	.512	.099	.169	.028	

\*\* Correlation is significant at the 0.01 level (2-tailed).

**Source:** Field Data, (2024)

As shown in Table 15, there is a positive correlation in the financial novelties of magnitude 0.718 with global connectivity, 0.849 with online trading, and 0.731 with diversification of financial novelties management, and 0.273 with artificial intelligence to improve performance of commercial banks respectively.

#### 4.4.2 Regression Analysis

The study carried out a multiple regression analysis to establish the effects of influence of financial novelties on performance of commercial banks in Trans Nzoia County, Kenya. The results are shown in the subsequent sections.

**Table 16: Model Summary**

Model		R Square	Adjusted R Square	Std. Error of the Estimate
1	.857 <sup>a</sup>	.734	.716	.053106

R

a. Predictors: (Constant). Artificial Intelligence, Diversification, Online Trading and Global Connectivity

**Source:** Field Data, (2024)

From the model summary, the R square (coefficient of determination) is a commonly used statistics to evaluate model fit. The results of the regression analysis in table 16 indicate that  $R^2$  was .734 or 73.4 %. This shows that the four independent variables of financial novelties (global connectivity, online trading, diversification, and artificial intelligence) of the study explain only 73.4 % of the changes in the dependent variable (performance of commercial banks). Other variables not in the study contribute to the remaining 26.6% of the changes in performance of commercial banks. The statistical model shows that when the independent variables (global connectivity, online trading, diversification and artificial intelligence) and dependent variables (performance of commercial banks) interrelate, then the model has a correlation coefficient (R) of 0.857 and co-efficient of determination (R-square) of 0.734 signifying a positive relationship between two variables.

**Table 17: ANOVA**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	62.874	4	15.718	69.589	.001b
Residual	22.786	101	.226		
<b>Total</b>	<b>85.660</b>	<b>105</b>			

a. Dependent Variable: Performance of Commercial Banks

b. Predictors: (Constant), Artificial Intelligence, Diversification, Online Trading and Global Connectivity

**Source:** Field Data, (2024)

According to Table 17's results, the model is statistically significant in forecasting how financial innovations would affect commercial banks' performance since its significance value is 0.001, or less than 0.05. At the 5% level of significance, the F crucial was 5.31. The overall significance of the model is demonstrated by the fact that the F estimated (value = 69.589) is bigger than the F critical (5.31).

**Table 18: Coefficients<sup>a</sup> Unstandardized Standardized t Sig. Coefficients Coefficients B Std. Beta Error**

	Unstandardized Coefficients Std.	Standardized Coefficients Beta	t	Sig.	Coefficients B	Coefficients Error
(Constant)	1.817	.490	3.708	.000		
Global Connectivity	1.023	.629	1.278	1.626	.005	
Online Trading	1.253	.474	1.405	2.643	.002	
Diversification	1.888	.378	1.170	4.994	.008	
Artificial Intelligence	1.733	.172	.606	4.274	.001	

a. Dependent Variable: Performance of Commercial Banks

**Source:** Field Data (2024)

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$$

$$Y = 1.817 + 1.023X_1 + 1.253X_2 - 1.888X_3 + 0.733X_4 + \varepsilon$$

Where Y = Performance of Commercial Banks,

X1 = Global Connectivity

X2= Online Trading

X3= Diversification

X4= Artificial Intelligence and  $\varepsilon$

= Error Term

From the findings in the regression analysis, if the factors (global connectivity, online trading, diversification and artificial intelligence) were held constant, performance of commercial banks would be 1.817. A unit rise in global connectivity response would lead to a rise in performance of commercial banks by 1.023. A unit increase in online trading would lead to an increase in performance of commercial banks by 1.253. A unit increase in diversification of financial would lead to a increase in performance of commercial banks by 1.888. A unit increase in artificial intelligence would lead to an increase in performance of commercial banks by 0.733.

## **CHAPTER FIVE SUMMARY, CONCLUSION AND RECOMMENDATIONS 5.0**

### **Introduction**

This chapter presents a summary of key findings of the study, conclusion, and recommendations for future research. The study findings are presented on the influence of financial novelties on performance of commercial banks in Trans Nzoia County, Kenya. The data was collected exclusively from the questionnaire, which is the research instrument. The questionnaire was designed according to the objectives of this study.

### **5.1 Summary of the Findings**

This sub section evaluated the influence of financial novelties on performance of commercial banks in Trans Nzoia County, Kenya. From the findings financial novelties most practiced at the commercial banks in Trans Nzoia County were identified, amongst these efficient global connectivity, online trading, diversification and artificial intelligence were highly ranked. The

study assessed the relationship between financial novelties and performance of commercial banks. The outcomes of the correlation analysis indicate that there is positive association amid financial novelties and performance of commercial banks.

Financial novelties leads to commercial banks effectiveness, most of the respondents agreed strongly. The findings revealed that the commercial banks in Trans Nzoia County use global connectivity as the key financial novelties with online trading also being preferred in equal measure.

### **5.1.1 Global Connectivity and Performance of Commercial Banks**

The first objective of the study sought to establish the influence of global connectivity on performance of commercial banks in Trans Nzoia County The study findings revealed that the statement that to a great extent with a mean greater or equal to 4 and standard deviation greater than 0.5 financial novelties are used to forecast the future and therefore good for planning (4.51), banks now have much lower entry fees, which means that less wealthy individuals can now afford to open accounts (4.30), customers transactions are not restricted to the banks' hours and days of operations (4.1944) and customers are able to access to the bank branches easily in other countries (4.11), customers can access essential services such as cash withdrawal, bills payment and cash deposit through their mobile phones. (4.05).

The respondents also to a great extent with an average less than 4 and a standard deviation less 0.5 indicated that customers using mobile banking are more than those who visit the bank. (3.94) and that customers transactions are not restricted to the banks' currency rates (3.53). This means that global connectivity influence performance of commercial banks largely with an overall mean of 4.09.

### **5.1.2 Online Trading and Performance of Commercial Banks**

The second objective of the study sought to evaluate the influence of online trading on performance of commercial banks in Trans Nzoia County. The study findings revealed that the statement that The respondents to a great extent with a mean greater or equal to 4 and standard deviation greater than 0.5 indicated that the customers do trade in financial instruments, such as stocks, bonds, or other securities, through the online platforms provided by banks (4.362), online

trading serve as a tool to attract and retain customers through creation of customer's loyalty (4.167), approval of online trading enable cost reduction and increased profit making by the banks. (4.140).

To a great extent with a mean less than 4 and standard deviation less 0.5, the respondents indicated that adoption of technology as a convenient form of selling and advertising services of banks has increasingly raised profits (3.753), online trading offers speedy and timely services to customers (3.624), and that online trading tools are effective to customers (3.215). This makes it clear that the commercial banks in Trans Nzoia County applies online trading to a great extent with a general average of 3.9544.

### **5.1.3 Diversification and Performance of Commercial Banks**

The third objective of the study sought to investigate the influence of diversification on performance of commercial banks in Trans Nzoia County. The study findings revealed that the statement that to a very great extent with a mean greater or equal to 4 and standard deviation greater than 0.5 indicated that commercial banks engage in diversification for reasons, of managing risk, maximizing returns, and ensuring resilience in the face of economic uncertainties (4.632), commercial banks are prepared to handle risks (4.324) and that commercial banks are doing enough to increase their financial bases (4.125).

To a great extent with a mean less than 4 and standard deviation less 0.5, the diversifications help improve the commercial banks income (3.671), commercial banks help in producing tailor made products to meet specific needs of a particular group of customers (3.540), the commercial banks are target a particular category of customers (3.342) and the commercial banks are serving all or most of the customers' needs in the particular category (3.042). Diversification influence performance of commercial banks to a great extent as shown by an overall mean of 3.811

### **5.1.4 Artificial Intelligence and Performance of Commercial Banks**

The fourth objective of the study sought to recommend the influence of artificial intelligence on performance of commercial banks in Trans Nzoia County, Kenya. The study findings revealed that the statement that to a very great extent with a mean greater or equal to 4 and standard

deviation greater than 0.5 the respondents indicated that customers who do not have an account with the bank can still borrow bank loan using their mobile phones (4.309), that the commercial banks can easily detect security threats by the assistance of artificial intelligence technologies (4.285), the technology created on AI is competent to mimic the cognizable affairs which are characteristic to human brain (4.125), that artificial intelligence can be utilized by commercial banks to recognize and clean messy information (4.123), enhanced innovations along with new entries into the industry have stiffened the competition for the key players in the last few of years (4.119) and with AI in place, duration taken to handle complaint from customers is minimized or reduced (4.023). This indicates that the commercial banks in Trans Nzoia County applies the artificial intelligence to improve financial performance as evidenced by a high extent of 4.164



## 5.2 Conclusions

This study analysed the influence of financial novelties on performance of commercial banks in Trans Nzoia County, Kenya. From the inferential statistics, it was concluded that  $R^2$  was .734 or 73.4 %. This shows that the four independent variables of financial novelties (global connectivity, online trading, diversification and artificial intelligence) of the study explain only 73.4 % of the changes in the dependent variable (performance of commercial banks). Other variables not in the study contribute to the remaining 26.6% of the changes in performance of commercial banks. The statistical model shows that when the independent variables (global connectivity, online trading, diversification and artificial intelligence) and dependent variables (performance of commercial banks) interact, then the model has a correlation coefficient (R) of 0.857 and co-efficient of determination (R-square) of 0.734 signifying a positive relationship between two variables. This implies that the regression model has very good explanatory and predictor basis.

Further, the regression results concluded that diversification of financial novelties had great influence on performance of commercial banks. A further conclusion was made, going by the results of the correlation analysis that the relationship between diversification of financial novelties and performance of commercial banks was positive meaning that an increase in financial novelties would lead to significant improvement in performance of commercial banks.

It was concluded that the artificial intelligence greatly significantly influenced the performance of commercial banks. The implication is that the application of these technologies would lead to a significant improvement in performance of commercial banks. It was also concluded, as guided by the regression analysis results, that online trading influenced performance of commercial banks. A further conclusion was made, as informed by correlation analysis results, that effective global connectivity yields a moderate and positive association with performance of commercial banks

## 5.3 Recommendations

Since the study has shown that financial innovations have a favourable impact on commercial banks' performance, it advises Trans Nzoia County's senior management to embrace them widely. This research contributes to a more thorough knowledge of financial innovations and their impact on commercial banks' performance. From the findings, the study recommends that effective global connectivity such as increased number of internal branches, cross border mergers and transactions

are necessary for enhanced performance of commercial banks. Therefore, the management of commercial banks in Trans Nzoia County should strive to embrace effective global connectivity to improve performance of commercial banks.

i. Guided by findings and conclusions on online trading, the study recommends an enhanced cross selling opportunities, online trading tools or platforms, and increased number of online transactions. The application of online trading would build a strong and continuous management collaboration platform to enhance performance of commercial banks. ii. With regard to diversification of financial novelties (risk mitigated, new products introduced and income as a result of diversifications) the study recommends and appeals to the top management of commercial banks in Trans Nzoia County to embrace on the strategies. Finally, with regard to artificial intelligence, (number of fraud cases identified, total liquidity and capital managed, and number of new security tools introduced), when these are well adhered to, then performance of commercial banks in Trans Nzoia County would be realized.

#### **5.4 Suggestions for Further Study**

i. While this study makes significant contribution to financial novelties and performance of commercial banks, it emphasizes for more research that is not just confined to the financial novelties in commercial banks in Trans Nzoia County but, also on other factors affecting financial novelties in other counties



## REFERENCES

- Akram, K., Siddiqui, S. H., Nawaz, M. A., Ghauri, T. A., & Cheema, A. K. H. (2011). Role of knowledge management to bring innovation: an integrated approach. *International bulleting of Business Administration*. ISSN 1451-243X Issue 11 (2011)
- Amici, A., Fiordelisi, F., Masala, F., Ricci, O., & Sist, F. (May 01, 2013). Value creation in banking through strategic alliances and joint ventures. *Journal of Banking and Finance*, 37, 5, 1386- 1396
- Arora, A. (2013). An Analysis on Contribution of Bancassurance on Financial Performance of Bank in India. *Acropolis Institute of Management Studies and Research. Journal of Economics and Development*, 4, 6-20
- Chavan, J. (2013). Internet banking-benefits and diversification in an emerging economy. *International Journal of Research in Business Management*, 1(1), 1926.
- Chiang, K. F., Hung-Chi, L., & Wen –Chin, L. (2013). An Evaluation of Key Factors for Bancassurance Success. *International Journal of Application and Innovation in Engineering and Management*, 2 (12), 190-198
- Consultants, D., 2015. Ten types of Innovations
- Kemoli, A. K. (2012) Strategic Innovations and Performance of Commercial banks listed in Nairobi securities exchange MBA project University of Nairobi.
- Kotane, I. (2015). Use Of Financial And Non-Financial Indicators In Evaluation Of Company's Performance. *CBU International Conference Proceedings*, 3, 224. doi: 10.12955/cbup.v3.605
- Kothari, C. R. (2014). *Research Methodology; Methods and Techniques*. 2nd ed. New Delhi, New Age International Publishers
- Kumar, S., & Phrommathed, P. (2005). *Research methodology* (pp. 43-50). Springer US.
- Malenya, M. (2014). Factors that influence the growth of E-commerce in Nairobi Kenya. Unpublished MBA Project, United States International University -Africa.
- Malhotra, P. & Singh, B. (2009) The impact of Internet banking on bank performance and risk: The Indian experience *Eurasian Journal of Business and Economics*, 2 (4) (2009), pp. 4362
- to increase customer value. *Journal of Business Research*, 66(10), 2042-2050.
- McKinsey & Company, (2016). How block chains could change the world. Retrieved from: <https://www.mckinsey.com/industries/high-tech/ourinsights/how-blockchainscould-change-the-world>

- Mugenda, O. M., & Mugenda, A. G. AG (2008) *Research Methods: Quantitative and Qualitative Approaches*: Nairobi. African Centre for Technology Studies.
- Muisyo, J., Alala, O., & Musiega, D. (2014). The Effects of Mobile Money Services on the Performance of the Banking Institutions: A Case of Kakamega Town. *The International Journal Of Engineering And Science*, 3(4), 2319 –1805. doi: ISSN (e):2319 – 1813ISSN Mukeshimana, A., Nkechi, I. E., & Jefferson, H. O. (2019). Effect of Strategic Positioning on Organizational Performance of Independent Power Producers in Rwanda A Case Study of Selected IPPs. *European Journal of Business and Management Research*, 4(5).
- Mwando, S. (2013). Contribution of Agency Banking On Financial Performance Of Commercial Banks in Kenya. *Journal of Economics And Sustainable Development*, 4(20). SSN 22221700.
- Mwangi, D. W. (2014). Effect of strategic alliances on the growth of Kenya Commercial Bank group. Unpublished MBA project. University of Nairobi.
- Mwangi, J. W. (2010). An assessment of the Determinants of growth of Bancassurance in Kenya. Unpublished MBA project, University of Nairobi.
- Mwereru, J. K. (2018). *Strategic Alliances and Performance of Non-governmental Organizations in the Human Rights Sector in Kenya* (Doctoral dissertation, university of nairobi).
- Ndungu, C., & Njeru, A. (2014). Assessment of Factors Influencing Adoption of Agency Banking in Kenya: The Case of Kajiado North Sub County. *International Journal of Business and commerce*, 3(8), 91-111. doi: ISSN:
- Parth Misra, (2018). 5 Ways Blockchain Technology Will Change the Way We Do Business. Retrieved from: <https://www.entrepreneur.com/article/309164>

## APPENDICES

### Appendix I: Consent Form

I am **Mamer Panchol** a masters Student at Mount Kenya University. Am conducting a study on the **influence of Financial Novelties on Performance of Commercial Banks in Trans Nzoia County, Kenya**. I kindly wish to inform you that the study is in partial fulfilment of my master degree program. I recruit you conveniently to participate in this study and am seeking your consent. Confidentiality was maintained by using visit numbers rather than names and information gathered will not be revealed to anybody without your consent. Participation in this study is a voluntary. The research poses no any risks to the participants. This study would provide knowledge and act as part of reference points to the scholars who would want to further

research in the same area or related field or for banking in universities and other institutions of learning.

Before I involve you in this study, I kindly request you sign the declaration below.

I have read the purpose and I hereby agree/disagree to participate in this study.

**Respondent Principal Investigator** Sign .....  .....  
Sign.....Date.....

Mobile Number 0702713728

**Ethics Review Committee Office**

The Chairman  
Mount Kenya University, Ethics Review Committee  
P O Box 342 – 01000-THIKA



**Appendix II: Questionnaire**

This questionnaire is designed to collect data on the influence of financial novelties on performance of Commercial Banks in Trans Nzoia County- Kenya. Tick appropriately for choices in brackets and/ or fill in the spaces provided.

**SECTION A: General Assessment**

1. Name of the commercial bank.....
2. Tick your functional position in the bank .....

Chief Executive Officer (CEO) [ ]

Chief Credit Officer (CFO) [ ]

Chief Operation Officer (CFO) [ ]

Others [ ]

3. Please state your highest level of education?

Secondary level ( )

College Diploma ( )

Undergraduate degree ( )

Postgraduate degree ( )

Others ( )

4. Kindly specify your age bracket?

25 and below ( )

26-35 ( )

36-45 ( )

Above 45 ( )

5. How long have you worked in this bank?

Below 5 years ( )

5-10 years ( )

11-15 years )

Over 15 years ( )

6. a) Please indicate in percentage the trend of profit growth in your company for the last five years

- 20 % and below ( )
- 39-20% ( )
- 59-40% ( )
- 79-60% ( ) Above
- 80 % ( )

b) In your own opinion explain what might be the contribution towards profit growth

---



---

7. a) Please indicate in percentage the trend of growth for the following products in your company for the last five years.

(i) Loans

- 20 % and below ( )
- 39-20% ( )
- 59-40% ( )
- 79-60% ( )
- Above 80 % ( )

(ii) Savings

- 20 % and below ( )
- 39-20% ( )
- 59-40% ( )
- 79-60% ( )
- Above 80 % ( )

(iii) Number of customers 20

- % and below ( )
- 39-20% ( )
- 59-40% ( )
- 79-60% ( )
- Above 80 % ( )

b) In your own opinion explain what might be the contribution towards the level of growth of the products above

---



---

## SECTION B: Financial Novelties

In this section, the financial novelties adopted by the commercial banks in Trans Nzoia County- Kenya for organization performance was explored. They include global connectivity and bank Networking, online trading, diversification and securitization and data analytics and artificial intelligence (AI)

### B1: Global Connectivity and Bank Networking

<b>Global Connectivity</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
Number of internal branches					
Number of cross border mergers					
Number of transactions					

<b>Number of internal branches</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
Are customers able to access to the bank branches easily in other countries					
Customers transactions are not restricted to the banks' hours and days of operation					

<b>Number of cross border mergers</b>					
Customers transactions are not restricted to the banks' hours and days of operation					
<b>Number of transactions</b>					
In the convenience of their homes or businesses, clients may access necessary services including cash withdrawal, bill payment, and cash deposit.					
More people use mobile banking than go to the bank in person.					
Transactions by customers are not limited to the banks' regular business hours.					

### B2: Online Trading

<b>Statements</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
Offering speedy and timely services to customers					
Are online trading tools effective to customers					

That customers do trade in financial instruments, such as stocks, bonds, or other securities, through the online platforms provided by banks					
Banks are able to provide user-conducive online trading platforms					
Online trading serve as a tool to attract and retain customers through creation of customer's loyalty					

### B3: Diversification

<b>Positioning strategy</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
Income as results of diversification					
Total number of new products introduced					
Number of risks mitigated					

<b>Income as a result of diversification</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
Is the bank doing enough to increase its financial base					
How did diversification help in improving the bank income					
<b>Total new products introduced</b>					
Is the bank Producing tailor made products to meet specific needs of a particular group of customers					
Targeting a particular category of customers					
Serving all or most of your customers' needs in the particular category					
<b>Number of risks mitigated</b>					
Is the bank handling risks well					
How prepared is the bank to handle risks					

### B4: securitization and data analytics and artificial intelligence (AI)

<b>securitization</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>

<b>Fraud cases identified</b>					
<b>Total liquidity and capital managed</b>					
<b>Number of new security tools</b>					

<b>Number of fraud cases identified</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
How are customers from fraud cases					
Duration taken to handle complaint from customers					
<b>Total liquidity and capital managed</b>					
Customers can obtain liquid cash easily					
Customers who do not have an account with the bank can still borrow bank loan using their mobile phones					
<b>Number of new security tools</b>					
Customers are able to access non-bank services/products from the bank					
Customers can report security threats					

<b>Statement</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
The bank's clientele is greater than that of other banks.					
Compared to other banks, the bank has more branches.					
To meet the demands of its target clients, the bank provides unique, custom-made goods and services.					
The bank has expanded the range of goods and services it offers.					
The company has used mobile banking, agency banking, and online banking.					
The company collaborates with both large and small enterprises, insurance organizations, and mobile phone carriers.					
The company provides its clients with distinctive and valuable goods and services.					

The bank's use of technology has allowed them to provide quick services and protect client data.					
The digitalization of services and goods has resulted in higher interest rates on savings and loans.					



**Appendix**

**III: University Ethical Clearance Certificate**





REF: MKU/ISERC/3596  
TO: MAMER PANCHOL

Date: 11 April 2024

REG: MBA/2023/41191

Dear Sir/Madam,

**RE: INFLUENCE OF FINANCIAL NOVELTIES ON PERFORMANCE OF COMMERCIAL BANKS IN TRANS NZOIA COUNTY -KENYA**

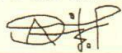
This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **2640**. The approval period is **11/04/2024 - 10/04/2025**.

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 **Mount Kenya University**
- 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 **Mount Kenya University** within 72 hours of notification
- iv. Any changes, anticipated or otherwise that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported to **Mount Kenya University** within 72 hours
- v. Clearance for 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 expiry of the approval period. Attach a comprehensive progress report to support the renewal
- vii. Submission of an executive summary report within 90 days upon completion of the study to **Mount Kenya University**

Prior to 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 also obtain other clearances needed.

Yours sincerely,



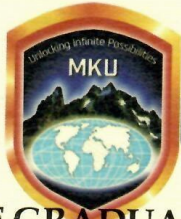
**Dr. Alfred Owino, PhD**

**Chairman, Mount Kenya University ISERC**

The Chairman  
Mount Kenya University  
Ethics Review Committee  
P. O. Box: 342 - 0100, Thika

Appendix

IV: Introductory Letter

  
**Mount Kenya University**  
**DIRECTORATE OF GRADUATE STUDIES**

M3A/2023/41191

11<sup>th</sup> April, 2024

*National Commission for Science Technology & Innovation (NACOSTI)*  
*Off Waiyaki Way, Upper Kabete,*  
*P.O Box 30623- 00100*  
**NAIROBI, KENYA**

Dear Sir/Madam,


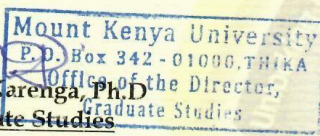
**RE: MAMER PANCHOL – REGISTRATION NO. MBA/2023/41191**

The purpose of this letter is to introduce the above named student who is pursuing **Master of Business Administration** in the department of **Accounting and Finance** in the school of **Business and Economics**.

The title of the research is **“Influence of Financial Novelties on Performance of Commercial Banks in Trans Nzoia County- Kenya.”** It has been cleared by the University’s Ethics Review Committee (Certificate attached) and now has to proceed to the field to collect data between **April, 2024 and June, 2024**.

Any assistance accorded to the student will be highly appreciated.

Thank you.

  
**Dr. Samuel M. Karenga, Ph.D**  
**Director, Graduate Studies**  


Appendix

V: NACOSTI Research Permit

REPUBLIC OF KENYA

Ref No: 341156

**RESEARCH LICENSE**

Date of Issue: 14/May/2024



This is to Certify that Mr. MAMER PANCHOL MALOU of Mount Kenya University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Transzoia on the topic: INFLUENCE OF FINANCIAL NOVELTIES ON PERFORMANCE OF COMMERCIAL BANKS IN TRANS NZOIA COUNTY -KENYA for the period ending : 14/May/2025.

License No: NACOSTI/P/24/35371

341156  
Applicant Identification Number

Walter Kimani  
Director General  
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Verification QR Code



NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

## Appendix

### VI: Authorization Letter from County Commissioner



**OFFICE OF THE PRESIDENT**  
MINISTRY OF INTERIOR AND NATIONAL ADMINISTRATION

Telegrams:  
Telephone : 054-30020  
E-mail: cctransnzoiacounty@yahoo.com  
When replying please quote our Ref

COUNTY COMMISSIONER  
TRANS NZOIA COUNTY  
P.O. BOX 11-30200  
KITALE

Ref. No: TNZC/CONF/ED.12/2VOL.V/168

15<sup>th</sup> May, 2024

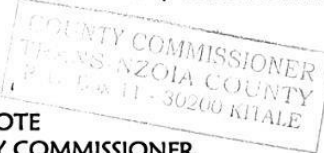
All Deputy County Commissioners  
TRANS NZOIA COUNTY

**RE: RESEARCH AUTHORIZATION**

This is to inform you that Mr. Mamer Panchol Malou of Mt. Kenya University has been authorized by National Commission for Science, Technology and Innovation to carry out research on "Influence of Financial Novelties on Performance of Commercial Banks" in Trans Nzoia County for the period ending 14<sup>th</sup> May, 2025.

Kindly accord him the necessary assistance that he may require.

  
HILLARY SHITOTE  
FOR: COUNTY COMMISSIONER  
TRANS NZOIA COUNTY



C.C.

1. County Director of Education  
TRANS NZOIA COUNTY
2. County Secretary  
COUNTY GOVERNMENT OF TRANS NZOIA

Appendix

VII: Authorization Letter from County Director of Education



**REPUBLIC OF KENYA**  
**Ministry of Education**  
**State Department of Early Learning and Basic Education**

Telegrams: .....  
Telephone: Kitale 054-31653 – 30200  
Fax: 054-31109  
Email: [transnzoiacde@gmail.com](mailto:transnzoiacde@gmail.com)  
When replying please quote:

**County Director of Education**  
**Trans Nzoia**  
**P.O. Box 2024 – 30200**  
**KITALE**

**Ref. No.** TNZ/CNT/CDE/R.GEN/1/VOL.III/53

**Date:** 14<sup>th</sup> May, 2024

**TO WHOM IT MAY CONCERN**

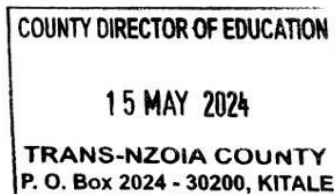
**RE: RESEARCH AUTHORIZATION – MR.MAMER PANCHOL MALOU**

This office acknowledges receipt of a letter on the above subject Ref. No. **341156** dated **15<sup>th</sup> May, 2024**.

**Mr.Mamer Panchol Malou** of **Mount Kenya University** is authorized to carry out research on **“Influence of Financial Novelties on Performance of Commercial Banks”** in Trans-Nzoia County for a period ending **14<sup>th</sup> May, 2025**.

The purpose of the letter is to request you to accord her the necessary assistance.

**PAMELA AKELLO, HSC**  
**COUNTY DIRECTOR OF EDUCATION**  
**TRANS-NZOIA COUNTY**



**Appendix**



### Appendix VIII: List of Commercial Banks in Trans Nzoia County

No.	Bank Name
1	KCB Bank Kenya Limited
2	Equity Bank (Kenya) Limited.
3	Co-operative Bank of Kenya Limited
4	ABISA BANK Limited
5	Standard Chartered Bank Kenya Limited
6	Diamond Trust Bank Kenya Limited
7	NCBA Bank Limited
8	Stanbic Bank Kenya Limited
9	I & M Bank Limited
10	Prime Bank Limited
11	Family Bank Limited
12	National Bank of Kenya Limited.
13	M-Oriental Bank Limited
14	Transnational Bank Limited



## Appendix IX: Similarity Index

