

https://dspace.org/

Factors influencing the adoption of Generative AI for customer service in the South African banking sector

Mgcina, Sibongile

2025
University of the Witwatersrand, Johannesburg
https://hdl.handle.net/10539/49231
Mgcina, Sibongile . (2025). Factors influencing the adoption of Generative AI for customer service in the South African banking sector [Master`s dissertation, University of the Witwatersrand, Johannesburg]. WIReDSpace. https://hdl.handle.net/10539/49231

Downloaded from a DSpace repository. https://dspace.org/

Factors influencing the adoption of Generative AI for customer service in the South African banking sector

Sibongile Mgcina

Dr Tendani Mawela

A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in the field of Digital Business

Johannesburg, 2025

ABSTRACT

AI technology has been identified as a technology that can transform how companies engage with their customers, offering novel opportunities for customization, streamlining operations, and enhancing results. Generative AI technology has taken this notion a nudge up through its transformative ability to create new and meaningful content such as text, images, and audio, leveraging advanced algorithms and neural networks trained on extensive datasets to generate synthetic data closely resembling real-world data.

This study explores the effective integration of Generative AI (GenAI) technologies in South African banks to enhance the functions of Relationship Managers (RMs) to help them deliver superior customer service. With the banking industry facing increasing customer expectations, digital transformation pressures, and stringent regulatory demands, the research investigates GenAI's potential to transform relationship management by automating routine tasks, providing real-time insights, and enabling personalised, data-driven customer engagement.

A qualitative research approach through the case study method and an interpretative research paradigm was followed to examine participants' perspectives across various roles including relationship managers, architects, technical leads, product and solution owners and senior executives in the banking sector. The data collection method followed was semi-structured interviews conducted using online capabilities. The data was analysed using both deductive and inductive methods which resulted in additional findings.

Key findings highlight GenAI's capacity to enhance customer service through hyper-personalisation, operational efficiency, and proactive decision-making. Practical applications, including task automation, compliance facilitation, and advanced financial advisory, were identified, highlighting the broad applicability of GenAI in banking. However, challenges such as data quality, system integration, regulatory compliance, and organisational readiness emerged as critical barriers to the adoption of this technology.

The research contributes to the field by expanding the existing literature, particularly by offering practical strategies to address legacy system constraints, align technological advancements with human expertise, and foster organisational readiness. Recommendations for banks include strengthening data governance, investing in employee training, addressing regulatory gaps by engaging and partnering with policymakers to shape relevant AI regulations, and adopting phased implementation strategies to balance automation with human oversight.

This study also outlines directions for future research, such as exploring GenAI's ethical dimensions, its long-term impact on workforce dynamics, and the development of regulatory frameworks. The findings underscore GenAI's transformative potential in banking, offering actionable insights for leveraging this technology to enhance relationship management and drive innovation in a rapidly evolving industry.

KEYWORDS

Artificial Intelligence; Generative AI; GenAI; Relationship Banking; Relationship Management; Banking; Banking Industry

DECLARATION

I, Sibongile Mgcina, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in the field of Digital Business at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Name: Sibongile Mgcina Signature: 

Signed at …Mulbarton……

On the …13…….. day of …February… 2024…..

DEDICATION

This research is dedicated to my incredible parents Jeanette and Cyprian Mgcina whose unwavering support, belief in me and my dreams, and the life lessons in hard work and perseverance have been my greatest source of strength. When I began this Master's journey, I could not have foreseen the time, dedication, and sacrifices it would demand. Yet, through every challenge, my mom and dad stepped in without hesitation, helping and making this journey possible.

To my dear friends and colleagues, your encouragement and unwavering support have been invaluable, guiding me through even the most challenging moments. Finally, to my son, your presence has been my greatest motivation and the reason I strive to be better every day.

This achievement is a reflection of my entire support structure, my "Tribe" for all the love, encouragement, and belief I have received, I am eternally grateful.

ACKNOWLEDGEMENTS

First and foremost, I would like to express my deepest gratitude to God for His guidance, strength, and wisdom throughout this journey. Without His grace, this work would not have been possible. Thank you to my ancestors both paternal and maternal for guiding me every step of my life. If it weren't for who you are I would not be, therefore I stay grounded and grateful that God bestowed me under your wings.

To my superwoman supervisor Dr Tendani Mawela, to say I am blessed to have been guided by you in this journey is an understatement. Your patience, your encouragement, your continual support and your feedback which was always thorough is what has seen me get to this point. Amazwi okubonga anginawo, ngathi inkosi ingakubusisa abundantly. Senteni Sibanza, the MMDB program manager, thank you for putting up with my frantic episodes when I would panic and call you 10 times.

To my research accountability partners Angie Lungile Mchunu, Wandile Nkosi and the Group 2 (The originals) team, thank you for your invaluable insights, encouragement, funny moments, and the accountability that kept me on track. Your support made this process bearable, manageable and rewarding.

To all the people who afforded me time to interview them, I thank you with all my heart. There would not be a research paper without your contribution. May the favour you granted me be returned to you all twofold.

To my friends and the entire support structure, thank you for being a pillar of strength, always offering words of encouragement and keeping me motivated throughout this journey. I am blessed to have all of you in my life. This research is a reflection of the collective effort of everyone who has been part of my journey, and I am truly grateful.

TABLE OF CONTENTS

LIST OF TABLES ..... **xi**

LIST OF FIGURES ..... **xii**

LIST OF ACRONYMS ..... **xiii**

CHAPTER 1. INTRODUCTION **14**

1.1 STATEMENT OF PURPOSE 14

1.2 BACKGROUND OF THE STUDY 14

1.3 RESEARCH PROBLEM 16

1.4 RESEARCH OBJECTIVES 21

1.5 RATIONALE 21

1.6 DELIMITATIONS OF THE STUDY 23

1.7 DEFINITION OF TERMS 23

1.8 ASSUMPTIONS 24

1.9 CHAPTER OUTLINE 25

1.10 CHAPTER SUMMARY 27

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK **28**

2.1 INTRODUCTION 28

2.2 DEFINITION OF TOPIC OR BACKGROUND DISCUSSION 28

2.3 GENERATIVE AI (GENAI) TECHNOLOGIES 29

2.3.1 PROPOSITION 31

2.4 GENAI OPPORTUNITIES 31

2.4.1 PROPOSITION 33

2.5 FACTORS INFLUENCING GENAI ADOPTION 34

2.5.1 PROPOSITION 37

2.6 GenAI implementation best practice guidelines recommendations 37
2.6.1 Proposition 39
2.7 ANALYTICAL FRAMEWORK 39
2.7.1 Theoretical Framework 39
2.8 Conclusion of Literature Review 45
2.9 Chapter Summary 46

CHAPTER 3. RESEARCH METHODOLOGY 47

3.1 Research Paradigm (Interpretivism) 49
3.2 Research approach (Qualitative) 50
3.3 Research design (Case Study) 52
3.4 Data collection methods 53
3.5 Population and sample 54
3.5.1 Population 54
3.5.2 Sample and sampling method 55
3.6 The research instrument 57
3.7 Procedure for data collection 58
3.8 Data analysis strategies and interpretation 59
3.9 Possible limitations and challenges of the study 60
3.10 Quality Assurance 60
3.10.1 Transferability 60
3.10.2 Credibility 61
3.10.3 Dependability 61
3.11 Ethical considerations 61
3.12 Chapter Summary 62

CHAPTER 4. PRESENTATION AND DISCUSSION OF FINDINGS 63

4.1 Introduction 63
4.1.1 Participants Posture 66

4.2 FINDINGS AND ANALYSIS PERTAINING TO PROPOSITION 1 67
4.2.1 THEME 1: GENAI SUPPORT FOR RMS IN BANKING 67
4.3 FINDINGS PERTAINING TO PROPOSITION 2 80
4.3.1 THEME: OPPORTUNITIES AND USE CASES FOR GENAI IN BANKING 80
4.4 FINDINGS PERTAINING TO PROPOSITION 3 92
4.4.1 THEME: FACTORS INFLUENCING GENAI ADOPTION IN BANKING (TOE) 92
4.5 FINDINGS PERTAINING TO PROPOSITION 4 100
4.5.1 THEME: CRITICAL SUCCESS FACTORS FOR THE IMPLEMENTATION OF GENAI IN BANKING 100
4.6 SUMMARY OF THE RESULTS/FINDINGS 111
4.7 CHAPTER SUMMARY 112

CHAPTER 5. CONCLUSIONS & RECOMMENDATIONS 114

5.1 INTRODUCTION 114
5.2 CONCLUSIONS REGARDING RESEARCH OBJECTIVES 115
5.3 RECOMMENDATIONS 118
5.4 RESEARCH CONTRIBUTION 119
5.5 REFLECTION ON RESEARCH LIMITATIONS 121
5.6 SUGGESTIONS FOR FURTHER RESEARCH 123
5.7 CONCLUSION 124

REFERENCES 129

APPENDIX A (ETHICAL CLEARANCE FORM)..... 146

APPENDIX B (SUPERVISOR APPROVAL EMAIL)..... 147

APPENDIX C (PARTICIPANT CONSENT FORM) 148

APPENDIX D (PARTICIPANT INFORMATION SHEET) 149

APPENDIX E (INTERVIEW GUIDE)..... 150

APPENDIX F (PARTICIPANTS PROFILES) 153

LIST OF TABLES

Table 1: *Brief Chapter Outline* 25

Table 2: *Previous studies based on TOE Framework* 44

Table 3: *Overview of the Research Approach of the Study* 47

Table 4**:** *Advantages and disadvantages of the qualitative research approach* (Taherdoost, 2022) 51

Table 5: Final Sample 57

Table 6: *Overview of Participants of the Study* 66

Table 7: *GenAI Support for RMs in Banking Sub-Themes* (Source: Authors own) 68

Table 8: *Opportunities and Use Cases for GenAI in Banking Sub-Themes* (Source: Authors own) 81

Table 9: *Factors Influencing GenAI Adoption in Banking Sub-Themes (*Source: Authors own*)* 93

Table 10: *Critical Success Factors for the Implementation of GenAI in Banking Sub-Themes* (Source: Authors own) 101

Table 11: *Recommendations* 118

Table 12: *Reflection on Research Limitations* 121

Table 13: Consistency table: research questions, propositions, data collection and data analysis 126

LIST OF FIGURES

Figure 1: *Brief Chapter Outline*..... 25

Figure 2**:** *TOE Framework adopted from (Tornatzky & Fleischer, 1990)*..... 43

Figure 3: *Word Cloud from Data Collected* 66

Figure 4: *Participants Overview* 67

Figure 5: *GenAI Support for RMs in Banking Sub-Themes*..... 69

Figure 6: *Opportunities and Use Cases for GenAI in Banking Sub-Themes*.... 83

Figure 7: *Factors Influencing GenAI Adoption in Banking Sub-themes*..... 94

Figure 8: *Critical Success Factors for the Implementation of GenAI in Banking Sub-Themes*..... 103

LIST OF ACRONYMS

4IR	Fourth Industrial Revolution
AI	Artificial intelligence
AML	Anti-Money Laundering
CRM	Customer Relationship Management
CSP	Cloud Service Providers
GANs	Generative Adversarial Networks
GenAI	Generative Artificial Intelligence
GPU	Graphical processing unit
KYC	Know Your Customer
LLMs	Large Language Models
NPS	Net Promoter Score
POPIA	Protection of Personal Information Act
RM	Relationship Managers
SaaS	Software as a Service
SCV	Single Customer View
VAEs	Variational Autoencoders
XAI	Explainable AI

CHAPTER 1. INTRODUCTION

1.1 Statement of purpose

This qualitative study investigated how banks in South Africa can effectively integrate Generative AI technologies within their Relationship Management functions to support Relationship managers in providing superior customer service. Investigating key opportunities and challenges associated with the adoption of this technology may provide valuable insights for the banking industry.

1.2 Background of the study

Businesses are adopting artificial intelligence (AI) to enhance customer experience and engagement. AI technology has the potential to transform how companies engage with their customers, offering novel opportunities for customization, streamlining operations, and enhancing results (Ahmed & Hussain, 2023). This shift can also be seen in the South African banking industry.

The banking landscape in South Africa is changing as traditional banks compete with newly established banks, technology-enabled start-ups, and an increasing number of retailers offering financial services and credit products alike (Mthelebofu, 2022). Retail banks can gain a competitive advantage by focusing on relationship banking, which entails making a strategic effort to cultivate and improve customer relationships over time.

This approach provides several advantages, including the acquisition of customer-specific insights, which are critical for investment decisions, borrowing activities, and transactional engagements (Babajide, 2023). Relationship banking makes it easier to assess the profitability of these relationships through repeated interactions with individual customers across the institution's diverse range of banking products and services (Babajide, 2023).

In South Africa, banks like First National Bank, ABSA, Nedbank, and Standard Bank rely heavily on relationship banking as it is critical for their operational frameworks. This approach is important where clients are eligible for personalized services such as private banking, wealth management, and business banking. Banks focus on relationship banking to meet the diverse needs of both individuals and businesses across different income levels (O'Reilly et al., 2023). According to Deloitte (2023), relationship bankers have been in charge of bridging the gap between bank offerings and their clients' varied product needs (O'Reilly et al., 2023).

Digitization has propelled banks to look at integrating 4IR technologies to be competitive and stay relevant in this digital era (Louw & Nieuwenhuizen, 2020). AI is one of the technologies that has sparked an interest in the banking domain due to its potential to transform banking in all aspects including customer services. Among various AI technologies, Generative AI (GenAI) stands out for its potential to revolutionize customer service delivery (Urban, 2020).

Customers expect personalized banking services in the digital age, prompting financial institutions to seek innovative solutions to meet these demands (Sheth et al., 2022). One solution is the integration of artificial AI, specifically GenAI, to help Relationship Managers (RMs) better meet the needs of individual customers. GenAI's ability to generate data-driven content and solutions on its own makes it an effective tool for RMs looking to provide personalized banking experiences (Singh, 2024).

The South African banking sector is rapidly evolving, and there is a growing awareness of the need to use technology to improve customer service. Jaiwant (2022) states that in the Industrial 4.0 era, banks should invest in AI and FinTech to help relationship managers with service delivery. GenAI can aid RMs by automating repetitive tasks, allowing them to focus on more clients and strategic activities (Ho & Wong, 2023). Singh (2024) adds that using GenAI to automate simple tasks will free RMs to concentrate on more complex tasks requiring deeper insights and expertise within their organizations (Singh, 2024).

GenAI is a transformative technology capable of creating new and meaningful content such as text, images, and audio, leverages advanced algorithms and neural networks trained on extensive datasets to generate synthetic data closely resembling real-world data (Feuerriegel et al., 2024; Bandi et al., 2023). It is exemplified by technologies like Dall-E 2, GPT-4, and Copilot, which can significantly enhance the capabilities of relationship managers in banking by creating new and meaningful content from the information it has been trained on (Feuerriegel et al., 2024; Sari, 2023).

This technology leverages advanced algorithms and neural networks to generate realistic and novel data, enabling applications such as text generation and human-like chatbots (Bandi et al., 2023; Singh, 2024). In banking, GenAI "copilots" assist relationship managers by consolidating client information and providing timely recommendations, thereby facilitating more effective and focused client interactions (Sari, 2023; EY, 2023).

The adoption of GenAI in banks is driven by its potential to streamline operations, improve customer service, and offer personalized financial advice through data analysis (Singh, 2024). Further validation of generative AI in banking is backed by noticeable investment by different software companies where they are developing and, in some cases, have developed secure generative AI models to be able to cater to the banking industry as it is highly regulated (Dennis, 2023). Two examples, Salesforce has Einstein Copilot and EinsteinGPT (M2 Presswire, 2024). Temenos has developed a new Generative AI solution that allows banks to automatically and accurately categorize and tag customer transactions from free-text descriptions, even in various languages (Financial Services Monitor Worldwide, 2023).

1.3 Research problem

The primary issue addressed in this research is the effective use of Generative AI (GenAI) technologies to support Relationship Managers (RMs) in enhancing customer service in the banking sector. The study focuses on leveraging GenAI to improve interaction quality, efficiency, and personalization in customer service,

particularly in the South African banking sector (Atadoga et al., 2024; Lazo & Ebardo, 2023; Singh, 2024).

In banks, RMs manage large client portfolios, making it difficult to meet all clients' needs, resulting in low customer satisfaction and increased complaints, which adversely affect Net Promoter Scores (NPS). NPS is a widely used metric for assessing customer satisfaction and loyalty, indicating whether a customer is a promoter, detractor, or neutral (Pechter & Kuusik, 2024). The rise of digital banking has heightened client expectations, necessitating banks to adopt digital capabilities to remain competitive (Juniper Research Trends, 2024; Singh, 2024).

According to Atadoga et al. (2024), the shift towards AI-powered services is key as customer expectations are constantly changing, and personalized service is becoming a crucial differentiator in the competitive banking industry (Atadoga et al., 2024; Lazo & Ebardo, 2023). The research aims to address the need for increased efficiency, personalization, and quality customer service in banks, specifically using Generative AI technologies by Relationship Managers (Bhattacharya & Sinha, 2022; Lazo & Ebardo, 2023).

This issue is critical as banking customers increasingly demand fast, efficient, and personalized services, which are challenging to scale using traditional methods without significant costs. Banks are under pressure to adopt innovative technologies to meet these demands while enhancing customer satisfaction and retention (Lazo & Ebardo, 2023; Manyanga et al., 2022). The number of customer complaints received by banks increased in 2022 compared to 2021, with one bank seeing an 18% increase. Cases referred to the banking ombudsman rose by 13%, indicating customer dissatisfaction issues (Moonstone Information Refinery, 2023).

Maintaining high customer service standards is vital for customer retention and acquisition in a competitive banking industry. Traditional methods are becoming ineffective as customers expect personalized and prompt service. Banks manage large volumes of customer interactions efficiently while controlling costs (Lazo & Ebardo, 2023; Manyanga et al., 2022). AI integration in daily operations is necessary for banks to stay relevant (Bhattacharya & Sinha, 2022).

There are a few aspects to consider, bank customers expect efficient, personalized, and responsive services. RMs need tools to enhance their productivity and interaction quality. Banks may consider implementing innovative technologies to improve service and operational efficiency to stay competitive. Bank technology managers need to provide suitable tools for RMs, and regulators must ensure new technologies adhere to compliance and ethical guidelines (Lazo & Ebardo, 2023).

McKinsey predicts that AI solutions will increase the value of the global banking industry by up to $1 trillion per year (Bhattacharya & Sinha, 2022, Biswas et al., 2020). In this global survey on AI integration within the financial services sector, findings reveal that 60% of respondents have incorporated at least one AI capability into their operations. Notable AI technologies in use include robotic process automation (36%), employed for structured operational tasks, virtual assistants, or conversational interfaces (32%) enhancing customer service divisions, and machine learning techniques (25%) applied to fraud detection and risk management. While AI implementation among financial services firms tends to be episodic and focused on specific use cases, a growing number of banking leaders are adopting a comprehensive approach, embedding advanced AI technologies across the entire operational lifecycle, from front-office to back-office functions (Biswas et al., 2020).

AI applications were expected to save banks $447 billion by 2023 (Fares et al., 2023). AI in banking was projected to expand to $63.03 billion by 2023, with a 32.6% compounded growth rate from 2021 to 2030. Spending on GenAI in banking is predicted to grow by over 1,400% by 2030, with banks investing $85 billion in GenAI by 2030, up from $6 billion in 2024 (Juniper Research Trends, 2024).

Existing literature has been focused on the theoretical benefits and applications of AI in banking, including improved customer service and operational efficiency. Most papers focus on automated decision-making and GenAI chatbots, which provide 24/7 customer support on digital platforms (Singh, 2024). Other studies have examined case studies of global banks that have successfully implemented AI to enhance customer service (Atadoga et al., 2024; Kaur et al., 2020).

There has been a focus on the challenges to AI adoption, such as regulatory requirements, trust, privacy, and technological integration issues (Kaur & Tanwar, 2023).

Like any other technology development, studies have been focusing on the adoption of GenAI. Lazo and Ebardo (2023) pg. 55 state that “efforts to systematically synthesize studies on GenAI adoption within the banking industry have been observed. However, these studies have tended to concentrate on specific stakeholders.” Lazo and Ebardo (2023) listed the studies and their area of focus, Ghandour (2021) and Hentzen et al. (2022) focused on a single stakeholder in their respective analyses. Hentzen et al. (2022) specifically delved into studies concerning AI adoption in financial services but primarily emphasized the customer-facing dimension. Conversely, Ghandour (2021) examined the opportunities and challenges surrounding AI adoption from the perspective of banks themselves (Lazo & Ebardo, 2023).

Although most studies are focused on the adoption of Gen AI chatbots and automated decision-making. According to Lazo and Ebardo (2023), the focus of studies on AI adoption in the banking sector has evolved significantly over time. Where they initially focused primarily on chatbots, research has since broadened to encompass a wide array of AI applications within the industry. These applications now include areas such as fraud detection, credit and risk management, sales and marketing, investment advisory, data management, and the automation of back-end services. This expansion of scope is evident in the work of scholars such as Ashta and Herrmann (2021), Belanche et al. (2019), Bhatia et al. (2020), Elrefai et al. (2021), Haddad (2021) as well as Tiwari and Saxena (2021) (Lazo & Ebardo, 2023).

The integration of GenAI within the banking sector represents a significant opportunity for enhancing customer services. This technology not only promises to redefine customer interaction paradigms by equipping RMs with advanced tools for personalization, predictive analytics, and process automation, but it also accelerates the sector's adoption of AI (Ahmed & Hussain, 2023).

However, there is a noticeable lack of comprehensive understanding and empirical research on its practical implementation and optimization, particularly in the roles of Relationship Managers (Singh et al., 2024). This gap is crucial given Johannesburg's status as a financial hub in South Africa, where innovations in banking could have wide-reaching effects on economic development (International Trade Administration, 2024).

Integrating GenAI poses complex challenges such as protecting customer privacy, avoiding biases in AI decision-making, and integrating new technologies with existing banking systems (Brynjolfsson et al., 2023; Singh, 2024). These issues include ethical dilemmas and the risk of widening digital divides. Managing concerns regarding data privacy and security, complying with regulations, filling skill gaps, modernizing old systems, and ensuring trust and transparency require thorough investigation to optimize GenAI deployment in banking infrastructure (Luz & Olaoye, 2024; Paliwal, 2023).

This research aims to provide practical insights into deploying GenAI in the South African banking sector, focusing on how it can assist RMs in providing superior customer service, highlighting opportunities for GenAI to improve customer service, discussing ethical considerations, and identifying main implementation barriers. The goal is to offer actionable insights for banks to leverage GenAI effectively while navigating ethical and operational challenges.

The study seeks to answer these questions: How can Generative AI technologies be effectively adopted to support Relationship Managers in providing enhanced customer service within the banking context in South Africa? What are the key opportunities and challenges that can be associated with the utilization of this technology?

1.4 Research objectives

The objectives of this study are to:

1. Explore Generative AI (GenAI) technologies and how they can support Relationship Managers in delivering personalized and timely customer service in banking.
2. Identify key opportunities and use cases where GenAI can enhance the functions and interactions of Relationship Managers to improve customer service in the banking sector.
3. Outline factors influencing the adoption and possible challenges to integrate GenAI into relationship management, including ethical concerns, technological constraints, regulatory issues, and organizational barriers.
4. Provide insights and recommendations for effective implementation and integration of GenAI tools to enhance the customer servicing process by RM's in banking.

1.5 Rationale

Recent advancements in AI technology have enabled more personalized and efficient customer interactions through automation and data analysis capabilities (Ahmed & Hussain, 2023; Chui et al., 2023). GenAI has shown potential in various sectors for improving service delivery, sighting possible benefits in the banking sector (Tad et al., 2023).

GenAI is emerging as a powerful tool that is reshaping the banking landscape, presenting significant opportunities for innovation and efficiency. Its strategic adoption is critical for banks to remain competitive and meet the evolving needs of tech-savvy customers (Singh, 2024). However, the integration of such technologies in the South African banking sector remains underexplored.

The use of GenAI has the potential to address specific challenges faced by Relationship Managers, such as managing substantial amounts of customer data and efficiently providing tailored financial advice. Artificial intelligence (AI)

possesses the capability to analyse extensive volumes of customer data, including demographics, purchase history, browsing behaviour, and social media activity. AI procedures and algorithms can analyse customer data to identify patterns and trends, which can be used by relationship managers to recommend relevant products or services to customers (Ahmed & Hussain, 2023; Atadoga et al., 2024).

Although the introduction of GenAI comes with many benefits, there are some challenges associated with it, which may include among others, regulatory compliance, infrastructure readiness, ethical considerations, technological limitations, organizational barriers trust issues, data privacy, and the potential displacement of jobs (Atadoga et al., 2024; Fares et al., 2023), some of which are particularly sensitive issues in the South African socio-economic context. This paper seeks to identify and articulate the challenges that come with the implementation of GenAI to allow for the building of strategies to overcome these challenges.

The study aims to provide a view of the potential benefits of GenAI for improving customer service in the banking sector and to identify the challenges associated with its successful implementation. Specifically focusing on RM's working in the banking sector, it seeks to offer practical insights into the deployment of GenAI. This involves an exploration of its capacity to support Relationship Managers in delivering superior customer service, along with an examination of the primary barriers hindering its adoption.

Despite the increasing interest in AI technologies, research on the application of Generative AI to support Relationship Managers in the banking industry remains scarce, particularly within the South African context. In addition to supplementing existing international research on the topic, the study will provide context-specific arguments on how the implementation of GenAI in the South African banking sector could aid relationship managers in simplifying and refining their duties. Furthermore, it will provide relationship managers with some reference into the possible challenges that may come with the implementation of GenAI within their practice. Thus, adding a South African perspective on the integration of GenAI within the South African banking industry.

1.6 Delimitations of the study

The research focused solely on the utilization of Generative AI technologies by Relationship Managers within the banking sector in South Africa. It did not extend to other AI technologies or GenAI applications outside the banking industry.

1.7 Definition of terms

Artificial Intelligence (AI) is the theory and development of computer systems capable of performing tasks that historically required human intelligence, such as recognising speech, making decisions, and identifying patterns. AI is an umbrella term that encompasses a wide variety of technologies, including machine learning, deep learning, and natural language processing (NLP) (Ahmed & Hussain, 2023; Åström et al., 2022; Bandi et al., 2023; Thakkar et al., 2024).

Generative AI also known as Gen AI is an advanced type of artificial intelligence that can be used by anyone, even those without technical expertise, through simple inputs. GenAI can create various kinds of content, such as text, images, videos, sounds, 3D designs, codes, and more, in response to specific text inputs given to the AI system for a desired outcome (Bandi et al., 2023; Brynjolfsson et al., 2023; Feuerriegel et al., 2024)

Relationship Managers in Banking are business bankers who occupy a position close to the customer and act as the point of contact with the customer thus managing the relationship between the bank and the customer (Colgate & Lang, 2005)

AI Copilot also known as an AI assistant, is an artificial intelligence system designed to assist and collaborate with humans in performing tasks or making decisions, helping users accomplish routine tasks faster than before (Bendersky, 2024).

Variational Autoencoders (VAE) is a neural network that encodes input data into a compressed latent variable space before reconstructing the original data. VAEs use a probabilistic approach to encode and decode data, capturing its

structure and variation and generating new samples from the learned latent space. This distinguishes them from traditional autoencoders (Bandi et al., 2023).

1.8 Assumptions

Participants were available for the study, and they answered interview questions honestly and factually.

Generative AI holds the potential to add value within the banking industry for relationship managers.

Understanding ways in which GenAI assists relationship managers requires qualitative methods of data collection, such as interviews with relationship managers and technology experts.

Factors influencing the integration of GenAI with banking organisations can be described by the Technology-environment-organization (TOE) framework.

The banks and their customers can benefit from customer service enhancement through GenAI if it is ethically implemented for relationship managers.

There are challenges associated with the implementation of GenAI for relationship managers.

1.9 Chapter Outline

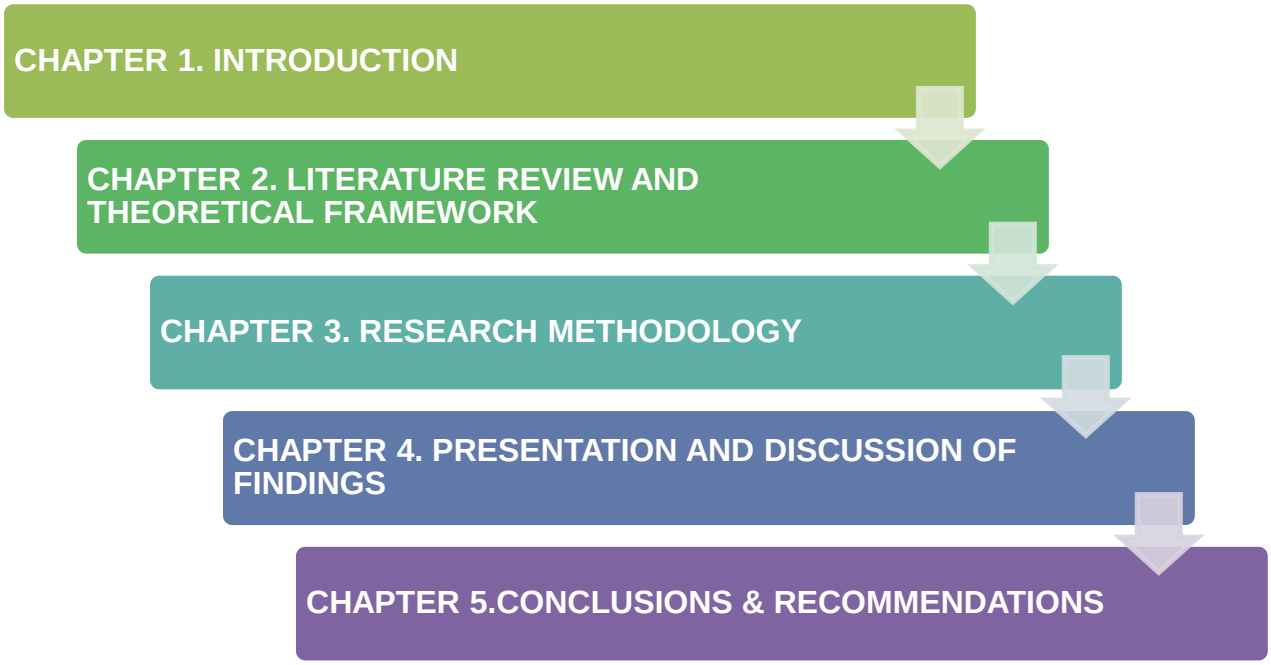

Figure 1: *Brief Chapter Outline*

Table 1: *Brief Chapter Outline*

CHAPTER	OVERVIEW
CHAPTER 1. INTRODUCTION	This chapter presents an overview of the factors influencing the adoption of generative AI (GenAI) to enhance customer service within the context of relationship management in the South African banking sector. It further outlines the purpose of the study, the research problem being investigated, the objectives guiding the research, the study's rationale, the assumptions underpinning the research process, and the limitations associated with the study.
CHAPTER 2. LITERATURE REVIEW	This chapter offers a review of literature relevant to the study, drawing on the contributions of researchers, scholars, analysts, and authors. It synthesises existing knowledge of generative AI

AND THEORETICAL FRAMEWORK	and its business applications, with particular emphasis on its potential use within the banking industry for customer services. The chapter provides an overall definition of AI as a concept as well as a specific definition of GenAI. The literature review is structured around the research objectives outlined in Chapter 1, which provided a foundation for the development of propositions aligned with each objective. Additionally, the chapter examines the theoretical framework underpinning the study, specifically the Technology-Organisation-Environment (TOE) framework, which serves as the conceptual basis for the research.
CHAPTER 3. RESEARCH METHODOLOGY	This chapter outlines the research methodology employed in the study, detailing the approach and procedures undertaken to achieve the research objectives. It encompasses an explanation of the research paradigm, approach, and design, followed by an overview of the data collection methods, target population, and sampling strategies. The chapter further elaborates on the research instrument, data analysis techniques, and interpretation methods. Additionally, it addresses the potential limitations and challenges encountered during the study, along with measures for quality assurance and adherence to ethical considerations.
CHAPTER 4. PRESENTATION AND DISCUSSION OF FINDINGS	This chapter presents the presentation, analysis and discussion of the findings derived from the qualitative investigation into the factors influencing the adoption of generative AI for customer service within the South African banking sector. It outlines the analytical process used to interpret the collected data and provides a detailed discussion of the findings, which are integrated with the overall analysis to provide insights into the research objectives.

CHAPTER 5. CONCLUSIONS & RECOMMENDATIONS	This chapter provides the concluding insights of the study, research contribution, reflection on research limitations as well as recommendations and suggestions for further studies on the adoption of GenAI within the banking sector.

1.10 Chapter Summary

This chapter delved into the purpose, background, research objectives, rational, exclusions definition of terms used as well as assumptions of the study. The next chapter will look at the literature reviewed and the chosen theoretical framework for the study.

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter provides a review of literature relevant to the study as presented by various researchers, scholars, analysts, and authors. It summarizes the literature reviewed for the study on Generative AI and its business applications, with a focus on how it can be used in the banking industry. Furthermore, the literature review also includes a review of the theoretical framework, namely Technology-Organisation-Environment, which has been selected to ground the study.

2.2 Definition of topic or background discussion

Overview of Generative AI

Artificial Intelligence (AI) is the theory and development of computer systems that can perform tasks that previously required human intelligence, such as speech recognition, decision-making, and pattern recognition. AI refers to a wide range of technologies, including machine learning, deep learning, and natural language processing (NLP) (Ahmed & Hussain, 2023; Astrom et al., 2022; Bandi et al., 2023; Thakker et al., 2024). AI's integration into banking is said to significantly boost efficiency, reduce costs, and create new value opportunities. Its capability to rapidly and accurately process large data sets transforms the industry, enhancing customer behaviour understanding, risk management, and market trend tracking (Atadoga et al., 2024). Customers expect personalised banking services in the digital age, prompting financial institutions to seek innovative solutions to meet these demands (Sheth et al., 2022). One solution is the integration of AI, especially GenAI.

Generative AI, defined as technology that is capable of creating new content such as text, images, and audio based on training data, is revolutionising various industries. Key applications include image synthesis, text generation, music composition, and human-like chatbots, impacting sectors like entertainment,

healthcare, and finance (Feuerriegel et al., 2024; Bandi et al., 2023). Generative AI platforms, utilizing neural networks, recognize patterns in existing data to generate new content, making it accessible even to non-experts through plain text inputs (Singh, 2024). Prominent models such as Large Language Models (LLMs), Generative Adversarial Networks (GANs), and Variational Autoencoders (VAEs) highlight the diverse potential of this technology (Singh, 2024). These models require extensive datasets and significant computing resources for training, emphasizing the complexity and depth of the technology (Singh, 2024).

In the banking sector, Generative AI offers transformative potential, particularly in enhancing customer service and operational efficiency. Copilots are designed to support relationship managers, consolidate client information, and provide recommendations, thus improving customer interactions (Sari, 2023). The technology's ability to streamline data extraction and report generation is noted for boosting productivity in South African banks (EY, 2023). The accuracy of the outputs needs to be verified for the time being, humans will need to be kept informed (Van den Berg & Pather, 2023). Banking industries across the globe are looking at this capability and use cases they can use the capability for (Biswas et al., 2020). Use cases include 24/7 customer support through chatbots, personalized product recommendations, and tailored financial advice based on customer data (Lazo & Ebardo, 2023; Singh, 2024). The banking industry's readiness for Generative AI is reflected in its digitization efforts and exploration of applications across frontline and back-office operations, analytics, and customer service (Dennis, 2023; Intelligence, 2023).

2.3 Generative AI (GenAI) technologies

***Objective 1**: Explore Generative AI (GenAI) technologies and how they can support Relationship Managers in delivering personalized and timely customer service in banking.*

Customer service organisations are technology-concentrated; therefore, their operation is significantly affected by innovative technologies such as AI. For example, GenAI offers many opportunities for better customer service,

including allowing AI agents to access back-end systems, encouraging topic detection and sentiment analysis, and enabling customer agents such as relationship managers to deliver personalised services to their clients (Murphy, 2023 cited in Cao et al., 2024). Thus, AI technologies such as GenAI can affect the existing ambidexterity mode of an organisation. While enhancing services and work processes already existing within an organisation, AI allows for the development of new work operations and services offered to clients. Ultimately, rebalancing as well as manipulating shifts in ambidexterity modes within an organisation (Cao et al., 2024).

Singh et al. (2024), indicate that implementing GenAI within an organisation improves operational efficiency, streamlines workflows, and enhances decision-making processes. GenAI will handle simpler tasks while freeing up human labour for more complex tasks for their organizations which require deeper insights and knowledge (Dhake et al., 2024). Human expertise combined with the power of AI will result in more personalized and comprehensive plans for customers, whether it is personalized budgeting or saving recommendations, smarter investment and wealth management, or trading decisions. They conclude by discussing how SBI Card, a subsidiary of State Bank of India, uses Generative AI and machine learning to enhance the customer experience (Singh et al., 2024). Ho and Wong (2023) state that GenAI can aid RMs by automating repetitive tasks, allowing them to focus on more clients and strategic activities (Ho & Wong, 2023).

Organisations which adopt explorative and innovative technologies such as GenAI will most likely experience improvements in their organisations. This includes improvements in their general work processes and the quality of the service they offer to their customers (Mikalef & Gupta, 2021). Within banks, relationship managers would most likely see improvements in their engagements with customers and consequently increase revenue through the attraction of new customers and retention of old ones. Overall, the adoption of GenAI within a bank improves customer engagement by enhancing the quality of services, its personalisation, efficiency, and innovation across different facets of banking operations. Ooi et al. (2023) and Singh (2024)

states that one of the most highlighted benefits of Generative AI (GenAI) in banking is its ability to provide personalized and timely customer service (Ooi et al., 2023; Singh, 2024).

GenAI assists with a reduction of service errors because it senses inconsistencies and improves the quality of services within banks. It identifies trends and patterns in bank data, which improves service delivery by banking professionals through the provision of insights into complex financial issues (Taneja & Rao, 2023). Relationship Managers are crucial in ensuring customer satisfaction, and the adoption of GenAI within banks could simplify most of their work processes. The following section provides a discussion on how RMs can benefit from the adoption of GenAI within banks.

2.3.1 *Proposition*

The adoption of Generative AI (GenAI) technologies in South African banks will improve Relationship Managers' ability to provide personalized and timely customer service by improving operational efficiency, providing valuable customer insights, and increasing customer engagement.

2.4 GenAI Opportunities

Objective 2**:** *Identify key opportunities and use cases where GenAI can enhance the functions and interactions of Relationship Managers to improve customer service in the banking sector.*

There has been a rise in competition in the financial services industry, where traditional banks compete for clients with non-bank financial institutions. Banks have now resorted to relationship banking, which entails building long-term relationships with clients to offer them personalised services to retain them (Guo, 2017). Relationship managers (RMs) in banks play a vital role in promoting and retaining robust client relationships, particularly with high-net-worth clients, corporate clients, or institutional clients. Their responsibilities include understanding the financial needs of the clients, providing personalised financial guidance and solutions, portfolio management which includes loans and

investments, and looking out for the client's best financial interests (Bansal, 2022).

RMs look for new business opportunities, observe regulatory obligations, and examine performance within the bank while making sure that the service that the clients are receiving is of high quality, and that their issues are resolved quickly. To offer financial recommendations to clients, RMs ensure that they are well informed about any developments in the economy as well as the trends in the market. They play a significant role in ensuring that the business grows through their ability to acquire new clients and establish rapport with these clients to gain their loyalty. They provide clients with premium banking experiences through strategic and personalised financial management (Lai & Wang, 2019; Guo, 2017). The roles of RMs can be improved using GenAI.

According to Singh et al. (2024) and Dhake et al. (2024), Generative AI (GenAI) technologies offer significant opportunities and use cases in the banking sector to improve customer service. It specifically improves customer experiences by using AI chatbots to provide 24/7 support, personalized product recommendations based on financial data, and accurate loan eligibility assessments. GenAI also improves financial advisory services by providing tailored investment solutions and optimised portfolio management, as well as supporting targeted marketing, risk management, and credit decision-making through data analysis (Singh, 2024; Dhake et al., 2024).

Taneja and Rao (2023) outlined some of the duties of Relationship Managers which can be simplified if GenAI is adopted within a bank. In today's financial landscape, Generative AI is transforming customer interaction by providing personalized solutions to financial queries in real-time. AI-driven systems streamline contact centre operations by pre-emptively addressing future customer inquiries with tailored responses. Advanced chatbots, enhanced by GenAI, assess creditworthiness, customize credit limits, and intelligently adjust loan offers based on predictive repayment capabilities and behavioural insights, thereby evolving into advisors that provide personalized financial recommendations (Dhake et al., 2024). Similarly, GenAI accelerates claims processing for insurance agencies, ensuring accuracy and reducing backlogs.

Through Natural Language Processing (NLP), GenAI performs sentiment analysis on social media and news, empowering companies to refine services and fortify brand reputation through informed adjustments. In risk management, GenAI analyses structured and unstructured data to promptly identify potential defaulters and respond quickly to market fluctuations, mitigating operational, credit, and market risks. Moreover, GenAI aids in fraud detection by detecting evolving patterns in financial transactions, enhancing trust and minimizing industry losses (Odeyemi et al., 2021).

In compliance, GenAI automates operational processes like Know Your Customer (KYC), flagging discrepancies efficiently to save time and human resources (Taneja & Rao, 2023). Furthermore, GenAI accelerates content generation for marketing activities and expedites software development in FinTech by suggesting code and optimizing API access. Microsoft's introduction of "GitHub Copilot X," powered by GPT-4, underscores GenAI's integration across the development lifecycle, boosting efficiency (Taneja & Rao, 2023).

Singh et al. (2024) state that GenAI has the ability to handle simpler tasks, while Ho and Wong (2023) indicate that GenAI can aid by automating repetitive tasks, allowing focus on more clients and strategic activities (Ho & Wong 2023; Singh et al., 2024).

Although the adoption of GenAI could most likely improve and simplify the job of RMs, its adoption, and implementation within banks may come with challenges which may hinder its successful integration within the banking system. The following section outlines what these may be.

2.4.1 *Proposition*

The integration of Generative AI (GenAI) technologies across various use cases in the banking sector will improve Relationship Managers' (RMs') functions and interactions by personalizing customer service, streamlining financial advisory processes, and optimizing risk management.

2.5 Factors influencing GenAI adoption

***Objective 3**: Outline factors influencing the adoption and possible challenges to integrate GenAI into relationship management, including ethical concerns, technological constraints, regulatory issues, and organizational barriers.*

Fares et al. (2023) state that AI's development has brought forth a myriad of opportunities as well as challenges. The application of AI in banking has facilitated the creation of efficient customer relationship management systems and increased sales efficiency. However, there are challenges including a lack of understanding of technology and its functions by managers and the main employees whose work will be affected by its implementation, difficulty in merging the new technology into existing work processes, and the cost of implementing the technology (Fares et al., 2023).

Singh et al. (2024) in the study applications of generative AI and future organizational performance concluded that the introduction of AI adds a new level of complexity and that the autonomous nature of GenAI may make it difficult to ensure that innovations are used responsibly and ethically. It is essential to balance ethical concerns with AI's drive for efficiency and optimization to avoid unforeseen consequences (Singh et al., 2024).

Hagendorff (2024) states that generative AI presents a wide range of ethical concerns, having identified 378 normative issues across 19 categories in his scoping review. Among the most critical concerns are hallucinations, where language models generate content that appears accurate but is factually incorrect posing risks in high risk industries such as banking, healthcare, and law. The evaluation also discusses issues such as privacy violations, bias and fairness, hazardous content, and a lack of transparency, all of which can damage confidence and usability. The study underscores the need for robust validation mechanisms, human oversight, and governance frameworks to mitigate these risks, warning that without them, generative AI systems could inadvertently cause harm, exacerbate inequality, or fail to comply with regulatory standards.

Matsepe and van der Lingen (2022) note that language diversity, local cultural values, and customer preferences for human interaction significantly shape the pace and nature of technology integration. Despite a growing appreciation for digital innovation. They state that many South African consumers particularly those in older or rural areas, continue to prefer face-to face interactions particularly for complex financial services, due to trust and familiarity. Language barriers can further impede interaction with AI powered systems, as many banking clients prefer to converse in their native language rather than English, which is supported by the majority of GenAI models. Furthermore, perceptions of job displacement and broader socio-economic concerns, such as inequality and digital exclusion, contribute to resistance or hesitation in adopting AI tools. These insights highlight the importance of aligning GenAI implementation strategies with South Africa's social, linguistic, and cultural landscape to ensure responsible and inclusive adoption.

Technology implementation within customer service organisations such as banks has been found to pose challenges for organisations and their employees, particularly the deployment of AI-based sales processes. In a study conducted by Cao et al. (2024) to investigate the impact of AI on customer service, it was found that migrating work processes come with some challenges, including:

Difficulty in AI solution employment: Some AI technologies are still in the early stages of development therefore, organisations need to caution against the consequences of using a technology that has not been fully developed (Raftopoulos, 2024). Doing so can lead to increased company costs caused by the defects of the technology.

Agents overwhelmed with changes: Agents at Telco were overwhelmed and often found it difficult to quickly adapt to new work processes. To overcome this challenge, management provided training to employees. Determining the accurate time to introduce AI technology in an organisation is imperative and will likely lead to financial benefits for the organisation. For maximum benefits, the shift must not inconvenience the customer, hence it is important to provide employees with sufficient training first. Relationship managers must be trained to proficiently utilise generative AI, this way they will be able to identify areas in their

work processes that require the use of GenAI to produce better results (Rasool et al., 2022; Nicholas et al., 2024; George, 2024; Cao et al., 2024).

When a new technology is introduced in an organisation, some challenges come with it. From difficulty in the employment of the technology, tensions between old work processes and the new technology, as well as the overwhelming of employees, which may lead to employee burnout (Pinto et al., 2024). To save costs and time, organisations such as banks need to ensure that the technology they want to adopt is fully developed and ready for implementation. They must be sure that it has been tried and tested and is ready for operation. For optimal results, banks need to ensure that GenAI has been proven to work and will indeed simplify work processes for professionals such as RMs. If they are to fully migrate their work processes to utilising GenAI, RMs have to receive relevant training on how to use GenAI optimally to ensure improvement in the service they offer customers.

According to Nicholas et al. (2024), extensive training programmes are essential for enabling widespread adoption and achieving set performance benefits. Rasool et al. (2022) discuss how training influences the adoption of new technology, including its role in providing employees with the necessary skills to use the technology effectively. Furthermore, a smooth transition from the traditional way of providing customer service to utilising GenAI for timely and personalised customer services needs to be in place. This will help ease tensions between services (Rasool et al., 2022; Cao et al., 2024; Nicholas et al. 2024).

Tensions between services: Migration of work processes to allow the full utilisation of GenAI may take some time. Furthermore, it may cause disruptions in the existing services (Mookerjee & Rao, 2021). Therefore, the bank must caution against tensions between services while the migration process is underway (Cao et al., 2024).

The adoption of GenAI within banks could most likely improve work processes for RMs. However, organisations need to consider challenges that could hinder the effective implementation of the technology. That way the bank can plan and come up with strategies to overcome these challenges. The section below

provides recommendations and insights for banks to effectively implement and integrate GenAI within their organisations for the enhancement of customer servicing processes.

2.5.1 *Proposition*

The successful integration of Generative AI (GenAI) into bank relationship management is influenced by a combination of ethical concerns, technological constraints, regulatory issues, and institutional barriers. Addressing these factors is critical for improving customer service and increasing operational efficiency.

2.6 GenAI implementation best practice guidelines recommendations

Objective 4: *Provide insights and recommendations for effective implementation and integration of GenAI tools to enhance the customer servicing process by RM's in banking.*

Artificial intelligence has shown outstanding advancement in recent years. GenAI can be seen as an outstanding adaptable subset of AI (Macdonald et al., 2023; Wank et al., 2021) which can offer innovative solutions to complicated situations. Before AI, professionals relied on their intuition or some pre-defined algorithms to solve problems (Wang et al., 2023). The introduction of GenAI combines non-linearity and randomness to allow an exploration of problem-solving pathways which are unconventional; a process that assists in the discovery of innovative solutions that traditional approaches may have overlooked (Jiang et al., 2023; Yan et al., 2022). The integration of GenAI into work processes is a significant aspect of organisations' efforts to transform technologically to achieve smooth operations (Mariani & Dwivedi, 2024).

A strategic and structured approach is required to ensure that Generative AI (GenAI) tools are effectively implemented and integrated into banking to improve customer service by Relationship Managers (RMs). Successful adoption necessitates extensive planning, including system integration, staff training, and regulatory compliance. Furthermore, fostering organizational readiness and

addressing potential ethical concerns are critical to maximizing the benefits of GenAI while mitigating its risks.

Reddy (2024) concluded that a phased implementation strategy, coupled with clear and balanced communication of both the potential benefits and inherent limitations of GenAI, is essential for ensuring its responsible and ethical integration. Odeyemi et al. (2024) reflect on the point that the financial services sector operates under strict regulations which include data privacy, consumer protection, and fair lending practices. They state that AI-powered fraud detection systems must comply with these regulatory requirements to ensure legal and ethical implementation. The study by Atadoga et al. (2024) highlights the need to regulate AI technologies to ensure their ethical integration. Rane et al. (2024) indicate that compliance with data protection laws, the moral ramifications of AI decisions, and the accountability and transparency of AI systems are all important regulatory and ethical considerations. (Atadoga et al., 2024; Odeyemi et al., 2024; Rane et al., 2024; Reddy, 2024).

Rane et al. (2024) discuss organizational readiness and culture aspects which are key for adoption when implementing AI technologies. These include employee training, leadership commitment and cultural acceptance (Rane et al., 2024).

To save costs and time, organisations such as banks must ensure that the technology they want to adopt is fully developed and ready for implementation. They need to ensure that it has been tried and tested and is ready for operation. For example, for optimal results, banks must ensure that GenAI has been proven to work and will indeed simplify work processes for professionals such as RMs. If they are to fully migrate their work processes to utilising GenAI, RMs need to receive relevant training on how to use GenAI for optimal results, such as improvement in the service they offer customers. Furthermore, banks must facilitate a smooth transition from traditional financial service methods to utilising GenAI for timely and personalised customer services, thereby easing potential tensions between services (Cao et al., 2024).

It is recommended that banks ensure that they fully understand the implications that come with the adoption of GenAI within their organisation for it to be successfully integrated.

2.6.1 *Proposition*

Effective implementation and integration of Generative AI (GenAI) tools in banking require comprehensive planning and training, ensuring that Relationship Managers (RMs) can utilize these tools to enhance customer service. Key recommendations include thorough testing of GenAI technologies, structured training programs for RMs, and strategies for smooth transitions to mitigate integration challenges.

2.7 ANALYTICAL FRAMEWORK

2.7.1 *Theoretical Framework*

A well-developed theoretical framework ensures that a study is well-structured and coherent, furthermore, it strengthens the theoretical contributions and analytical depth of a study. It is an important tool which ensures advancement and understanding of a topic within a specific field of study. Numerous theoretical frameworks have been, and are used to understand the role of technology within organisations, these include, but may not be limited to the following:

- ***Structuration theory*** was developed by Anthony Giddens and investigates how technology is shaped by the structure of an organisation and its processes. It stresses how technology can be a result of social systems and an agent to shape those systems simultaneously (Orlikowski, 1992).
- ***Resource-Based View*** (RBV) focuses on how organisations can use technological innovations to get a competitive upper hand in their respective industry. It assesses how assets of technology such as software and hardware can contribute to the performance and strategic positioning of an organisation (Barney, 1991).

- ***Diffusion of Innovations theory*** was developed by Everett Rogers and is used to explain how new technologies spread within societies and organisations, and why that is the case. It pinpoints which factors influence the adoption of new technologies (, 2003).
- ***Actor-Network Theory*** (ANT) views technology as an actor that influences and is influenced by social networks within organizations. It emphasizes the connection between technology, organizational structures, and human actors, highlighting the roles of both human and non-human actors in technological implementation (Latour, 2005).
- ***Contingency Theory*** proposes that the effectiveness of technology within organizations depends on the alignment between technology choices and specific situational factors, such as organizational goals, structure, and environmental conditions. It emphasizes the need for flexible approaches to technology adoption and implementation (Donaldson, 2001).
- ***Technology-Organisation-Environment*** (TOE) and technology acceptance model (TAM) was established by Tornatzky and Fleischer (1990) to clarify and predict the likelihood of successful adoption of technology/innovation within an organisation.

Constructs of TOE have been widely known to apply mostly to large organisations, however, there has been scholarly evidence (Chau & Tam, 1997; Eze et al., 2013; Baridam et al., 2015; Awa et al., 2016) showing that the theoretical framework has obtained validity empirically across organisations of different sizes. The framework has grounded numerous technology adoption studies, mostly those focusing on inter-organisational information systems (IOIS) and Electronic Data Interchange (EDI) (Awa et al., 2016).

For purposes of this study focusing on the adoption of GenAI within South African banks, the Technology-Organization-Environment (TOE) framework is selected to ground this study. This theoretical framework is mainly utilised to understand the factors which influence the adoption and implementation of new technologies within organizations. It was originally proposed by Tornatzky and Fleischer in 1990 and has since been widely used to ground research associated with

technology adoption and innovation management (Awa et al., 2016). Overall, the TOE framework provides a structured approach to understanding technology adoption processes, offering insights that are valuable for both academia and industry. In addition to guiding researchers in the development of research questions, study design, and analysis of data relating to the adoption of GenAI within banks, the TOE framework will guide the study in understanding the interplay between GenAI, banks, as well as the environment to determine factors that may influence the adoption of GenAI within South African. The TOE framework consists of three components, Technology, Organisation, and Environment (Awa et al., 2016).

The Technology (T) component places focus on certain characteristics of the technology which is being considered for adoption and implementation. These may include the complexity of the technology, which looks at whether the technology can easily be understood and implemented; the compatibility of the technology, which looks at the degree of integration of the technology within existing systems in an organisation; trialability, which looks at whether the technology can be tried and tested on a sample scale before it is fully developed and incorporated within an organisation; observability, which looks at whether there is evidence that the adoption of the new technology will benefit the organisation (Bryan & Zuva, 2021). Banks need to consider the above-mentioned characteristics in terms of GenAI, this will be able to determine if its adoption will benefit them, i.e., the possibility of its adoption saving them money, time, and resources post-implementation.

The Organisation (O) component focuses on organisational factors unique to an organisation, which influence the adoption of new technology within the organisation. Key aspects include organisational readiness, which looks at whether the organisation is ready to adopt and implement the new technology; organisational structure, which looks at how the organisation's hierarchical structure will impact implementation decision-making; Resources, which refers to the organisations financial, and human capital, and existing technological capacity to support adoption and implementation of the new technology; management support, which speaks to the extent to which top management

within the organisation supports the adoption and implementation of the new technology (Bryan & Zuva, 2021). It is important that banks ensure organisational readiness based on an assessment of the above-mentioned key aspects and executive management buy-in for the adoption and implementation of GenAI. With this buy-in, all other resources will be easily accessible, making the adoption process smooth.

The Environment (E) component looks at factors outside the organisation, i.e., external issues that can affect the adoption of the new technology. These include Regulatory influences, which look at policies, laws, and regulations that may affect the adoption and implementation of the new technology (POPIA and ethical concerns); competitive pressures, which look at competitors' actions which may influence management's decision to adopt the new technology; market conditions, look at demands, trends, as well as expectations from other stakeholders and customers in the market; technological standards look at sector related norms and standards of operation which may either constrain or guide the adoption of the new technology (Bryan & Zuva, 2021). The environment plays an influential role in determining whether new technology can be adopted within an organisation. The South African Reserve Bank (SARB) regulates the banking sector in South Africa, therefore, careful consideration of the laws, regulations, and policies which guide the adoption of GenAI within them is important in ensuring that GenAI is adopted correctly within South African banks.

The TOE framework systematically analyses and understands the complex interplay between technological innovations, organizational contexts, and external environments. By considering all three dimensions, the framework provides a comprehensive view of why and how organizations adopt new technologies (Bryan & Zuva, 2021). The TOE framework will allow for strategic analysis and understanding of the relationship between GenAI and banks, as well as the regulatory influences, competitive pressures, market conditions, and technological standards to get a detailed perspective on why it would be ideal for banks to adapt GenAI within their organisation, as well as how they can go about ensuring successful adoption. It will also assist in evaluating of the banks' readiness to adopt GenAI through the assessment of their technological fitness,

organisational capabilities, and external influences. Allowing the banks to make informed decisions on the adoption of GenAI and develop efficient implementation plans unique to their organisational structure.

The **Figure 2** below provides a practical illustration of how TOE was utilised to support the study's objectives and methodology.

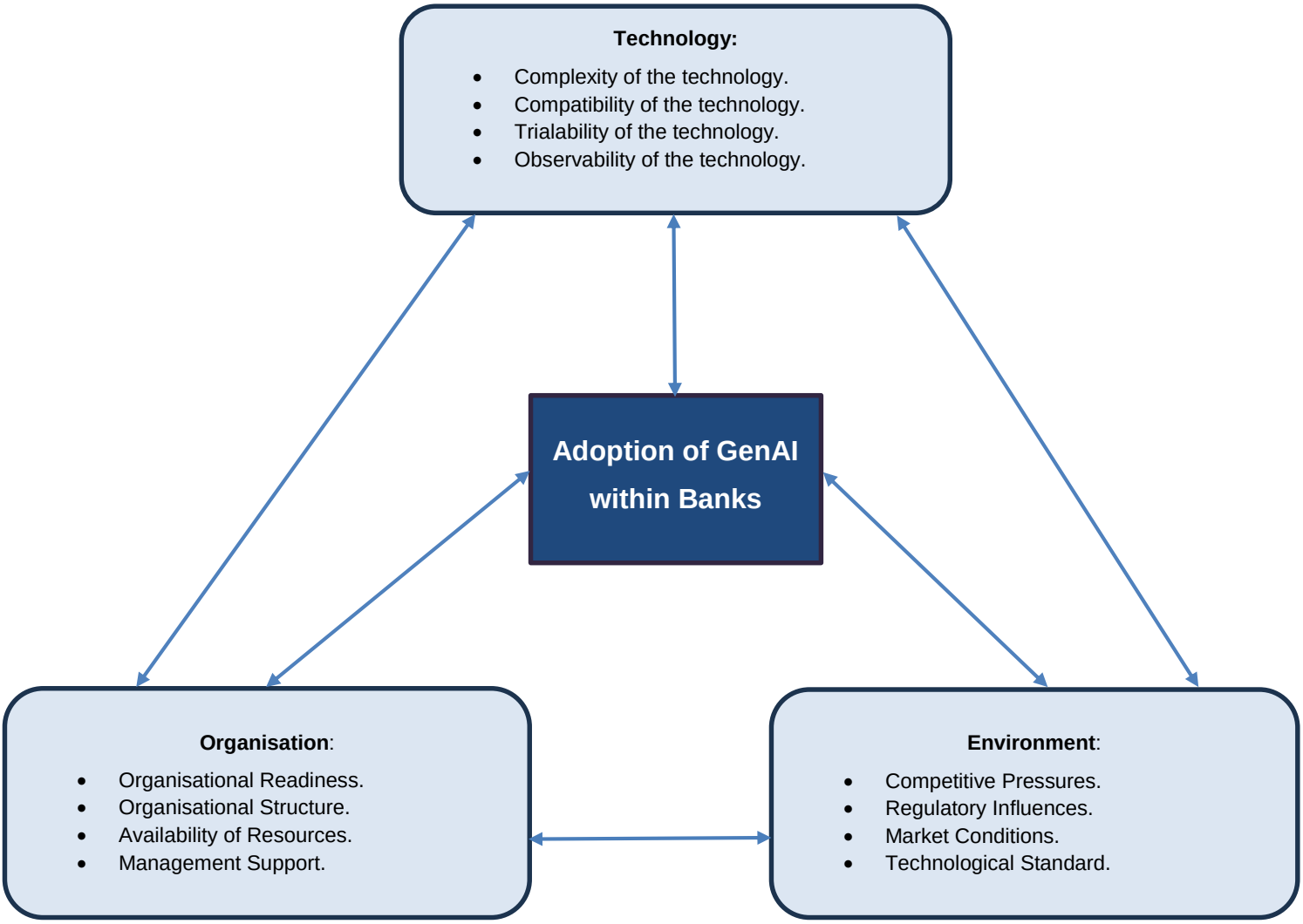

Figure 2**:** *TOE Framework adopted from (Tornatzky & Fleischer, 1990)*

Table 2: *Previous studies based on TOE Framework*

Study	Study Aim	Reference
Using T-O-E theoretical framework to study the adoption of ERP solution	This paper provides further insight into IS adoption by investigating how 12 factors within the technology-organization-environment (T-O-E) framework explain SMEs' adoption of enterprise resource planning (ERP) software.	(Awa et al., 2016)
Exploring Risks in the Adoption of Business Intelligence in SMEs Using the TOE Framework	The purpose of this paper was to investigate the risks that influence BIS adoption in SMEs using the Technology, Organization, and Environment (TOE) framework.	(Stjepić et al., 2021)
Social commerce adoption using TOE framework: An empirical investigation of Saudi Arabian SMEs	This study investigates the factors that influence SMEs' intentions to use social commerce as a business tool. The researchers used the Technology-Organization-Environment (TOE) model as their theoretical framework.	(Abed, 2020)
Cloud Computing Adoption Using TOE Framework for Indonesia Micro Small Medium Enterprises	The purpose of this study was to classify the factors that influence cloud computing acceptance among Indonesian MSMEs. The TOE Structure was used in this analysis.	(Gui et al., 2020)
Drivers of generative artificial intelligence to fostering exploitative and exploratory innovation: A TOE framework	The factors influencing the retail industry's adoption of GEN-AI applications were investigated. The study applied the TOE framework to investigate how technological, organizational, and environmental factors influence GEN-AI adoption.	(Wael AL-khatib, 2023)
Understanding the challenges of the adoption of blockchain technology in the logistics sector: the TOE framework	The goal of this study was to create a framework for identifying obstacles to using blockchain technology in the logistics industry. The study uses the (TOE) framework, which was developed through a review of existing literature and a new empirical study involving fifteen interviews with five logistics companies.	(Ganguly, 2024)

2.8 Conclusion of Literature Review

A significant number of organisations are considering a shift from traditional work processes to more technologically driven ones. AI has been the main driver of such changes in customer service organisations where offering personalised timely service to customers is important. This chapter provided a review of the literature to outline how generative AI could benefit organisations that adopt it. AI speaks to the development of computer systems that can perform tasks that previously required human intelligence to carry out. There is a growing need for AI adoption, particularly GenAI within banks because of customer expectations for such institutions to provide innovative solutions to their financial problems.

Adoption of GenAI within banks could improve operational smoothness, enhance decision-making, and streamline workflows. GenAI could enhance engagement between bank employees such as Relationship Managers and clients, giving these professionals some insight into their client's needs to provide them with personalised services. However, adopting new technology into an organisation comes with some challenges, such as professionals feeling overwhelmed. Effective adoption requires proper training for staff to use the technology efficiently. For purposes of GenAI adoption into banks, Relationship managers and all other professionals within banks can be trained on how it works so that they can provide timely and personalised services to customers, which would ultimately attract more customers into the banks.

Theoretical frameworks ensure that a research study is coherently structured whilst strengthening its analytical contributions. Several theoretical frameworks are available to use in studies which look at the adoption of new technologies within an organisation. These include, but are not limited to, structuration theory, resource-based view, Diffusion of innovations theory, actor-network theory, and contingency theory. This study will utilise the technology-organisation-environment theoretical framework to clarify and predict the likelihood of successful adoption of GenAI within South African banks. As mentioned before in this paper, TOE will allow for the strategic analysis and comprehension of the relationship between GenAI, Banks, and the environment.

2.9 Chapter Summary

This chapter provided a review of the literature, starting with a broad definition of artificial intelligence (AI) and narrowing it down to generative AI (GenAI), which is central to this study. The literature review was guided by the study's objectives, presenting diverse perspectives from various authors, which informed the development of propositions aligned with these objectives. Multiple theoretical frameworks were briefly introduced, with the Technology-Organization-Environment (TOE) framework chosen, defined, and discussed in detail as the conceptual foundation for this research.

The subsequent chapter will focus on the research methodology adopted for this study. It will outline the research paradigm, approach, and design, along with details of the research instrument used, data analysis methods employed, and strategies for interpreting the findings. Additionally, the chapter will address the study’s limitations, quality assurance measures, and adherence to ethical considerations.

CHAPTER 3. RESEARCH METHODOLOGY

Introduction of Research Methodology

The purpose of the research methodology chapter is to explain in detail the research method and the procedure that was executed for the proposed study of how to augment generative AI within the banking sector to support relationship managers to provide superior customer service.

In this chapter, the proposed methodology utilised to conduct the research is outlined and discussed. This research methodology chapter includes the following sections: 3.1 Research Paradigm; 3.2 Research Approach; 3.3 Research Design; 3.4 Data Collection Methods 3.5 Population and Sample; 3.6 The Research Instrument; 3.7 Data Analysis Strategies and Interpretation; 3.8 Possible Limitations and challenges of the study; 3.9 Quality Assurance; 3.10 Ethical considerations. A high-level summary view of the research approach adopted for this study is presented in Table 4 below.

Table 3: *Overview of the Research Approach of the Study*

CATEGORY	SUMMARY
RESEARCH PARADIGM	The study adopted an interpretivist paradigm, focusing on understanding individuals' subjective meanings and experiences (Alharahsheh & Pius, 2020; Creswell et al., 2007; Tenny et al., n.d.). This approach is suitable for exploring the applications, challenges, and opportunities of generative AI in customer service within the banking sector.
RESEARCH APPROACH AND DESIGN	Due to its explorative nature, the study employs a qualitative research design, particularly an explanatory case study approach. This method was chosen for its ability to investigate a phenomenon within its specific context, using multiple data sources such as observations, interviews, and documents. The explanatory case study helps clarify the "why" and "how" of particular conditions by investigating the reasons behind specific events (Creswell et al. 2007; Rashid et al. 2019; Priya 2021).

DATA COLLECTION METHOD	Semi-structured one-on-one interviews were conducted with various stakeholders. These interviews provided rich, detailed data and insights into the experiences and perceptions of the participants (Gill & Baillie 2018; Ruslin et al. 2022). These were conducted online, using Teams and Google Meet platforms. Interviews were between 25 and 180 minutes and were recorded with the interviewees' permission.
POPULATION	The study targeted stakeholders from South African banks involved in relationship management and technology deployment. The study involved 19 respondents holding various roles within the banking industry, including technology experts, enterprise architects, solution architects, product/solution owners, senior managers and relationship managers.
SAMPLING METHOD	Purposive sampling was chosen for this study to ensure participants possess specific attributes, knowledge and characteristics relevant to the research. This method aligns participant selection with research objectives, ensuring samples represent the key criteria being examined (Koerber & McMichael, 2008).
DATA ANALYSIS METHOD	The study used thematic analysis. This method was used to identify, analyse, and report patterns or themes within the data. Both deductive and inductive approaches were used to categorize data based on the research purpose and emerging themes (Bingham, 2023; Ferri et al., 2020).
Quality Assurance	The research aligned with the principles set from a transferability perspective where a diverse group from a skills perspective was interviewed. Credibility perspective, all necessary permissions were obtained, and the institution's ethical guidelines were followed. A pilot study with two people was done to ensure dependability.
ETHICAL CONSIDERATIONS	Ethical clearance was received from Wits University’s ethics committee to conduct the research. Participants were provided with informed consent forms that explain the study's objectives and any perceived risks which were signed by both parties. Participants information is being treated confidentially according to ethical standards set.

3.1 Research Paradigm (Interpretivism)

A research paradigm refers to the fundamental norms, assumptions, and standards that underpin various research approaches. Paradigms represent the "worldviews" that influence how research is carried out. They inform the approach a researcher follows, i.e. qualitative or quantitative (Hussain et al., 2013; Tenny et al., n.d.). A paradigm can be used to describe broad research approaches, such as positivist or interpretive paradigms (Hussain et al., 2013).

This study's research paradigm is Interpretivism, which emphasizes understanding individuals' subjective meanings and experiences. This paradigm is ideal for researching the practical applications, opportunities, challenges, and recommendations associated with generative AI in customer service (Alharahsheh & Pius, 2020; Creswell et al., 2007; Tenny et al., n.d.). By focusing on the nuanced experiences and perspectives of relationship managers and other stakeholders, Interpretivism offers a rich, contextual understanding of how generative AI can improve customer service in the banking sector.

The underlying philosophical paradigm that directs the procedures and principles within a particular area of study. There are several assumptions and beliefs essential for developing research knowledge; these include epistemology, axiology, and ontology.

According to relativist ontology, reality is subjective and changes depending on one's perspective or context. There is no single, objective reality; rather, multiple realities exist, each shaped by people's perceptions and experiences. According to this viewpoint, what is considered "real" can vary greatly from one person or group to the next, and both realities are equally valid (Alharahsheh & Pius, 2020; Rashid et al., 2019; Tenny et al., n.d.). This perspective was critical for understanding how the role of generative AI in customer service is shaped by the research population’s perceptions and experiences, recognizing the subjective realities and diverse perspectives on AI integration (Alharahsheh & Pius, 2020).

Qualitative epistemology refers to assumptions about the nature of knowledge and how it is obtained. It addresses the researcher's relationship with the subject of study. (Alharahsheh & Pius, 2020; Creswell et al., 2007; Tenny et al., n.d.). This approach enables the investigation of practical applications and experiences of relationship managers with generative AI, as well as insights from technology experts on the integration of this technology within a bank.

Axiology addresses the role of the researcher's values in the research process and how they influence the research findings, emphasizing the ethical implications of the researcher in the research process (Creswell et al., 2007; Creswell & Poth, n.d.). Interpretivism research means that the researcher is not an objective bystander in the research process through your interaction with the respondents, your values, views, and experiences can also impact the outcome of the study.

3.2 Research approach (Qualitative)

Common research methods in commerce include qualitative, quantitative, and mixed methods. A qualitative research design was chosen for this study due to its explorative nature. As Bhangu et al. (2023) state, qualitative research methods involve "investigative techniques that rely on non-statistical and non-numerical approaches to data collection, analysis, and evidence generation. These methods are essential for understanding non-quantifiable aspects such as individual experiences, languages, histories, and cultures.” (Bhangu et al., 2023 pg. 39).

There are no absolute answers for the utilisation of GenAI as it is not currently widely used in the Relationship Management space based on the research undertaken thus far. The banking industry and experts are still exploring how to integrate the technology so that it delivers the expected results. Qualitative research is ideal for evaluating expert opinions as it can effectively capture the underlying meanings and interpretations associated with specific practices (Sheth et al., 2022).

Generative AI and its application in customer service may involve complex interactions, perceptions, and experiences. A qualitative approach allowed for a more in-depth investigation of these complexities, capturing the nuances of how AI tools were integrated into daily practices and how they affected Relationship Managers and customers. The qualitative study helped to understand how AI improved consumer experiences by examining the causes, effects, and moderating factors of AI-driven services (Sheth et al., 2022)

The study was conducted in South Africa and it targeted respondents working in the banking sector. A qualitative approach enables a thorough understanding of the local context, including cultural, organizational, and technological influences on Generative AI adoption and use. This context-specific knowledge was critical for identifying opportunities and challenges specific to the situation.

The advantages and disadvantages of the qualitative research approach are highlighted below:

Table 4**:** *Advantages and disadvantages of the qualitative research approach* (Taherdoost, 2022)

Advantages	**Disadvantages**
Allows for the collection of rich, detailed data that provide deep insights into participants' experiences, thoughts, and feelings.	The researcher's perspectives, biases, and interactions with participants can influence the data collection and analysis processes, potentially affecting the study's validity and reliability.
The flexible nature of qualitative research designs enables researchers to change their approach as new data and insights emerge.	Often involves small, non-random samples, which can limit the generalizability of the findings to broader populations.
Provides a thorough contextual understanding of the research environment and the phenomena under investigation	The data collection and analysis processes in qualitative research are often time-consuming and labour-intensive.

Qualitative research captures the subjective meanings and interpretations that individuals attach to their experiences.	Analysing qualitative data can be complex and challenging due to the unstructured nature of the data.
Ideal for developing new theories and concepts, especially in areas where existing theories are insufficient or lacking.	The close involvement of researchers in the data collection and analysis processes can introduce bias, affecting the study's credibility.

3.3 Research design (Case Study)

The purpose of the research design was to broaden the scope and relevance of the answers gathered through the research questions. Research design refers to the strategy for gathering data to address the research questions or objectives, detailing the methods and approaches for data collection and the steps for data analysis (Mbatha et al., 2024).

There are several qualitative research designs or strategies, namely narrative research, grounded theory, phenomenology, participatory action research, and case study research. Case study research was chosen as the research strategy for this project, specifically the explanatory case study approach.

A qualitative case study is the research approach used to investigate a phenomenon within a specific context, using multiple data sources including observations, interviews, and documents. This methodology utilizes various perspectives to uncover the different dimensions of the phenomenon (Creswell et al., 2007; Rashid et al., 2019). The main objective of the explanatory case study is to clarify the "why" and "how" of the development of particular conditions by investigating the reasons behind the occurrence or non-occurrence of specific events in a given sequence (Priya, 2021).

The benefits of using a case study strategy include that it provides a comprehensive understanding of a phenomenon within its real-world context by enabling an in-depth analysis that considers all aspects of the case. Provides the ability to investigate and interpret the impact of contextual conditions on the

phenomenon under study. Ability to gather data from a variety of sources, including interviews, observations, documents, and artefacts, thus improving the validity and reliability of the findings. It is adaptable and flexible, allowing for use in a wide range of disciplines and purposes, including exploratory, explanatory, and descriptive research. Ability to reveal insights with direct practical implications as well as make practical recommendations through highlighting best practices, identifying challenges, and suggesting solutions. Generating detailed qualitative data, providing deep insights into the experiences, perceptions, and behaviours of Relationship Managers regarding the effective integration of Generative AI technologies in South African banks to enhance customer service delivery. (Creswell et al., 2007; Rashid et al., 2019).

3.4 Data collection methods

Data collection within research can be defined as a systematic process for gathering detailed information relevant to the research objective from a predetermined sample in structured settings (Mazhar et al., 2021). For a comprehensive study, both primary and secondary data can be collected. Primary data consists of direct interaction, such as personal observations and face-to-face interviews with participants. Secondary data, on the other hand, is gathered without direct contact and is frequently obtained from existing sources (Mazhar et al., 2021)

Based on the foregoing, primary data was chosen to thoroughly understand the research question concerning the integration of Generative AI within the South African banking sector. This study primarily used qualitative data to delve deeply into the research problem and provide richer insights into the subject matter (Sheth et al., 2022). This study employed semi-structured interviews with various stakeholders, including respondents working across banks in various roles such as technology experts, enterprise and solution architects, technology partners, senior managers, and relationship managers. The interviews were guided by open-ended questions aligned with the research objectives, while allowing flexibility for participants to elaborate on their experiences with Generative AI integration in banking.

Semi-structured interviews were chosen for their ability to investigate complex phenomena, such as the application of Generative AI in customer service. These interviews yielded rich, detailed data as well as in-depth insights into the experiences and perceptions of the participants. They are especially effective at gathering detailed insights and revealing underlying motivations and attitudes toward technology (Gill & Baillie, 2018; Ruslin et al., 2022).

This method is flexible and adaptable, allowing researchers to delve deeper based on participant responses and investigate specific aspects of GenAI implementation that may not have been previously considered. Interviews help participants develop trust and rapport, allowing them to share candidly about their experiences, challenges, and perceived opportunities when using Generative AI (Gill & Baillie, 2018; Ruslin et al., 2022; Sheth et al., 2022).

The research proposal plan involved conducting one-on-one interviews either in person or online, utilizing platforms based on the interviewees' preferences. The majority of interviewees opted for online interviews conducted via Microsoft Teams, with only one interviewee requesting to use Google Meet. The duration of the interviews ranged from 25 minutes to a maximum of 1 hour and 30 minutes. All interviews were recorded with the prior permission and informed consent of the interviewees.

3.5 Population and sample

In research, the term population refers to a group of people or an entire set of entities or instances under study (Hossan et al., 2023). This can refer to people, events, or specific types of objects. However, only some elements of this larger population are relevant to the research topic, and this subset is known as the sampling frame (Hossan et al., 2023).

3.5.1 *Population*

The population of interest are stakeholders from South African banks that are involved in relationship management and technology deployment. The target population for the study included the following groups:

- Technology experts - AI specialists and IT professionals to gain insights into the technical capabilities and limitations of Generative AI as well as potential applications, and technical challenges.
- Enterprise Architects and Solution Architects - to get insights on how Generative AI can be seamlessly incorporated into the bank's current technology landscape as they have an overview of the bank's IT landscape
- Technology partner to get insights on safer versions of GenAI using open source as well as deployment process and practical implementation best practices and potential pitfalls and a view of support required for successful adoption
- Relationship managers are the target group for the study. Their experiences and feedback will be crucial for understanding how AI tools affect daily operations, customer interactions, and service quality. Also, assist with the identification of possible use cases.
- Bank senior management to get a view of insights into the strategic goals and expectations of AI implementation and organizational support.

3.5.2 *Sample and sampling method*

Sampling entails selecting a subset of people from a predefined population within your research area. The goal was to ensure that this smaller group accurately represents the broader population's characteristics (Stratton, 2021).

There are two main types of sampling, probability sampling and non-probability sampling. Probability sampling is a technique in which each person in the target population has an equal chance of being selected as a study participant. This approach uses simple random sampling, systematic sampling, stratified sampling, and cluster sampling. These techniques ensure every member of the population has an equal chance of being included in the sample (Stratton, 2021).

In contrast, non-probability sampling relies on non-random selection methods. This sampling method is widely used in research due to its practicality and convenience. The main techniques of non-probability sampling are convenience

sampling, quota sampling, and purposive sampling (Koerber & McMichael, 2008; Stratton, 2021)

The chosen sampling technique for this research was purposive sampling, which was appropriate given the exploratory nature of the study. This approach requires input from subject matter experts and individuals with relevant experience in the field and industry. Purposive sampling targets participants who possess specific attributes or characteristics relevant to the research. This method aligned participant selection with research objectives, ensuring that samples are representative of the key criteria being examined (Koerber & McMichael, 2008). GenAI as a fairly new concept required detailed data that provides deep insights into participants' experiences, thoughts, and feelings. The secondary approach was snowballing through the banking network. Participants were requested to refer their acquaintances to participate (Hossan et al., 2023). Participants referred their acquaintances, which helped in reaching the number of interviews that were conducted.

The criteria used to select participants was as follows:

- The participant must be in a specified role i.e. Technology expert, Enterprise architect; technology partner, relationship manager in a bank, and senior manager in a bank.
- The participant must have expertise in the set roles i.e. experience in relationship banking for relationship managers, experience with technology and AI technologies for IT experts and technology partners,
- Participants must work for a bank and/or have knowledge of the banking industry

It was anticipated that the study would include 15 to 20 respondents who have the following roles in banks (interviewees). The actual number of interviews conducted was 20 interviews in total with 19 respondents providing verbal and written consent. One respondent only provided verbal consent before and during the interview but did not return the consent form. Therefore, only 19 transcripts were considered as part of the analysis. These included:

- Technology experts
- Enterprise Architects
- Solutions Architect
- Solution and Product Owners
- Relationship managers
- Bank senior managers

Final sample breakdown and number of participants in each target group is highlighted in Table 5.

Table 5: Final Sample

Occupation/Role	Total
Relationship Managers	**4**
Enterprise/Solution Architects	**3**
Technical Specialists	**4**
Senior Managers	**4**
Product/Solution Owners	**4**
Total	**19**

3.6 The research instrument

The data collection instrument used was an interview guide, which is attached in Appendix E. The qualitative interview approach adopted in the study was semi-structured interviews. Semi-structured interviews enabled researchers to ask specific questions aligned to the research objectives, while also allowing participants the flexibility to address topics they believe are important (Gill & Baillie, 2018; Ruslin et al., 2022).

The interview schedule used was semi-structured, which allowed for flexibility while ensuring complete coverage of all research objectives. Interviews were conducted with relationship managers, technology experts, enterprise architects, and technology partners. The detailed research interview instrument is provided in Appendix E, which outlines the alignment of each question with the chosen theoretical framework, the study's objectives, and the rationale behind each question.

The structure of the interview guide was as follows:

- **Introduction**

It was used to explain the purpose of the interview, ensure confidentiality, and obtain consent.

- **Section A: Background**

Participants work background and familiarity with AI technologies.

- **Section B: Practical Applications of Generative AI**

Investigating how AI can be integrated into banks to support Relationship Managers in providing personalized and timely customer service.

- **Section C: Key Opportunities and Use Cases**

This section was used to identify functions and interactions where GenAI brings the most benefits.

- **Section D: Factors Influencing Adoption and Challenges**

The section was used to outline factors influencing GenAI adoption and challenges faced from a Technology, Organization and Environment perspective.

- **Section E: Recommendations for Implementation**

Allow interviewers to provide insights and recommendations for effective GenAI integration.

- **Conclusion**

Used to summarize the interview and thank the participant.

The purpose of employing semi-structured interviews was to generate qualitative data by carefully gathering rich and interpretive insights.

3.7 Procedure for data collection

The data collection procedure involved leveraging professional networks to approach respondents directly through formalised email and WhatsApp requests. Interviews were conducted online using platforms such as Microsoft Teams and Google Meet. Though the plan was to conduct face-to-face interviews, depending on the respondents' preferences, none of the respondents preferred this method. These methods were selected based on how the working environments are

generally set up in the post-COVID-19 era, many people work on a hybrid basis where they go to the office for only one or two days and then perhaps for three or four days, they work from home. Digital technologies have significantly enhanced the possibilities for conducting interviews in research, allowing individuals to participate in qualitative studies regardless of their geographical location (Gill & Baillie, 2018).

3.8 Data analysis strategies and interpretation

Thematic analysis, a qualitative research method, was selected for this study to identify, analyse, and report patterns or themes within data. This method helped organize and describe data sets in detailed and meaningful ways (Bingham, 2023; Ferri et al., 2020). It involved systematically coding data, categorizing codes into themes, and interpreting these themes to uncover underlying meanings. Thematic analysis is adaptable to various theoretical frameworks and is particularly useful for researching complex phenomena and gaining detailed insights into participants' experiences and perceptions (Braun & Clarke, 2006).

There are two methods in thematic data analysis: deductive and inductive. The deductive method involves creating codes before data analysis and applying them to the data, classifying or arranging it according to accepted theories or literature. The inductive method involves reading through the collected data and identifying codes, patterns, themes, and categories as they emerge (Bingham, 2023).

This study used both deductive and inductive thematic analysis. The deductive method was used to categorize data based on the research purpose, key aspects of the research questions, and theoretical framework, as the study has four distinct objectives. The inductive method was used to name and code the collected data for better understanding and analysis through reading the data, identifying additional codes and themes, and naming them as they emerge (Bingham, 2023). According to Bingham (2023), the qualitative analysis process has five phases: organizing data and sorting it into relevant categories using a

deductive approach, understanding, and interpreting the data with an inductive method, and explaining the data by combining both methods (Bingham, 2023).

3.9 Possible limitations and challenges of the study

- Data collection methods in qualitative studies are more in-depth (interviews and focus groups), and a smaller sample size was utilized, findings might not be generalizable.
- Gaining access to busy professionals, such as relationship managers and technology experts, tends to be difficult.
- Participants have different levels of understanding and familiarity with Generative AI technologies.
- Ethical considerations are critical, especially when discussing the implementation of AI technologies, which may cause participants' concerns about privacy and job security.

3.10 Quality Assurance

In case study research, triangulation is said to be essential for confirming the validity of the processes. It plays a significant role in ensuring credibility, meaning the accuracy of the findings, transferability, meaning the applicability of the findings to other contexts, and dependability, meaning the consistency of the research methods to produce similar results if replicated with similar subjects and contexts (Turnbull et al., 2021). Data triangulation involves using multiple data sources, while method triangulation involves using different methods for data collection within the same study (Mtisi, 2022). The research was conducted with multiple people in different roles, which covers the triangulation perspective and discussion above.

3.10.1 ***Transferability***

The selected population for this research included participants from various domains, i.e. Relationship managers in banking, technology experts, enterprise, and solution architects, and senior managers to get a holistic view.

3.10.2 ***Credibility***

To ensure the study's credibility, all necessary permissions were obtained, and the institution's ethical guidelines were followed. To encourage honest and open responses, all participants were treated confidentially, and the data was anonymized (Sheth et al., 2022).

A few interview questions were taken from previous studies i.e., from Sheth et al. (2022) and Bhattacharya & Sinha, (2022) enhancing the quality of data collection. A Four-Dimension Criteria (FDC) framework, which includes credibility, dependability, conformability, and transferability was used to evaluate the dataset (Sheth et al., 2022).

3.10.3 ***Dependability***

A pilot study with two respondents was conducted to test and refine the interview guide, and the research supervisor reviewed the interview instrument. This step was an important step to ensure the quality and effectiveness of the questions before the main study began (Gill & Baillie, 2018; Sheth et al., 2022). Subject matter experts were selected as pilot participants due to their knowledge and background, allowing them to evaluate interview questions for relevance, clarity, and completeness. The articulation of the data analysis method that was followed in conducting this study added to its dependability (Bingham, 2023).

3.11 Ethical considerations

Ethical considerations for this research included ensuring that the institution's process and procedures are followed by seeking ethical clearance from Wits University’s ethics committee to conduct the research.

Adherence to ethics included providing informed consent to participants by explaining the objectives of the study and its perceived risk. The principles of anonymity, confidentiality, privacy, and voluntary participation were followed to ensure the study's credibility. (Ahmed & Hussain, 2023).

3.12 Chapter Summary

This chapter offers a comprehensive overview of the research methodology. The next chapter will concentrate on presenting, analysing, and discussing the findings gathered from the data collected.

CHAPTER 4. PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Introduction

The purpose of this chapter is to present, analyse and discuss the findings from the qualitative analysis of data on the factors that influence the adoption of Generative AI for customer service in the South African banking sector to enhance relationship management. This qualitative study investigated how banks in South Africa can effectively integrate Generative AI technologies within their Relationship Management functions to support Relationship managers in providing superior customer service. Investigating key opportunities and challenges associated with adopting Gen AI technologies in relationship management and provides key insights for the banking industry.

The findings are presented based on themes derived from the codes which are organized according to the research propositions on the benefits of GenAI in improving relationship management in banking.

The chapter discusses the data collected from 19 respondents who were interviewed. The length of the interviews was a minimum of 25min to a maximum of 1h30min. The data was gathered from people working in banks, these included Relationship Managers/ bankers (RM's), Enterprise and Solution architects, and Product/Solution owners responsible for producing solutions and defining processes in banking. Additionally, there were technical specialists and senior managers in the bank which included 2 executives. The Technology-Organisation-Environment (TOE) framework was used as a guiding principle for conducting this research. The data was analysed using the Atlas.ti tool, which is a tool used for qualitative analysis. This tool was used to code and identify themes relating to research objectives. The process followed to analyse the data gathered started with reviewing transcripts from the interviews and validating the information gathered using the recordings from the interviews. The next step that was followed was reading through all the transcripts to get an understanding of

the data gathered as well as have an initial view of themes coming out of each transcript and become familiar with the data.

The next step involved uploading all 19 transcripts onto the Atlas.ti software. Once all the transcripts were uploaded, the coding process followed where 182 codes were created from the first transcript. The remainder of the scripts added more codes which brought the total codes created to 2,394 codes. When the process reached transcript number 17 no new codes were created but additional quotations were created which meant that the data had reached a point of saturation. Though the data had reached this point all transcripts were coded to validate the views from all the data collected. The next step involved the grouping of the codes to get appropriate themes. Given that the goal of this phase is to develop clear thematic categories (Williams & Moser, 2019), multiple rounds of iterative clustering and refinement were performed using thematic analysis to identify connections between the emerging themes in the data (Morgan & Nica, 2020).

The codes were grouped into four main overarching themes or categories which to a large degree represent the four objectives of the study. The groups are as follows, benefits of GenAI in banking, factors influencing GenAI adoption in banking, implementation of GenAI in banking and opportunities for GenAI in banking. These groupings were selected to help validate the propositions defined as part of the literature reviewed in Chapter 2. Below is the list of propositions which will be used to outline the findings:

1. The adoption of Generative AI (GenAI) technologies in South African banks will improve Relationship Managers' ability to provide personalized and timely customer service by improving operational efficiency, providing valuable customer insights, and increasing customer engagement.
2. The integration of Generative AI (GenAI) technologies across various use cases in the banking sector will improve Relationship Managers' (RMs') functions and interactions by personalizing customer service, streamlining financial advisory processes, and optimizing risk management.
3. The successful integration of Generative AI (GenAI) into bank relationship management is influenced by a combination of ethical concerns,

technological constraints, regulatory issues, and institutional barriers. Addressing these factors is critical for improving customer service and increasing operational efficiency,

4. Effective implementation and integration of Generative AI (GenAI) tools in banking require comprehensive planning and training, ensuring that Relationship Managers (RMs) can utilize these tools to enhance customer service. Key recommendations include thorough testing of GenAI technologies, structured training programs for RMs, and strategies for smooth transitions to mitigate integration challenges.

The codes were reviewed under each theme and where there were similar codes these were merged accordingly to create strong themes. These reduced the number of the overall codes to 150 codes. The next round of code refinement reduced the number of codes to 26 overall codes. These were used to create 4 main themes with 17 sub-themes created to provide a deeper categorization. Theme one has 4 subthemes, theme two has 5 subthemes, theme three with 3 subthemes and theme four has 5 subthemes. The subgroups will be highlighted as part of the data presentation and analysis which will be structured around the proposition formed during the literature review.

Figure 3 highlights the words from the collected data in the form of a word cloud created with Atlas.ti. The word cloud visualizes the frequency of words in the dataset, with larger words indicating more occurrences. This provided an overview of prominent themes and concepts, offering a foundation for identifying key areas of focus and further analysis.

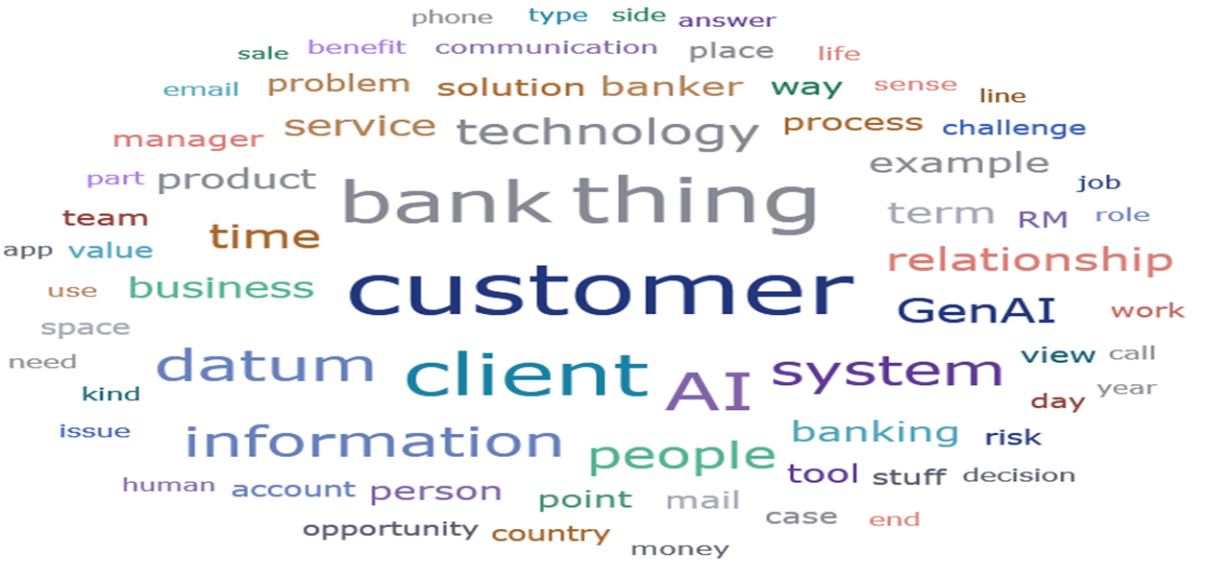

Figure 3: *Word Cloud from Data Collected*

4.1.1 ***Participants Posture***

Even though no demographics of the participants were collected as part of the study. The method used for this study i.e. one-on-one interviews made it possible to give an overview of the posture of the participants. The interviews were conducted with various stakeholders within different banks. In total nineteen participants completed online interviews where 18 interviews were conducted using Microsoft Teams and one participant used Google Meet.

An overview of the study participants is presented in Table 6 to provide contextual background that supports the data and informs the interpretation of findings, ensuring the analysis is grounded in an understanding of the contributors and their perspectives (see Figure 4).

Table 6: *Overview of Participants of the Study*

Occupation/Role	**Total**
Relationship Managers	**4**
Enterprise/Solution Architects	**3**
Technical Specialists	**4**
Senior Managers	**4**
Product/Solution Owners	**4**
Total	**19**

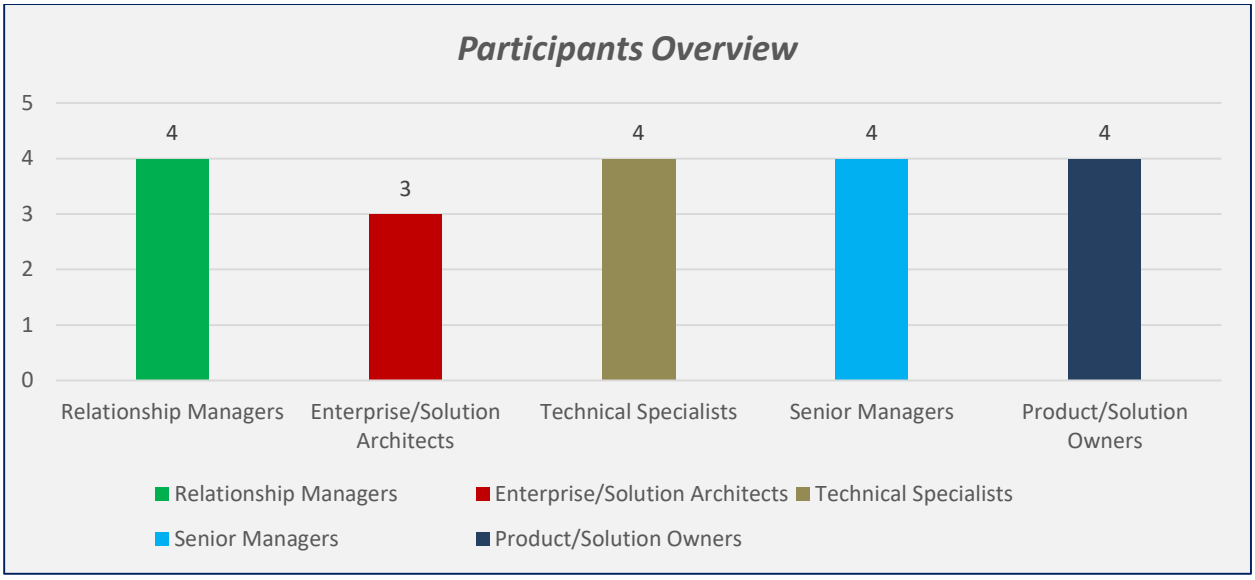

Figure 4: *Participants Overview*

4.2 Findings and analysis pertaining to Proposition 1

Proposition 1 stated the following: *The adoption of Generative AI (GenAI) technologies in South African banks will improve Relationship Managers' ability to provide personalized and timely customer service by improving operational efficiency, providing valuable customer insights, and increasing customer engagement.*

4.2.1 ***Theme 1: GenAI Support for RMs in Banking***

Generative AI (GenAI) is widely regarded as a transformative technology with the potential to improve the performance of relationship managers (RMs) in banking. The data gathered supports this viewpoint, which reveals several ways in which GenAI can assist RMs in providing superior customer service. Respondents identified several critical areas where GenAI helps to improve functionality and service delivery.

The data analysis resulted in the creation of key sub-themes that highlight the specific areas of impact. These include improved customer experiences, increased productivity and efficiency, better decision-making support and insights, and stronger customer relationships. Each sub-theme is supported by a

set of data-derived codes, demonstrating GenAI's multifaceted support. The table below gives a detailed overview of these sub-themes, including the codes from which they were derived and the number of quotations associated with each theme.

Table 7: *GenAI Support for RMs in Banking Sub-Themes* (Source: Authors own)

GenAI Support for RMs in Banking		
Sub-Theme	**Codes**	**Number of Quotations**
Enhanced Customer Experience	Merged from Personalized and Timely customer service, Enhanced Customer Experience, On-Demand and Rapid Services and Trust Building	495
Enhanced Productivity and Efficiency	Merged from Enhanced Productivity and Efficiency, Timely Insights and Efficient Task Execution, Automation and Process Improvement, GenAI for Efficiency and Capacity Building, Simplification, Task Management and Categorization Efficiency, Increased Productivity, Workload Reduction and Improved Coordination and Cost Efficiency	262
Improved Decision-Making Support and Insights	Merged from Improved Decision-Making Support and Insights, Enhanced Data Management and Analysis, Centralized Analytics for a Single Customer View, and Information Management	100
Strengthening of Customer relationships	Merged from Strengthening of relationships with customer, Enhanced Customer Understanding, Customer Expectation Understanding and Proactive Customer Management and User Understanding	95

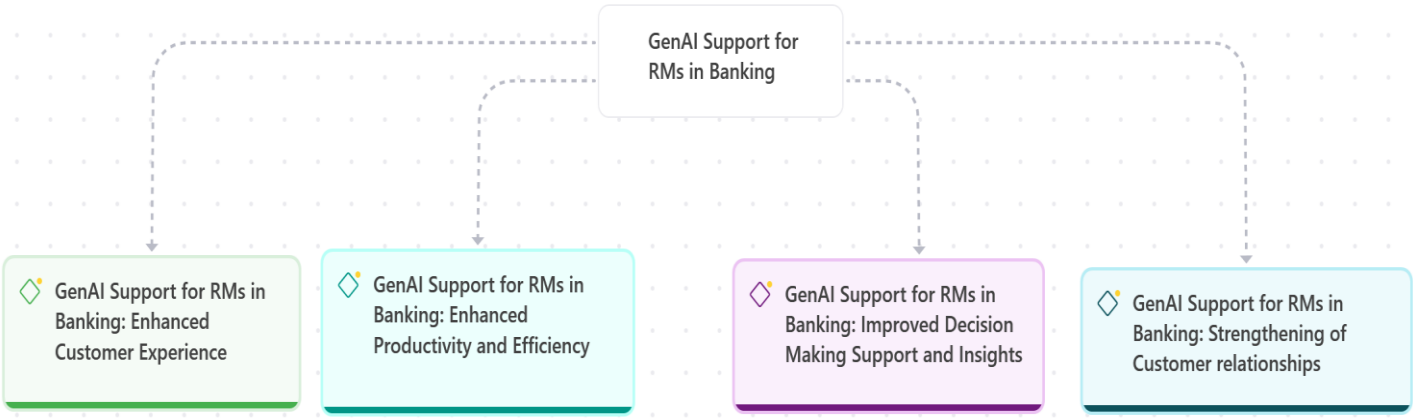

Figure 5: *GenAI Support for RMs in Banking Sub-Themes*

- **Sub-Theme: Enhanced Customer Experience**

This sub-theme explores how Generative AI (GenAI) supports Relationship Managers (RMs) in delivering a superior customer experience by providing personalized, timely, and data-driven services. This subtheme focuses on the operational benefits for Relationship Managers (RMs) in providing enhanced customer experience. Participants emphasized GenAI's transformative role in tailoring customer interactions to individual needs, enabling real-time responses, and fostering trust through enhanced service delivery. As shown in **Table 4** this sub-theme had the highest number of quotations (495), emphasising its significance within the data.

Participants highlighted GenAI's capacity to enhance customer interactions by equipping RMs with insights that drive personalization and hyper-personalization, going beyond traditional methods. Participant 16 (1:26) indicated that "*You will now be able to have more personalised you know, customer interaction or interaction with your customers as a relationship manager you will be able to understand your customers much better their needs, their preferences, you know, and even the taste which is constantly changing. So, I think to me it's quite helpful in such a way that relationship managers will be able to understand their customers much better than they used to do before.*"

This emphasis on hyper-personalization aligns with client expectations, as noted by Participant 12 (30:43) who states that *"Personalization is no longer enough; clients now demand hyper-personalization."*

However, some participants noted challenges, such as the risk of generalized AI outputs. Participant 1 observed "*The problem with AI is that it can generalize things. From a relationship banking perspective, we aim to remain customer-focused by customizing our services for each client*."

Although most participants agree on the personalisation aspect some participants noted challenges such as the risk of generalized AI outputs. Participant 1's view is that "*The problem with AI can generalize things right*?" while also highlighting that "*from your relationship banking point of view, we wanna try by all means to be customer focused, we customize our services based on the client, right*." This raises a point that indicates the need to ensure that the outputs GenAI provides RMs are customised to each customer to allow for personalisation.

Timeliness emerged as a critical benefit, with participants linking GenAI to faster service delivery and efficient use of RMs' time as shown in codes like timely support delivery, real-time data analysis, and quick risk assessment. As Participant 1 (3:40) commented that "*I think it will save us time, save us time. It will enable us to have more time spent having conversations. But I think to me what resonates mostly with AI and my role its time. It will save me time. It will save me time."*

Several participants emphasized how GenAI supports relationship managers by providing real-time, data-driven insights which lead to enhanced customer service. This support enables RMs to have more meaningful, personalized conversations with clients without spending too much time gathering information. Participant 11 (12:19) highlighted the support GenAI could provide RMs indicating that "*So things that this individual in whichever capacity would have had to go and find themselves, which is physically impossible to do, we can put together and surface to the RM. So to have more personalised, more relevant conversations and then at a more basic level*."

Literature supports these findings, According to Ooi et al. (2023) and Singh (2024) one of the most highlighted benefits of Generative AI (GenAI) in banking is its ability to provide personalized and timely customer service. Ahmed and Hussain (2023) concur, emphasising AI's capability to analyse customer data and

identify patterns and preferences that are critical for effective personalisation. However, they underscore the importance of accurate data, and advanced and skilled personnel to effectively manage and interpret data for successful personalization. Lazo and Ebardo (2023) emphasise the inadequacy of traditional methods, advocating for advanced analytics to meet customer expectations.

According to Sari (2023), in banking, GenAI "copilot" assists relationship managers by consolidating client information and providing timely recommendations, thereby facilitating more effective and focused client interactions. Sheth et al. (2022) add that the shift toward hyper-personalization demonstrates the need for banks to pursue technologies that will help them meet this customer demand.

Singh (2024) indicates that GenAI's ability to anticipate customer needs will result in greater engagement and loyalty. The efficiency that GenAI provides will not only shorten response times but also improve the overall customer experience by RM's in providing timely and relevant support.

While most participants praised GenAI's personalisation benefits, some emphasised the importance of ensuring that the data used to train the models is accurate to achieve these benefits effectively as Participant 6 43:32 stated "*We need to make sure that our data is clean, it's reliable, and it's literally working on real-time data. That's the ultimate point that we want to get to for AI to make sense*." The literature also cautions about potential challenges. Banala (n.d.) notes that excessive reliance on AI for personalization may overlook subtle, human aspects of customer relationships, which require emotional intelligence and contextual understanding. However, participants viewed GenAI as a complementary tool, enhancing rather than replacing human interaction. This balanced perspective emphasizes collaboration between technology and human expertise.

Timesaving leads to on-demand and rapid service which came through strongly from all respondent groups with RMs highlighting how this will enable them to manage their customer relationships better. Taneja and Rao (2023) outlined some of the duties of Relationship Managers which can be simplified if GenAI is

adopted within a bank. Highlighting that Generative AI transforms customer interaction by supporting RMs with ability to offer personalized solutions to financial queries in real-time.

The findings in this study align with existing research on AI's role in enhancing customer service. According to Ooi et al. (2023), AI-driven personalization improves customer satisfaction by offering tailored solutions in real-time. Singh (2024) underscores the importance of hyper-personalization in banking, highlighting its role in meeting modern customer expectations for individualized service.

In contrast, Atadoga et al. (2024) also highlight challenges with integrating GenAI in banks. They highlight the challenges financial institutions encounter when adopting these technologies, including issues related to data quality and accessibility, data privacy, regulatory compliance, and ethical considerations. Therefore, the banking industry and banks need to consider taking a strategic approach to AI integration balancing technological advancements with human oversight, ethical considerations, compliance, and regulatory requirements. This approach seeks to optimize the benefits of AI while reducing potential risks.

Sub-Theme: Enhanced Productivity and Efficiency

This sub-theme emerged as the next highest with 262 associated quotations. Participants consistently highlighted the integration of GenAI in relationship management (RM) roles as a significant factor in enhancing productivity and operational efficiency.

Participants frequently highlighted the potential increase in productivity attributed to GenAI's automation capabilities. The theme improved efficiency appeared in 126 quotations. The data collected indicates that participants see the value of GenAI and believe it will help Relationship Managers be more productive and efficient.

Participants highlighted that they see GenAI as an assistant that facilitates quicker task completion, enabling relationship managers to focus on strategic client conversations. Participant 15 (2:28) commented "*I think it actually does help*

them to be a lot more productive. To do things quicker by generating content and then allowing them to review. It's almost like you've got an assistant that can do the heavy lifting for you when you need to have a conversation with a client, and then you just review the content and then push it forward. So I think in terms of productivity they are very good in enhancing relationship manager's productivity."

Some participants linked GenAI's efficiency directly to better customer service. Participant 8 (27:20) commented that *"GenAI offers a bank, our organisation in terms of the speed or the efficiency that is required to then help customers".*

There are strong views from participants that highlight that GenAI's can provide timely insights leading to efficient task execution. Participant 16 highlighted GenAI's ability to provide meaningful insights that could be converted into customer leads, enhancing customer service experiences. Participant 16 (3:29) commented, "*And being able to get meaningful insights, which we can, you know, possibly convert into leads which can ultimately become our customers in terms of customer service, I mean it can enhance the customer experience*".

The term automation was mentioned in 102 quotations, with codes such as automating processes and content generation automation highlighting GenAI's potential to streamline workflows. Participants indicated that automation enhances processes by improving efficiency and increasing capacity. Participant 7 (6:30) noted, "*GenAI, I understand it to be you know a technology that people could use in order for them to automate whatever manual processes that they have". While* Participant 12 (3:20), indicated "*So I think we could use Gen AI to interpret that message and then direct it to the correct space for actioning."*

Ho and Wong (2023) support the participants' views, stating that GenAI can aid RMs by automating repetitive tasks, allowing them to focus on more clients and strategic activities. While Bendersky (2024), describes AI Copilot as an assistant that is designed to assist and collaborate with humans in performing tasks or making decisions, helping users accomplish routine tasks faster than before.

The participants' views align with the literature where Lazo and Ebardo (2023) emphasize that increasing productivity is a key motivation for adopting AI. Through automating repetitive tasks, AI enhances operational efficiency, which

reduces labour costs, minimizes human errors, and accelerates turnaround times, ultimately contributing to improved profitability.

Alladi (2024) identifies process automation as a key impact of AI in customer relationship management (CRM), noting that AI-powered CRM systems enhance operational efficiency by automating repetitive tasks and workflows. This perspective aligns with the collected data, which emphasises GenAI's role in automating processes and driving improvements.

This highlights the potential role GenAI will have in streamlining and improving the processes that Relationship managers undertake. These views align with the notion by Singh et al. (2024), indicating that implementing GenAI within an organisation improves operational efficiency, streamlines workflows, and enhances decision-making processes.

The findings align with existing research emphasizing the transformative potential of AI in delivering timely insights. Taneja and Rao (2023) states that in today's financial landscape, Generative AI is transforming customer interaction by providing personalized solutions to financial queries in real time. Where AI-driven systems streamline contact centre operations by pre-emptively addressing future customer inquiries with tailored responses.

While the benefits are evident and supported by literature some literature points to potential challenges. For instance, Truby et al. (2020) caution that the quality of AI insights depends on the integrity and consistency of the data. This underscores the importance of robust data governance frameworks in banking to ensure reliable outcomes, a factor not deeply discussed by the participants.

Literature also cautions around the dependency of data quality, data privacy and proper data management practices as challenges associated with this capability. Lazo and Ebardo (2023) highlight the perceived untrustworthiness of AI solutions which stems from security concerns, particularly in the areas of data privacy and protection. The banks will need to address these concerns in order to benefit from the opportunities that GenAI presents.

While participants praised the efficiency benefits of GenAI, the literature also highlights potential challenges. For example, Singh (2024) warns that automated processes may overlook the subtle requirements of complex customer interactions without proper oversight, potentially impacting service quality. However, participants primarily viewed GenAI as an enabler rather than a replacement, indicating a balanced approach toward automation and human intervention.

- **Sub-Theme: Improved Decision-Making Support and Insights**

This sub-theme, supported by 100 quotations, highlights how Generative AI (GenAI) enhances decision-making for relationship managers (RMs) by enabling real-time data access, predictive analytics, centralized information, and a comprehensive single view of the customer. Participants highlighted GenAI's role in streamlining decision-making processes, recognising patterns, and personalising customer engagement. Additionally, 87 quotations referenced data-driven insights as crucial for informing client interactions, with codes such as client insights, single view of a customer, and comprehensive view illustrating how GenAI provides deeper, more actionable insights for RMs. Participant 5 (1:34) described how GenAI provides a comprehensive understanding of customers "*You know, the whole entire history, whether it's also financial accounts that are there and also leads, conversations, activities*."

Participant 7 (31:41) explained how GenAI can use both structured and unstructured data for decision-making, "*Gen AI whether the data is structured, whether the data is unstructured, you are able to analyse it right quickly and come up with the decision. And what I like the most about that is that. You are working with, you know all the data that you have picked up from different sources, but then this data is related to a person to a particular person and so forth. So for me, it's more like providing personalization from an end-to-end perspective because you're working with the entire data*."

Participants also highlighted GenAI's role in streamlining data processing, automating insights, and centralizing customer information. Participant 11 (3:29) pointed to GenAI's role in providing holistic insights into customer management

and business performance "*holistic insights on how to manage the customer relationship because it's supposed to be one spot where we see everything. It also should help the leaders of the teams get insight into business performance because again, that's the system we should be using to see what deals are in the pipeline. You know, are we engaging customers, that kind of thing?*"

Participants highlighted the critical role of integrated data systems in enhancing proactive decision-making, particularly in corporate banking. A single customer view (SCV) was seen as essential for providing relationship managers (RMs) with comprehensive and accurate information, enabling improved service delivery and opportunity identification. While the benefits of an SCV were emphasised, participants also noted challenges related to fragmented data and systems, emphasizing the need for more effective integration. Participant 6 (8:43) states "*So with AI they'll be able to have a system that can help them assess the existing data that we have. We have so much data as a bank, but because our systems are not really that integrated and there's nothing that is accessing the data to help us be more proactive we lose out on opportunities*."

These findings align with research indicating that AI enhances decision-making by analysing large datasets and generating actionable insights (Singh et al., 2024). Kanbach et al. (2024) and Singh et al. (2024) highlight that AI-driven analytics enables organizations to process real-time data, leading to informed and better strategic decisions. This supports Participant 16's view on instant analytics and decision support.

Atadoga et al. (2024) highlight that banks increasingly use AI to process vast data, enabling better decision-making, service personalization, and trend identification. AI provides detailed insights into risks, allowing for more informed decision-making and helping relationship managers make strategic decisions that enhance efficiency and customer satisfaction.

Ooi et al. (2024) emphasize the role of AI in personalizing customer interactions through data integration. This mirrors Participant 5's insights about using customer data to tailor conversations and build deeper relationships. Additionally, Ahmed and Hussain (2023) argue that AI's predictive capabilities allow

companies to anticipate customer needs, reinforcing Participant 7's observation about proactive recommendations which lead to improved decision-making.

While participants applauded GenAI's decision-making support, challenges exist. For example, Singh (2024) warns against over-reliance on AI-generated insights, which may overlook contextual intricacies in customer interactions. However, participants viewed GenAI as a tool for augmentation rather than replacement, indicating that human oversight remains crucial in decision-making as highlighted by. As stated by Participant 5 RMs do not have to rely fully on generative AI. They need to intervene by reviewing AI-generated emails or templates to ensure everything is correct before sending.

Jain (2023) highlights that AI technologies have significantly enhanced decision-making processes in investment management and boosted overall bank profitability. However, the adoption of AI in banking comes with its own set of challenges. Key concerns include data privacy, ethical considerations, and the potential for biases in AI algorithms. Tad et al. (2023) emphasize the importance of addressing these issues thoughtfully to promote the responsible and sustainable integration of AI in the banking sector.

Atadoga et al. (2024) state that recently, there has been a growing emphasis on ethical AI and explainable AI (XAI) within the banking sector. As concerns about data privacy and algorithmic transparency rise, banks are progressively implementing XAI frameworks to ensure AI-driven decisions are both transparent and accountable

- **Sub-Theme: Strengthening of relationships with customers**

This sub-theme, supported by 95 quotations, emphasises the significant impact of Generative AI (GenAI) on enhancing relationship management. It highlights GenAI's role in improving customer interactions, understanding, proactive management, communication, and overall client service, fostering deeper and more meaningful connections between relationship managers and their clients.

Participants particularly valued GenAI's assistance in relationship building by enabling effective responses and enhancing communication, including its ability

to analyse emails and fine-tune messaging. Participant 3 (3:36) "*Which really is aimed at making sure which is the bankers are getting, or the bankers are actually getting to have conversations that are meaningful with customers based on reading the emails that they are getting, preparing maybe 2-3, four options of how you can actually respond to a client effectively*."

Participants further highlighted how AI can handle simple tasks, freeing RMs to address complex client needs. Participant 6 (40:01) *"So that the calls or the emails or the requests that come to a banker is more complex stuff. The easy stuff that we know we do in the back of our head should be, you know, dealt with by AI in most cases."* They also pointed out how GenAI facilitates a deeper understanding of customer preferences, highlighting the role of sentiment analysis in understanding customer needs. The view is that GenAI aggregates detailed customer histories, including financial accounts and personal milestones. There was an emphasis on how AI informs RMs about a customer's lifecycle stage, aiding in cross-selling opportunities. Participant 12 described GenAI's potential to interpret real-time data and recommend discussion points. Participant 12 (3:20) "*I expect the GenAI to become more than just something that does give you answers like ChatGPT but rather being able to interpret what's happening and then make recommendations for discussion points at, you know, real time."*

GenAI benefits customer relationships by facilitating efficient and personalized communication. It assists relationship managers (RMs) by automating routine tasks, interpreting customer intents, and guiding strategic conversations. These enhancements allow RMs to focus more on understanding client needs and delivering proactive services, which are crucial for building trust and long-term relationships with clients.

This reflects the findings by Ho and Wong (2023), who note that GenAI can aid RMs by automating repetitive tasks, allowing them to focus on more clients and strategic activities. Further validated by Alladi (2024) who states that AI-powered CRM systems automate repetitive tasks, freeing up valuable time and allowing customer support teams to focus on building deeper, more meaningful

relationships with customers, ultimately delivering exceptional service experiences.

Ooi et al. (2024) found that AI-driven communication tools enhance customer satisfaction by enabling personalized, context-based interactions. While Singh (2024) indicates GenAI's ability to generate data-driven content and solutions on its own makes it an effective tool for RMs looking to provide personalized banking experiences.

The literature highlights the transformative role of AI in customer relationship management (CRM), particularly in banking. Atadoga et al. (2024) note that AI technologies, including chatbots and virtual assistants, have improved operational efficiency and revolutionised customer interactions, driving greater satisfaction and loyalty. Similarly, Cao et al. (2024) emphasise the value of AI-based sentiment analysis in understanding customer emotions and tailoring interactions. These capabilities enable relationship managers to deliver empathetic, relevant responses, further enhancing customer satisfaction.

While the views from participants largely depict a positive aspect GenAI's role in supporting relationship management to strengthen the relationship with customers. Some participants highlighted the importance of the human eye, where RMs are given the ability to check the information provided by GenAI. This is aligned with some studies that caution against over-reliance on AI. For instance, Singh (2024) warns that AI tools may lack the emotional intelligence necessary for certain client interactions. However, Participant 1 (16:59) acknowledged this balance stating that "*you can't take away the human element that comes with the customer service"*

This view aligns with what the research is aiming to achieve in understanding how to augment GenAI within the relationship management space rather than replacing RM's with GenAI. This is also backed by Van den Berg and Pather (2023), who state that the accuracy of GenAI outputs needs to be verified for the time being, humans will need to be kept informed. The findings align with existing literature that underscores AI's transformative role in customer engagement while emphasizing the importance of maintaining a human touch.

Research underscores the significant impact of AI-driven customer analytics on enhancing customer understanding, as highlighted by Atadoga et al. (2024) and Ahmed and Hussain (2023). These studies emphasise GenAI's capacity to analyse extensive data across multiple systems, uncovering patterns and trends that enable relationship managers to recommend suitable products or services. Alladi (2024) further notes that AI-powered CRM systems provide deeper insights into customer preferences, behaviours, and sentiments, facilitating the delivery of tailored, scalable experiences. This results in more personalised interactions and improved customer satisfaction, aligning with participants' experiences of using GenAI to access comprehensive insights and deliver proactive services.

4.3 Findings pertaining to Proposition 2

Proposition 2 stated the following*: The integration of Generative AI (GenAI) technologies across various use cases in the banking sector will improve Relationship Managers' (RMs') functions and interactions by personalizing customer service, streamlining financial advisory processes, and optimizing risk management.*

4.3.1 ***Theme: Opportunities and Use Cases for GenAI in Banking***

Opportunities for adopting technology and innovation often emerge from evolving market dynamics, technological advancements, or unmet needs within a sector, providing a foundation for creating value, fostering growth, and addressing key challenges. According to the data collected, participants identified Generative AI (GenAI) as a transformative and strategically significant opportunity in banking, offering pathways to redefine traditional paradigms in the face of digital transformation, rising customer expectations, and stringent regulatory demands

Key sub-themes highlight GenAI's advanced data-processing capabilities, which enable enhanced personalisation, customer-focused solutions, and predictive insights, significantly improving customer engagement and interaction. Additionally, GenAI optimises relationship managers’ tasks, enabling more efficient and accurate service delivery, while its integrated data management

facilitates seamless operations and strategic decision-making. Its potential for process optimisation and automation further drives operational scalability and innovation.

Participants also outlined various practical use cases for GenAI in the relationship management domain, demonstrating its wide-ranging applicability and potential to enhance banking operations and customer experiences.

Table 8: *Opportunities and Use Cases for GenAI in Banking Sub-Themes* (Source: Authors own)

Opportunities and Use Cases for GenAI in Banking		
Sub-Theme	**Codes**	**Number of Quotations**
Enhanced Customer Engagement, Interaction, and Personalized Service Delivery	Merged from Enhanced Personalization and Customer Focused Solutions, Predicting Customer Behaviour and Needs and Adhering to Customer Preferences; Enhanced Customer Engagement and Interaction, Accurate, Predictive and Timely Customer Insights, Time Efficiency and Response Optimization and Proactive and improved Client Engagement and Strategic Planning	514
Optimizing Relationship Manager Tasks and Process Automation	Merged from Relationship Manager Functions and Work Enhancement and Streamlined and Seamless Activity and Task Handling; Streamlining and Automation of Processes, Administrative and Operational Efficiency Improvement, Task Automation Opportunity, and Optimization of Routine Tasks; Document Verification, Email Generation, Email Content Creation, Meeting minutes generation, Meeting recording, Populating Fields, Suggesting	278

	responses, Rewrite and Rephrase written communication	
Integrated Data and Information Management	Merged from Streamlining Data Integration, Analysis, Utilization and Management, Information Enhancement and Integrated and Streamlined Information Flow	150
Practical Applications and Use Cases of Gen AI	Merged from AI Use Cases, Chatbots, , Fraud Detection, 360° View, Anticipating Needs, Autonomy, Beyond Banking, Business Forecasting, Campaign Management, Case Management, Cash Flow Reports, Competitive Analysis, Credit Evaluation, Customer Assets Validation to determine required Collateral, Data Aggregation using AI, Due diligence, Early Detection, Effective Marketing Channels, Effective Query Resolution, Enhanced decision-making, Enhancing sales opportunities, Future Lending Needs, Identity Solutions, Identity Verification, Improved lending process, Individual Verification, Instant Recognition, Investment Decisions, KYC, Language Adaptation, Language barriers, Lead Management, Lending Decisions, Manage Opportunities, Market Analysis, Message Redirection, Onboarding Process, Pop-ups, Proactive Notifications, Product promotion, Proposal Generation, Reminders, Remote Assistance, Remote Document Signing, Repetitive Questions, Scheduling Support, Virtual Meetings Advanced Financial Advisory and Planning	85
Streamlining of Technology and Systems	Technology Integration and Enhancement and System Integration and Modernization, Operational and Capability Enhancements	52

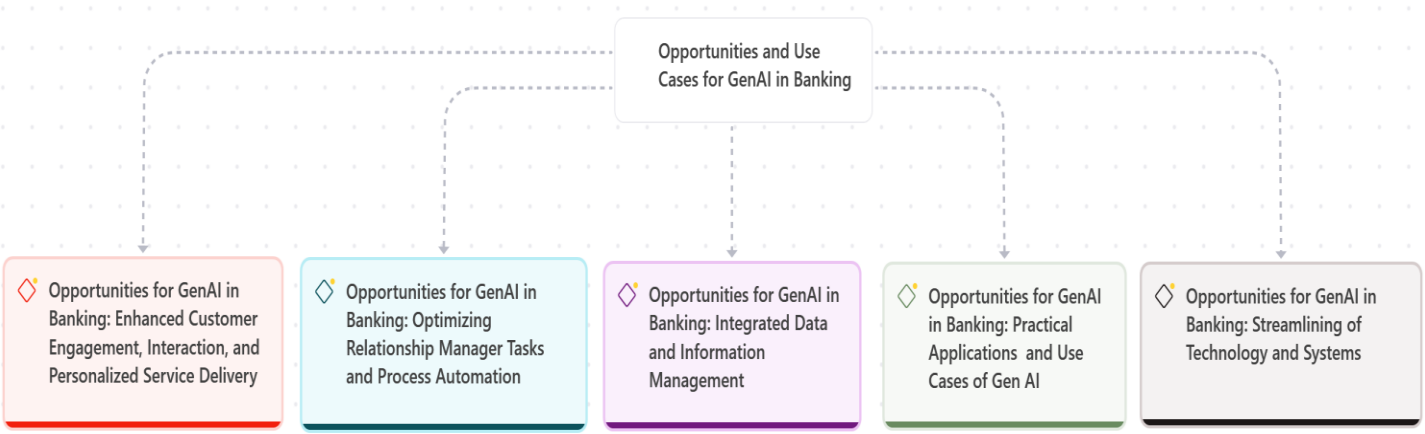

Figure 6: *Opportunities and Use Cases for GenAI in Banking Sub-Themes*

- **Sub-Themes: Enhanced Customer Engagement, Interaction, and Personalized Service Delivery**

This sub-theme highlights the significant opportunities Generative AI (GenAI) presents for transforming customer engagement, interaction, and service delivery in the banking sector. With 514 associated quotations, including 310 directly focused on engagement and interaction, it highlights GenAI's potential to revolutionize how banks connect with customers, fostering more meaningful and personalized relationships. This subtheme examines the strategic, systemic opportunities for banks to transform customer engagement.

Participants emphasized that GenAI's ability to analyse large datasets supports predictive insights into customer behavior, enabling proactive engagement and tailored solutions. Participant 5 (5:12) reflected on this with a comment that "*More like the Generative AI. It can generate a conversation like immediately when I log in it can, it can just send me pop-ups and tell me about Sibongile that, oh look we kind of like noticing that Sibongile just finished you know her, her car instalment. And you know, you might need to start having a conversation these are the prompts, these are the key points that you can discuss with Sibongile to find a good deal for her and all that.*"

Participants highlighted GenAI's ability to personalize and refine customer experiences. Through predictive insights and tailored solutions, GenAI ensures that customers feel valued and understood, improving their overall satisfaction with banking services. Participant 5 (6:55) indicated, "*Then when you give*

Sibongile a call your kind of like know that OK if she's it's gonna be more like when you talk to Sibongile, Sibongile is gonna feel more relaxed and comfortable and excited because it's like you know her". Participants noted the role of GenAI in delivering proactive, high-quality, and customized services.

The integration of GenAI has also streamlined customer interactions by delivering actionable insights. For instance, codes such as time efficiency and response optimization reflect how GenAI reduces response times, this highlights how the banking industry can leverage GenAI to ensure that customer concerns are managed more effectively. Moreover, proactive, and improved client engagement demonstrates the shift from reactive to proactive relationship management, with Participant 6 giving an example adding, Participant 6 (8:43) "*If we can be proactive and be able to have the right engagement and push the right product at the right time"*. This is where the banks can leverage GenAI technology and use AI-driven insights to identify opportunities for engagement before customers reach out. Participants also discussed how predictive analytics and timely responses support better strategic planning and customer-focused initiatives.

The findings align with Taneja and Rao (2023), who describe GenAI's transformative role in providing real-time, personalized solutions to financial queries. This capability enhances both engagement and efficiency, positioning RMs to deliver high-quality, customized services that meet modern customer expectations.

However, while GenAI provides opportunities for enhancing efficiency, its success hinges on RMs' ability to balance AI-driven insights with human judgment. For instance, the significance of time efficiency and response optimization highlights how GenAI accelerates service delivery but also requires human oversight to ensure accuracy and relevance. Literature cautions that the quality of AI insights depends on the integrity and consistency of the data (Truby et al., 2020), while Lazo and Ebardo (2023) highlight the perceived untrustworthiness of AI solutions which stems from security concerns.

- **Sub-Theme: Optimizing Relationship Manager Tasks and Process Automation Functions**

The integration of Generative AI (GenAI) in banking presents transformative opportunities, particularly in optimising Relationship Manager (RM) tasks and automating both core and non-core processes. Participants emphasized that GenAI enables RMs to focus on higher-value activities by streamlining routine and administrative tasks. This is encapsulated in the theme of optimizing relationship manager tasks and process automation, which highlights GenAI's potential to enhance operational efficiency and task handling.

Participants highlighted how GenAI enables RMs to focus on higher-value activities by automating routine and administrative tasks, such as email generation, document verification, scheduling, and meeting minutes preparation. Participant 6 shared, "*AI will help, for example, an RM manager to be able to generate emails, schedule sessions, reviews",* reflecting how automation enhances workflows and frees up time for strategic activities.

GenAI's role in automating mundane and repetitive tasks, such as pre-populating communication or streamlining customer onboarding, was emphasized as a significant advantage. Participant 4 (2:19) noted, "*I think this technology can be used to help with the mundane tasks the RMs are experiencing or faced with on a daily basis*." Similarly, Participant 2 (21:59) stated, "*You know automation is always faster than manual intervention. Yeah, capacity, they'll be creating capacity to answer that customer, to engage with that customer, make their lives faster, at least on the banking side."* These insights align with the codes task automation opportunity and optimisation of routine tasks, which illustrate how GenAI reduces manual workloads and creates operational capacity allowing RMs to focus on personalised client engagement and strategic decision-making.

The insights on streamlining and automation of processes further illustrate how GenAI accelerates task completion, ensuring efficiency and consistency. Participants noted that automation tools supported by AI can help reduce the risk of human error in repetitive tasks while maintaining accuracy. Participant 11 (12:19) indicated "*if we can prepopulate communication and emails and things*

like that to the customer." This is particularly beneficial for processes such as customer onboarding and communication generation.

Another critical opportunity lies in administrative and operational efficiency improvement. GenAI assists in managing complex datasets, generating actionable insights, and enhancing the seamless execution of RM functions. For instance, one participant stated, Participant 18*: "It would save me time, I would be more efficient and meet my admin targets, timelines and deadlines."*

Though most of the insights support these views, Participant 4 is adamant that GenAI cannot replace RMs Participant 4 (2:19) "*My stance is always that it's not supposed to replace what RMs are doing, but to help them be more efficient and as such be effective*."

The theme of optimizing relationship manager tasks and process automation highlights how GenAI can reshape operational and administrative workflows in banking. By automating routine tasks, GenAI not only saves time but also empowers RMs to allocate their attention to complex, value-driven activities such as relationship-building and strategic planning. This aligns with academic literature emphasizing the role of AI in improving task efficiency. This aligns with the view by Singh et al. (2024) that GenAI will handle simpler tasks freeing RMs for higher-value work.

Participants' views on streamlining and automation of processes underscore the growing reliance on AI to improve process efficiency. While participants highlighted the efficiency gains from task automation, they also stressed the importance of human oversight. This reflects a critical limitation of GenAI, while it enhances efficiency, it requires human validation to address potential errors or contextual nuances.

These findings align with the literature, Ho and Wong (2023) support the participant views, stating that GenAI can aid RMs by automating repetitive tasks, allowing them to focus on more clients and strategic activities. Similarly, Alladi (2024) emphasizes that AI-powered CRM systems enhance efficiency by streamlining routine workflows.

Findings on relationship manager functions and work enhancement demonstrate how GenAI supports RMs in delivering personalized services. GenAI's ability to provide RMs with predictive insights and timely data, AI helps RMs tailor their interactions to client needs. The ability GenAI provides with automating reports, copilot ability to support with meeting minutes as well as automation of other administrative tasks support the view of its ability to enhance relationship manager functions and work enhancement.

- **Sub-Theme: Practical Applications and Use Cases of Gen AI**

The adoption of Generative AI (GenAI) in banking offers numerous practical applications that enhance operational efficiency, improve customer experiences, and drive strategic growth. This sub-theme Practical Applications and Use Cases of GenAI captures these opportunities presented by GenAI through diverse functionalities, ranging from advanced decision-making support personalizing customer service, streamlining financial advisory processes, and optimizing risk management.

The findings from the data collected from participants for this sub-theme have been grouped due to the diverse nature and the number of use cases highlighted.

Enhancing Customer Interaction

Participants believe that AI-driven tools can improve client engagement through personalized, timely, and proactive communication. Participant 8 1(5:49) shared, "*They could get responses, suggestions, images, videos. You know the wealth of knowledge then that is at the fingertip of your relationship manager*." This aligns with codes such as effective query resolution and proactive notifications, emphasizing the role of GenAI in elevating customer experiences by addressing inquiries instantly and tailoring interactions to individual preferences.

This is evident in the data, as one respondent highlighted that their bank is currently implementing a use case aimed at simplifying query resolution processes, Participant 12 (23:41) indicated "*GenAI reads it and then generates a classification for complaints and queries we are rolling that out*."

The views are aligned with the literature reviewed on GenAI's ability to improve customer interactions including views from Ahmed and Hussain (2023), Chui et al. (2023) and Sari (2023), with Sari (2023) stating that GenAI's ability to provide recommendations leads to improving customer interactions.

Compliance and Risk Management

In compliance and risk-sensitive processes, such as Know Your Customer (KYC), fraud detection, and customer verification, GenAI has the ability to enhance accuracy and efficiency. Participant 7 (20:22) explained, "*So I think Gen AI could really help in terms of, you know, know your customer cause there's a lot of, you know due diligence that you need to make it could be in terms of whatever documentation that the person provides to you need to compare them with other documentations that are on different data stores around the world*." Codes like Fraud Detection and Individual Verification illustrate GenAI's critical role in ensuring regulatory adherence and mitigating potential risks.

Participant 18 has a different view stating that GenAI may cause fraud due to cybercrime "*It may cause some risk such as fraud, because these people who conduct cybercrime.*" Highlighting the importance of enhancing cybersecurity.

The insights from most participants are aligned with the literature reviewed by Taneja and Rao (2023), who cited the compliance use case of GenAI.

Advanced Financial Advisory and Planning

One of the most promising applications of GenAI according to participants lies in advanced financial advisory and planning. Participants highlighted its ability to provide tailored advice, simulate financial scenarios, and deliver precise insights to guide clients. For instance, GenAI supports investment planning and advisory by analysing market trends and forecasting outcomes. Participant 12 (12:31) states *"It pulls in, pulls information up on the screen and says, okay, this is trade finance. This is your minimum criteria. This is what the features and benefits are. Maybe even give us some competitive analysis."* This corresponds to the Advanced financial advisory and planning code, emphasizing GenAI's role in

enabling relationship managers and advisors to provide valuable and customized financial solutions.

This use case needs to be supported by ensuring that data is accurate, as Participant 6 (10:32) stressed that "*this AI doesn't really work well when there are data issues because it won't give you the right information that you need to be able to, you know for suggestions and you know, make decisions*."

GenAI also facilitates real-time analysis and scenario modelling, empowering financial professionals to advise clients on complex decisions quickly. The ability to incorporate personalized insights not only strengthens the advisor-client relationship but also positions banks as trusted partners in financial planning. This aligns with findings by Singh et al. (2024), who indicate that GenAI improves financial advisory services through its data analysis capability.

Decision-Making and Strategic Planning

GenAI's ability to aggregate and analyse large datasets facilitates informed decision-making and supports long-term strategic goals. Participant 12 (3:20) remarked, *"GenAI should start pumping us with information, we can then predict that hey, this guy is gonna need funding every October because that's his peak season to stock up as he goes into December."*

According to participants, GenAI enhances decision-making and strategic planning for relationship managers (RMs) by integrating data from multiple sources to provide a comprehensive view of clients' activities and plans. This enables RMs to engage with clients in a more informed and personalised manner. Participant 5 (6:55) stated, "*Because it's getting all this information from the Internet, from all these different sources and putting that together and translating it into a formal you know whether it's an emailer or something like that, then it's up to you as a banker."*

Insights gathered through codes like future lending needs and investment decisions highlight GenAI's efficacy in predictive analytics, empowering professionals to make data-driven financial decisions. Participant 7 (8:37) supports this view citing that *"It builds up, you know, patterns maybe out of this*

trend, what insight can I deduce so that I can help whoever is using this tool to make, like proper decisions."

This use case has a high dependency on data and systems into which GenAI is integrated into to provide these insights as this notion is stressed by Participant 6 (11: 55) saying *"But for generative AI to make sense. You need to work with live data that is the latest data that you have in the system and that's accurate as well."*

It is therefore essential for banks to ensure that the data sources utilized by GenAI are both reliable and accurate, thereby enabling decisions to be based on precise and trustworthy information.

These findings are consistent with previous research that has highlighted the transformative role of artificial intelligence in improving decision-making processes. By analysing large datasets, AI systems produce actionable insights that significantly improve organizational strategic planning (Singh et al., 2024; Jain, 2023). Furthermore, AI's ability to streamline data-driven decision-making enables the delivery of real-time insights, allowing organizations to respond more effectively to changing market dynamics. This adaptability promotes informed and strategic decision-making, enhancing the organization's ability to navigate complex environments and capitalize on emerging opportunities (Peres et al., 2023).

Beyond-Banking Initiatives

Participants also highlighted additional use cases for generative AI that extend beyond traditional banking functions which include campaign management, competitive analysis, and business forecasting. Participant 10 (4:12) noted "*So for campaigns, I think it's a solid, solid tool for the bankers*" Codes such as campaign management and competitive analysis highlight how GenAI fosters innovation and adaptability in a competitive market environment. Participant 12 (12:31) added to this view stating "*Maybe even give us some competitive analysis. the AI is gonna tell us, OK, but Capitec has this, but this is what we have, and this is why it's better.*"

Literature supports this view with Singh (2024) highlighting significant potential of generative AI in enhancing and supporting campaign management to ensure targeted marketing, competitive analysis, and business forecasting. All these have the ability to foster innovation and adaptability in a competitive market environment.

These findings highlight the seemingly limitless possibilities that participants believe GenAI can bring to the banking industry.

- **Sub-Theme: Streamlining of Technology and Systems**

The data from participants pointed out an additional opportunity that GenAI brings within the banking industry, which is streamlining of technology and systems, highlighting its ability to modernize and integrate technological infrastructure while enhancing operational capabilities. GenAI enables seamless system integration and modernization, reducing inefficiencies and creating a unified technological ecosystem. Participants emphasized that the integration of GenAI contributes to streamlining operations, facilitating the adoption of advanced technologies, and enhancing overall capability within banking systems.

Participants noted that GenAI provides banks the ability to blend disparate systems, creating a unified platform that supports relationship managers and providing them with a single interaction point. Participants noted how modernized systems, supported by GenAI, enable Relationship Managers (RMs) to manage tasks effectively, such as real-time data aggregation and customer insights generation. This is highlighted by Participant 16 (3:29) who said "*I mean, you're also able to pull, you know, information from multiple enterprise systems within the bank and just bring all that information in one glance, visualise it in a dashboard and boom, you can talk to your client as if, you know, you're the client*."

Some participants were hesitant indicating that banks have a myriad of systems that may not be compatible as well as those the current IT teams may not be aware of making it difficult to harmonise all systems. Participant 10 (10:56) highlighted that "*There can be like a lot of legacy you know systems that are still used right that a lot of teams may not be even aware of*." Furthermore, participant 16 affirmed the view on legacy systems saying, *"I mean we talk of legacy; we've*

got systems that come from the 60s and you know possibly the 50s". This highlights the challenge of system compatibility. Participant 13 (15:11) added that the systems are not only old but are fragmented "*But with that having fragmented systems*" which makes it even more difficult to streamline.

The integration of GenAI into banking systems offers transformative opportunities for technology and system streamlining. System integration and modernization addresses longstanding challenges in banking, such as siloed data systems and fragmented customer information. By unifying these systems, banks can create a cohesive framework that supports comprehensive customer views and efficient operations.

The introduction of GenAI in banks can assist them in overcoming some of the challenges relating to legacy systems and data quality issues as it propels them to update and modernize their systems. As noted in the literature, banks adopting AI technologies must invest in modernizing their systems and developing staff competencies to maximize their effectiveness (Luz & Olaoye, 2024).

4.4 Findings pertaining to Proposition 3

Proposition 3 stated the following: *The successful integration of Generative AI (GenAI) into bank relationship management is influenced by a combination of ethical concerns, technological constraints, regulatory issues, and institutional barriers. Addressing these factors is critical for improving customer service and increasing operational efficiency.*

4.4.1 ***Theme: Factors Influencing GenAI Adoption in Banking (TOE)***

The notion of factors influencing adoption refer to the internal and external elements that either facilitate or hinder the acceptance and implementation of a technology, practice, or innovation. These factors are often categorized into technological, organizational, and environmental dimensions, encompassing considerations such as perceived usefulness, ease of implementation, regulatory requirements, and cultural readiness.

In the banking sector, the adoption of Generative AI (GenAI) is shaped by a complex interplay of factors that reflect the industry's unique characteristics. Technological considerations, such as the scalability, accuracy, and reliability of GenAI systems, play a pivotal role in determining its integration into banking processes. Organizational readiness, including the availability of skilled personnel, leadership support, and financial investment, also significantly impacts adoption. Furthermore, external factors, such as regulatory frameworks, ethical concerns, and public perceptions of AI, influence how banks navigate the opportunities and risks associated with GenAI.

The competitive nature of the banking industry further underscores the importance of these factors, as institutions seek to balance innovation with operational security and customer trust. Addressing barriers such as data privacy concerns, integration challenges, and ethical implications is crucial for fostering an environment conducive to the successful adoption of GenAI.

This section explores the factors influencing GenAI adoption in banking by examining key sub-themes, including technological constraints, organizational readiness, regulatory dynamics, and ethical considerations. The findings under this theme are aligned with the TOE framework (see **Figure 2**).

Table 9: *Factors Influencing GenAI Adoption in Banking Sub-Themes (*Source: Authors own*)*

Factors Influencing GenAI Adoption in Banking		
Sub-Theme	**Codes**	**Number of Quotations**
Organizational Readiness Considerations	Merged from Current Organizational Challenges, Organizational and Employee Resistance to Change, Demonstrating Overall Benefits of GenAI , Organizational Barriers, Culture and Leadership Commitment, Employee Training and Support Considerations, Alignment of Business Goals and Technical Solutions and Change and Human	492

	Behaviour Management; Task and Processes process improvement for RM's	
Technological Readiness, and Infrastructure Considerations	Merged from Technology Constraints and System Integration Factors, Technological Readiness Considerations, Technological Capabilities Advancement Requirement, Technology Related Factors, Legacy System Integration and Constraints and Architectural Landscape and Design Considerations	414
Environmental Regulatory, Privacy, and Security Compliance Considerations	Merged from Regulatory Requirements and Compliance Considerations and Data Privacy and Security Considerations; Ethical and Bias Considerations in AI	337

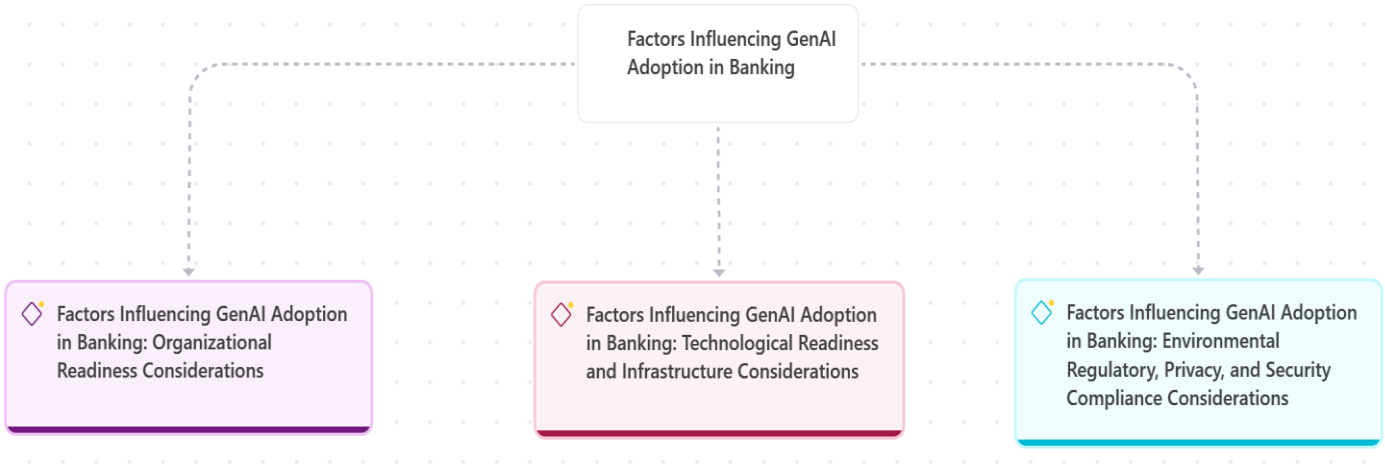

Figure 7: *Factors Influencing GenAI Adoption in Banking Sub-themes*

- **Sub-Theme: Organizational Readiness Considerations**

Organizational readiness plays a pivotal role in shaping the successful adoption of GenAI in banking. This sub-theme and associated codes had most quotations highlighting that participants view this as one of the most important aspects for the adoption of GenAI technologies.

Participants highlighted that resistance to change, both at the organizational and individual levels, serves as a critical barrier. The individuals may resist the change

due to how they have been doing things as well as fear of job loss. Participant 13 (23:47) articulates this well stating "*There are people who are sitting somewhere who've got a spreadsheet that they've been maintaining for the past 15 years, and they want to keep their spreadsheet, and they don't want to move to this. Another fear for people is that this is gonna take away my job."* While from an organizational level the view from participants is around the current organizational barriers which include teams working in silos and lack of integration across departments may limit the broader adoption of AI in relationship management. As Participant 12 (17:19) states that "*it's all in silos and it's not. I think if those teams integrated with each other, we would get much more value*" highlighting the siloed approach being used by the banks.

Participants also highlighted leadership commitment as another barrier highlighted by Participant 12 (21:50) stating "*Look, I don't think anybody's been driving generative AI from a leadership perspective. I think we hear about it from our IT guys*." These codes combined signify the importance of fostering an adaptive organizational culture supported by strong leadership to drive GenAI initiatives.

A lack of AI-specific skills among employees poses a barrier to AI adoption, necessitating investments in workforce development. Thus, making training a crucial factor in ensuring that the workforce is upskilled to ensure adoption.

Participants also emphasized the need for employee training and support indicating the importance of ensuring that managers and RMs are trained using targeted training programs aligned to their roles. Participant 16 (20:05) states "*So I strongly believe that you know, adopting these things, the banks might need to, you know, start making creating that awareness, putting people on training, making sure they do understand reskilling, upskilling towards those areas, especially those jobs that could be affected".*

Participants indicated that Relationship Managers (RMs) require targeted programs to build confidence and competency using GenAI-enhanced tools. This is aligned with the literature review where Rasool et al. (2022); Nicholas et al.

(2024); George (2024) and Cao et al. (2024) highlight the importance of sufficient training.

Participants also highlighted the importance of demonstrating the tangible benefits of GenAI to stakeholders from an organizational perspective and ensuring alignment between business goals and technical solutions. This was highlighted as another factor that facilitates organizational readiness and improves adoption.

The success of GenAI adoption hinges on an organization's ability to address resistance to change and align technological innovations with its strategic vision. Studies in change management suggest that effective leadership and clear communication are key to overcoming resistance. Leadership commitment not only ensures resource allocation but also signals to employees the importance of the transition (Bryan & Zuva, 2021). The importance of leadership support is aligned to findings by Felemban et al. (2024), which emphasised that senior management support is a critical factor in determining organisational readiness through effectively communicating the reasons and benefits of change. This perspective is further reinforced by Musaigwa (2023), who highlights the crucial role of effective leadership and clear communication in overcoming resistance to organisational change. As the findings indicate, training and development programs tailored to the specific needs of RMs can mitigate resistance and enhance confidence in using AI tools. This aligns with prior research that highlights employee buy-in as one of the critical enablers for successful technology adoption in financial services. These findings align to the view by Rane et al. (2024) where organisational readiness was highlighted as an important aspect for AI adoption which includes leadership commitment, employee training, and cultural acceptance.

- **Sub-Theme: Technological Readiness, and Infrastructure Considerations**

Technological readiness emerged as a significant determinant for adopting GenAI, as noted through codes like technology constraints, system integration factors, and legacy system integration and constraints. Participants expressed

concerns about the compatibility of GenAI solutions with banks' legacy systems, suggesting that modernizing the architectural landscape is necessary for seamless integration.

Participant 16 (12:35) "*We've got systems from the 60s and 50s… how can we integrate these with the latest technologies*?"

Participants indicated that from an architectural perspective, banks are in an advantageous position to start integrating GenAI as some of the platforms that banks use are extending their offerings to include GenAI capability. Though most participants felt that the architecture of the banks is ready for GenAI, Participant 4 (6:35) has a different view stating that "*The existing architecture will give you entry-level Gen AI benefits... we have a long way to go*."

The main concern participants raised is the integration and the quality of data as part of technology considerations. Stating that AI systems require centralized, well-structured data to function effectively, and fragmented or siloed data can hinder AI performance. Participant 6 (10:32) elaborated on the above point stating "*But because of the sync issues, our data is a problem because we still need to do a lot of work on data. AI doesn't really work well when there are data issues because it won't give you the right information."*

Participants highlighted the importance of the advancement of technological capabilities, such as robust infrastructure and scalable system designs to harness the full potential of GenAI. Participant 16 (6:38) *"But I think there's also a lot of, you know, work that they might need to do in terms of infrastructure to make sure that all the collection of data that they have to do the mining, the curation, presentation analytics."*

Technological readiness, particularly in integrating GenAI with legacy systems, poses a significant challenge for banks. Legacy system constraints were widely noted by participants as limiting the scalability and performance of GenAI applications. Participants also highlighted that it could be a challenge to scale AI within existing banking infrastructures, particularly in terms of handling vast amounts of data securely.

The findings are consistent with research by Fares et al. (2023) who notes the difficulties in merging the new technology into existing work processes and Singh et al. (2024) who states that the introduction of AI adds a new level of complexity within organizations. The introduction of GenAI therefore propels banks to modernize their core banking infrastructure to leverage advanced AI capabilities. According to Dhake et al. (2024), adopting digital transformation powered by GenAI is essential for banks to not only succeed but also sustain their operations in the rapidly changing environment.

Furthermore, investments in scalable and adaptable IT architectures can enable seamless integration of GenAI into existing processes, enhancing both efficiency and decision-making. This view aligns with Dhake et al. (2024) who indicate the importance of financial investment in aligning GenAI adoption with existing legacy systems to achieve seamless integration.

The data collected highlights technical constraints and data related constraints due to current systems and set up. There are banks that have started implementing GenAI use cases which shows that even with the constraints there are ways to leverage this technology within the current constraints.

- **Sub-Theme: Environmental Regulatory, Privacy, and Security Compliance Considerations**

This sub-theme encompasses compliance with regulatory requirements, data privacy standards, security measures, and ethical guidelines, which are central to the adoption of GenAI in banking, as highlighted by participants. Codes such as regulatory requirements, compliance considerations, and ethical and bias concerns in AI reflect participants' emphasis on ensuring that GenAI implementations align with both legal and ethical standards.

Most participants indicated that regulatory compliance is a key challenge for GenAI adoption in banking, as sensitive data must be protected from exposure. Though the above view holds, sentiments by most participants are that some of the banks are already compliant with regulations that are key to GenAI citing the Protection of Personal Information Act (POPIA) and acquiring consent from customers to process their data. Cloud-related regulation was highlighted as

participants indicated that GenAI works on cloud-enabled platforms. Participant 3 (12:31) said "*The regulatory data into the AI so that it knows that ok cool this information, this is what you need to mask. This is what you need to make available, or this is what you need to make visible. This is how often you need to be purging the data*."

Participants also raised the issue of regulatory ambiguity due to the evolving nature of AI which might create challenges as new AI applications like GenAI may not be fully covered under existing regulatory frameworks, which might cause issues with regulatory oversight.

A few participants highlighted that GenAI can assist in meeting regulatory requirements, particularly in processes like Anti-Money Laundering (AML). However, they expressed that the system needs to comply with stringent financial regulations, making regulatory oversight a key consideration and possible challenge. Participant 12 (18:28) argues *"So I think that where we can use AI better as somebody's AML becomes due, the AI actually generates an email to the clients and the bank…So I think it's gonna help us with regulatory compliance rather than be a regulatory hindrance."*

This view aligns with findings by Taneja and Rao (2023) stating the ability of GenAI to automate operational processes like Know Your Customer (KYC) and help with compliance.

Participants highlighted that AI may introduce new risks within the banking ecosystem, particularly in terms of fraud or unethical usage. Due to AI's advanced learning abilities, people could use this capability unethically and commit fraud. Participants stressed the importance of managing these risks carefully.

Findings also indicate that data leakage is a major regulatory concern in the adoption of GenAI, as sensitive customer data could be mishandled, leading to compliance issues. It is therefore important for banks to implement advanced cybersecurity measures to combat this issue.

While this is true, GenAI also has the potential to combat fraud. As noted by Odeyemi et al. (2021), GenAI aids in fraud detection by identifying evolving

patterns in financial transactions, thereby enhancing trust and minimising industry losses. Therefore, it is important for banks to ensure ethical usage of this capability in order to benefit from its potential to combat fraud.

Participants emphasized the need for clear frameworks to address data privacy concerns, especially in data-driven AI applications, and to prevent potential biases in AI-generated outputs.

The interplay between innovation and compliance remains a critical factor, with some participants suggesting that stricter regulatory oversight could slow down GenAI adoption. Regulation and regulators lag behind technology advancement and it is up to the banking industry to partner with regulators to help them understand the technology and its potential to ensure that proper regulation can be put in place.

4.5 Findings pertaining to Proposition 4

Proposition 4 stated the following*: Effective implementation and integration of Generative AI (GenAI) tools in banking require comprehensive planning and training, ensuring that Relationship Managers (RMs) can utilize these tools to enhance customer service. Key recommendations include thorough testing of GenAI technologies, structured training programs for RMs, and strategies for smooth transitions to mitigate integration challenges*

4.5.1 ***Theme: Critical Success Factors for the Implementation of GenAI in Banking***

Implementing Generative AI (GenAI) in banking is a critical digital transformation phase to improve operational efficiency, customer experience, and innovation. Implementation involves integrating systems or practices into existing operations, necessitating a structured approach that includes planning, resource allocation, stakeholder engagement, and continuous evaluation. Organizational readiness, technological capabilities, and alignment with strategic objectives are all critical for successful implementation. These considerations are amplified in the banking industry by the need to address issues such as system integration, workforce

adaptation, and regulatory framework compliance. Robust data infrastructure, cybersecurity measures, and an innovative culture highlight the complexities of integrating GenAI into banking processes.

This theme explores the practical success factors critical to the effective implementation of GenAI in banking. It examines sub-themes such as seamless system integration strategies, customer-centric approaches, organizational readiness and training, governance and compliance, and data management considerations. These sub-themes reflect the multi-faceted nature of GenAI adoption, encompassing technical, operational, and strategic dimensions. Through this analysis, the research provides actionable insights and best practices, highlighting the importance of pilot testing, stakeholder collaboration, and continuous optimization. Ultimately, this discussion aims to guide banks in navigating the complexities of GenAI implementation to achieve sustainable innovation and competitive advantage.

Table 10: *Critical Success Factors for the Implementation of GenAI in Banking Sub-Themes* (Source: Authors own)

Critical Success Factors for the Implementation of GenAI in Banking		
Sub-Theme	**Codes**	**Number of Quotations**
Seamless System Integration Strategies	Merged from Implementation Strategies Insights and Considerations, Integration Strategies and Considerations, Technological Constraints and Challenges Mitigation, Ensuring Systems are Compatible, Thorough and Adequate Training of AI Models, Collaboration with Stakeholders and Fintechs, Proper Pilot testing, Architecture Alignment and Evaluation and System and Customer Data Centralization Deployment Framework and Strategy	333

Customer Centric Implementation	Merged from Enhanced Customer Servicing, Ensure Timely Recommendations, Enhancing Customer Service Processes Considerations, Focus on Automation of KYC and other processes, Customer Management Considerations, Customer Needs and Service Delivery Alignment, Personalization of Products and Services and Client and Operational Efficiency Enhancement Considerations	292
Organizational Readiness, Change Management and Training	Merged from Organizational Readiness and Change Management, Clear and Streamlined Communication about GenAI, Organizational Challenges and Barriers Considerations, Drive Innovation culture and Continuous Technology Updates, Business Goals and objectives Alignment and Stakeholder engagement and Collaboration; Leadership buy-in, Comprehensive Training and Development, Staff Training, Education, Skill Development, Centralized Training, Comprehensive Training, Personnel Training, Relationship Manager Training, Training for managers, Training for Relationship Managers, Training for Staff and Training Integration	258
Governance, Risk, Security and Regulatory Compliance	Merged from Data Privacy Protection and Security, Regulatory Compliance and Alignment and Legal and Privacy Considerations; Management of Risk and Security Considerations; Ethical Standards and Compliance and Ethical and Responsible AI Usage	218
Data Collection, processing, and Management Considerations	Merged from Data Accuracy, Data Analysis, Data Utilization, Data accessibility, Comprehensive Customer Data, Data Cleaning, Importance of Clean and Reliable Data, Data Understanding, External data sources, Accurate Data Training, Consolidating Customer Data, Customer Data Interpretation,	161

	Customer Data Utilization, Data Collation, Data Collection Teams, Data Consolidation, Data-driven personalization, Data Input, Data Integration Prioritization, Data Interpretation, Data Leakage, Data Lifecycle Planning, Data management prioritization, Data Necessity, Data Points, Data Processing on Devices, Data Relevance, Data Retrieval Efficiency, Data storage, Data Verification, Data Visualization, Efficient data retrieval, High-Quality Data, Historical Data, Leveraging Customer Data, Real-time Data Utilization and Single Source of Data; Continuous Monitoring and Knowledge Management	

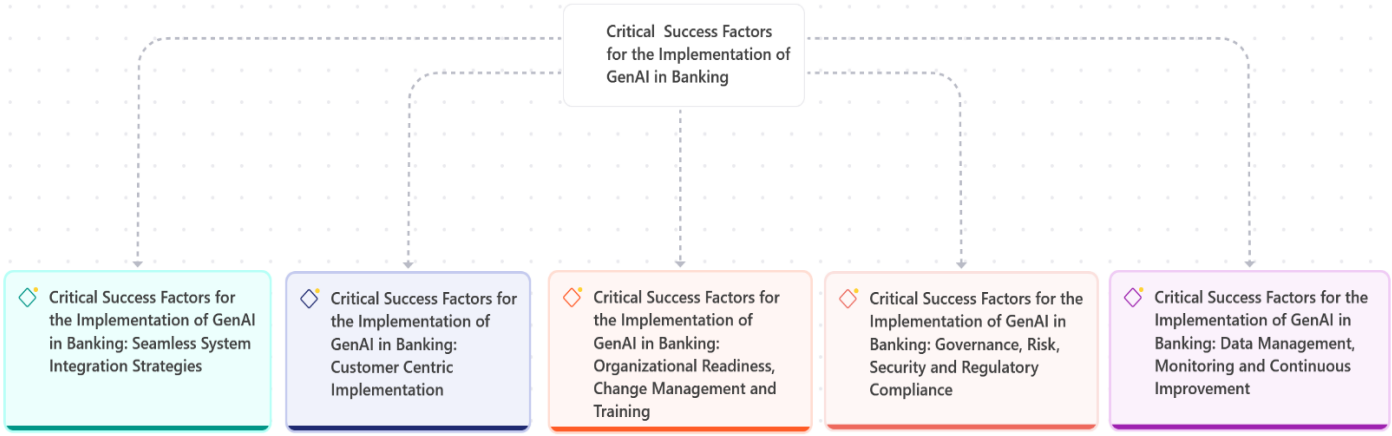

Figure 8: *Critical Success Factors for the Implementation of GenAI in Banking Sub-Themes*

- ***Sub-Theme: Seamless System Integration Strategies***

A significant factor in implementing GenAI is ensuring seamless integration into existing systems. Participants emphasized the need for strategies that address technological constraints, such as legacy systems and compatibility challenges. This includes architectural alignment where participants highlighted the importance of aligning banks architecture which will guide when and where GenAI can be implemented. Incremental deployment and pilot testing is another factor that all participant groups felt strongly about stating the importance of step-by-step implementation approach through pilot programs. Participant 12 (24:18)

stated, "*We're rolling out AI with my team first, training the model to improve accuracy before expanding it to the entire country*." This aligns with the view by Reddy (2024) who argues that a step-by-step deployment approach, combined with balanced communication emphasising both the opportunities and limitations, fosters the safe and ethical integration of generative AI.

Participants also indicated their willingness to be part of the GenAI pilot program in their institutions. Participant 15 (23:21) stated "*Learning how to use AI in day-to-day activities. I would definitely be keen to participate in such programmes*."

Participants, particularly architects and some technical leads highlighted the importance of partnering and collaborating with vendors and fintechs. They noted that several banks are considering following the Software-as-a-Service (SaaS) approach to facilitate the seamless integration of generative AI (GenAI) into their systems. This view is aligned with findings by Dhake et al. (2024) who state that the banks in their study are proactively working with leading cloud service providers (CSPs) and Software-as-a-Service (SaaS) providers to investigate potential deployment approaches.

Participant 15 (6:28) "*So I think because we are looking at using SaaS dominantly that allows us to be able to leverage some of the AI capability that the vendors are building into the solutions that we provide."*

Thorough training of AI models to ensure the accuracy of outputs and the centralization of customer data were identified as key enablers whereby participants highlighted the importance of having a strategic approach for these aspects as part of implementation.

This subtheme underscores the importance of technological compatibility and strategic planning in implementing GenAI. Proper planning, testing, and stakeholder collaboration ensure GenAI solutions can work seamlessly across platforms, enabling relationship managers (RMs) to leverage AI-driven insights without disruptions. This perspective is consistent with Dhake et al. (2024), who emphasized that achieving compatibility with legacy systems and smoothly integrating AI solutions necessitates meticulous planning.

Seamless system integration mitigates disruptions and improves the implementation efficiency of transformation initiatives. In alignment with this, participant insights highlighted the role of architectural alignment and stakeholder collaboration.

Pilot testing was mentioned as a key success factor as it gives the banks the ability to test and learn before scaling. This observation aligns with the views of Rasool et al. (2022) and Cao et al. (2024) who state that technology has been tried and tested and is ready for operation.

However, while academic literature underscores the technical challenges of legacy systems, participants added an additional emphasis on centralized customer data as critical for GenAI's effectiveness. This contrast highlights the industry's specific need to harmonize disparate datasets, a consideration that has not come through in the literature reviewed for this study.

- **Sub-Theme: Customer-Centric Implementation**

Participants highlighted that the implementation of GenAI must centre on enhancing customer experiences. Codes such as personalization of products and services, timely recommendations, and automation of customer-centric processes like KYC reflect the need to align AI capabilities with customer expectations. This subtheme reveals that the effectiveness of GenAI is tied to its ability to deliver tailored, real-time solutions that improve customer satisfaction and loyalty.

For instance, automated KYC processes and real-time recommendations streamline customer onboarding and management, while personalized services foster stronger relationships. As Participant 3 16:39 indicated, "*From a servicing perspective, I want you to know if I'm called three times last week for a particular case, I want you to have a view of that.*" Underlining the importance of focusing on customer relationship management processes.

Some of the participants highlighted the evolving nature of customer expectations and its impact on the implementation of the technology from an environmental perspective. Highlighting the importance of taking this into consideration.

The implementation of GenAI should prioritize customer satisfaction by personalizing services and improving responsiveness. The improvement means that the work relationship managers do will be made easier by implementing GenAI which will lead to the success of this implementation. Enhancing and automating some of these processes for RMs can help improve efficiency and free up their time for higher-value interactions with clients.

Participants stressed the automation of processes as a significant enabler. Participant 4 (31:46), "*If we allow GenAI to help us do our day-to-day activities, projects or anything else better, then we have a chance at success."* These views align with findings by Mariani and Dwivedi (2024) on the role the integration of GenAI plays in achieving smooth operations.

Contrastingly, there is a caution on ensuring that the automation is carried out such that customers are oblivious of the capability behind the service. This means that the role of RM's stays relevant in ensuring that the human touch is not lost through this implementation.

- **Sub-Theme: Organizational Readiness, Change Management and Training**

Successful GenAI implementation requires organizational readiness which includes understanding of current organizational challenges, organizational and employee resistance to change, organizational barriers, culture and leadership commitment, employee training and support considerations, alignment of business goals and technical solutions and change and human behaviour management and a culture that embraces innovation.

Participants identified resistance to change, misalignment of business goals, and inadequate training as potential barriers. They emphasised that banks need to understand current organizational challenges in order to ensure that they can devise plans to overcome these as part of the implementation.

Leadership buy-in and commitment were some of the views that were highlighted by most participants as a critical enabler for successfully adopting and integrating GenAI within the banking sector. Participants also highlighted the need for

executives to align business goals with technology updates as well as clear communication strategies which must include addressing job security concerns to alleviate fears that AI will replace human jobs. Participant 12 (25:02) states "*We need it to be leadership driven. We need our leaders to start talking about the value that it's going to bring."*

Participants also stressed the need for training citing that training programs targeting relationship managers (RMs) and other staff are critical, as they enhance employees' ability to use AI tools effectively and improve confidence in the technology. Participant 17 (25:03) emphasized, "*To have to go through training right training in terms of whether it's going to be certification*". This emphasizes the need for targeted training.

Organizational readiness emerged as a critical enabler, encompassing factors such as leadership commitment, employee training, cultural acceptance, alignment of business objectives and clear communication. This aligns with the reviewed literature and the findings by Rane et al. (2024), who identified key factors of organisational readiness for AI adoption, including leadership commitment, employee training, and cultural acceptance.

However, participants also highlighted the challenges of overcoming resistance to change among employees. According to the findings of Felemban et al. (2024), employees' attitudes and mindsets are a notable challenge faced by organisations. Making this challenge something that can be explored further.

This suggests that while academic studies prioritize infrastructure and strategic alignment, industry practitioners view human factors as equally pivotal. Effective change management strategies that address both technical and emotional dimensions are therefore essential.

- **Sub-Theme: Governance, Risk, Security and Regulatory Compliance**

Governance and compliance considerations were strongly emphasized by participants. Participants highlighted that it is essential to establish strong governance practices for the successful implementation of GenAI technologies in the banking industry.

Particularly participants stressed that it is important to ensure data privacy due to the nature of GenAI's capability to process vast amounts of data making it a potential minefield for criminals, ethical standards in ensuring biases are eliminated in the training of the models as well as how errors in AI-generated content are handled.

Alignment with regulatory frameworks to ensure compliance was another factor highlighted by participants citing the importance of customer consent management and that the banking industry needs to align with country and governance requirements and laws. Ensuring compliance with POPIA was one of the main findings from a regulatory finding as most participants indicated that there is no clear-cut regulation around AI let alone GenAI. Participant 15 (13:34) stated that "*there's no regulations at this point in time*" and Participant 16 (5:57) indicated that "*Regulation is not really possibly fully applied, but there isn't regulation around AI, which I think the bank would need to, you know, abide by also just to make sure that you know it's used is more compliant with the with the regulation for example, the likes of your POPIA and the likes*."

Security preparedness for new AI threats was raised by participants mostly technical leads and architects, indicating that as part of the implementation, there is a need for proactive security measures to protect sensitive client data from emerging threats like deepfakes and other AI-related vulnerabilities.

Participants noted that GenAI solutions must operate within strict legal and ethical frameworks to avoid reputational risks and ensure customer trust. Codes such as ethical and responsible AI usage and management of data privacy and security risks reflect this focus.

Participants stressed the importance of embedding responsible AI practices, including bias mitigation and robust security protocols, to maintain regulatory compliance. This aligns with academic literature by Tad et al. (2023) and Atadoga et al. (2024), which emphasises the need to promote responsible and sustainable integration of AI in the banking sector.

Governance and regulatory frameworks for new technologies like GenAI lag behind the actual technology curve as government agencies do not move as

quickly as the development of these technologies. Singh (2024) highlights that deepfakes have already gained significant attention in India, emphasizing the need for legal and regulatory frameworks to ensure their ethical use for the benefit of society.

In recent years there has been a heightened focus on AI-related regulation and academic literature reviewed stresses the need for adherence to local regulation around data and privacy as indicated by Atadoga et al. (2024) that there is a need for effective governance frameworks and regulations.

- **Sub-Theme: Data Collection, processing, and Management Considerations**

Effective GenAI implementation depends on the availability of high-quality, accurate data. Participants emphasized the need for clean, accurate, and reliable data as the cornerstone for leveraging GenAI effectively.

Participants highlighted the importance of ensuring data integrity through rigorous cleaning processes and validation checks to avoid biases and errors in GenAI outputs. The importance of consolidating and interpreting customer data from various sources to create a single, unified view was another key point raised by participants. They indicated that this approach supports tailored and data-driven personalization strategies. Participant 6 (43:32) stated, *"We need to make sure that our data is clean, it's reliable, and it's literally working on real-time data."*

The other key point raised by participants was a need for efficient data retrieval and accessibility stating that seamless access to historical and real-time data is critical for enabling GenAI to provide timely insights and recommendations. Participants raised the rich and vast amount of data banks hold in different data sources. They highlighted the importance of providing access to these data stores for GenAI to be integrated successfully. Participant 13 (12:03) confirms this by saying "*Providing data and access to databases to these AI tools make sure that you've given them access."*

Data management was raised as a key enabler in ensuring that the data is handled efficiently. Participants raised the need for robust lifecycle management,

including proper storage, retrieval, and continuous monitoring to ensure long-term data relevance and utility.

Though participants raised the need to have secure GenAI capability which uses relevant bank sources, they also highlighted the importance of incorporating reliable external data sources as well as ensuring that banks' historical data is leveraged as these were seen as valuable for enhancing predictive capabilities and deepening customer understanding. This view is aligned with the findings by Alladi (2024) who emphasizes the ability of machine learning algorithms to extensive historical data and identify patterns.

While most participants acknowledged the benefits of comprehensive data management, a few expressed concerns regarding potential challenges including data leakage risks when all the data is processed on this one platform. This is aligned with the view of Rane et al. (2024) who highlight the challenge of protecting sensitive data and maintaining user trust in AI applications.

One participant raised the resource intensity of GenAI capabilities highlighting that it required a large Graphical processing unit (GPU) for data cleaning, integration, and processing. This was noted as a potential barrier from a cost perspective more so for smaller banks. Participant 4 (12:06) "*One of the costs around GenAI Bongi is the GPUs. Because it revolves around that, and to use that is very, very, very expensive."* This view is supported by Singh (2024), who highlights that the development of AI models and algorithms relies on extensive datasets, requiring complex mathematical computations and substantial computing resources.

Data has been a constant thread in all the themes making it a key enabler for the success of GenAI technologies in the banking industry. Banks have a vast amount of data which can be utilised to benefit customers. In the management of this data where the true benefit is. Therefore, it is important that banks prioritize data management practices to maximize GenAI's potential as GenAI is highly dependent on data and its availability. The view on intensive resources is supported by literature, Singh (2024) indicating that GenAI's models require extensive datasets and significant computing resources for training.

Data collection, processing, and management considerations are pivotal for the effective implementation of GenAI in banking. Ensuring data accuracy, reliability, and accessibility while addressing challenges such as security and resource constraints is essential for unlocking GenAI's full potential. Feuerriegel et al. (2024) highlighted that the accuracy of generative AI models relies on the quality of their training data. Highlighting the importance of accurate data.

Continuous monitoring and robust knowledge management frameworks further enhance the system's ability to adapt and scale in dynamic banking environments. Participants insights accentuated actionable steps that banking institutions could adopt as part of data management such as implementing advanced data validation tools, investing in automated cleaning technologies, and fostering interdepartmental collaboration to ensure data consistency. These findings provide a roadmap for banking institutions to prioritize data management as a critical success factor in GenAI adoption.

4.6 Summary of the results/findings

Overall observations from the data collected include the notion that GenAI enables personalized interactions, including greetings, financial advice, and product suggestions, enhancing the customer experience. Respondents emphasized the value of quick turnaround times and real-time recommendations. GenAI systems were identified as critical tools for increasing response efficiency and reducing service delays. Respondents also emphasised the view that GenAI will help automate routine tasks, allowing relationship managers to focus on more complex, value-added interactions. This streamlining improves both the speed and quality of customer service. Respondents highlighted the need for human oversight in ensuring that GenAI outputs are correct.

GenAI facilitates data-driven decisions through advanced analytics, centralized data management, and real-time insights. This improves the accuracy and relevance of decisions made by RMs. There is however a need to ensure that GenAI is trained using accurate and reliable data as raised by participants to provide accurate outputs. By providing tools for better understanding customer

expectations and managing interactions proactively, GenAI fosters stronger, more meaningful relationships between RMs and their clients.

GenAI offers extensive opportunities for innovation in banking, from personalized service delivery and customer engagement to task automation and integrated data management. Practical applications identified include enhanced financial advisory services, fraud detection, predictive analytics, compliance and risk management, decision-making and strategic planning and beyond-banking initiatives which include campaign management, competitive analysis, and business forecasting.

Successful adoption of GenAI depends on organizational readiness, including addressing resistance to change, technological preparedness, and compliance with regulatory and privacy standards. Effective leadership buy-in, employee training, and alignment with business goals are critical enablers. Practical success factors include seamless system integration, customer-centric approaches, robust change management, and adherence to governance, risk, and regulatory frameworks. High-quality data collection and processing are essential for ensuring reliable and ethical AI use.

These findings collectively highlight the transformative potential of GenAI in banking while underscoring the importance of strategic planning, ethical considerations, and stakeholder collaboration for successful implementation.

4.7 Chapter Summary

This chapter presented, examined and discussed the results from the data collected on the factors influencing the use of generative AI (GenAI) for customer service in the South African banking industry. The findings were presented in accordance with the research propositions, supported by insights from the literature reviewed. These findings were integrated into the broader analysis, providing valuable insights into the research objectives and highlighting the opportunities and challenges associated with GenAI adoption in this context.

The next chapter will focus on the research conclusions and recommendations. It will summarise the key findings, provide an overview of the study's contributions, reflect on its limitations, and offer suggestions for further research.

CHAPTER 5. CONCLUSIONS & RECOMMENDATIONS

5.1 Introduction

This chapter presents the concluding insights of the study, which explored how South African banks can effectively integrate Generative AI (GenAI) technologies into their relationship management functions to support Relationship Managers (RMs) in delivering superior customer service. By examining GenAI's transformative potential, the research provides a comprehensive understanding of its benefits, challenges, and practical applications within the banking sector.

The research aimed to assess the propositions developed based on the study's objectives and the literature reviewed. These propositions include, “The adoption of Generative AI (GenAI) technologies in South African banks will improve Relationship Managers' ability to provide personalized and timely customer service by improving operational efficiency, providing valuable customer insights, and increasing customer engagement.” “The integration of Generative AI (GenAI) technologies across various use cases in the banking sector will improve Relationship Managers' (RMs’) functions and interactions by personalizing customer service, streamlining financial advisory processes, and optimizing risk management.” The successful integration of Generative AI (GenAI) into bank relationship management is influenced by a combination of ethical concerns, technological constraints, regulatory issues, and institutional barriers. Addressing these factors is critical for improving customer service and increasing operational efficiency.” “Effective implementation and integration of Generative AI (GenAI) tools in banking require comprehensive planning and training, ensuring that Relationship Managers (RMs) can utilize these tools to enhance customer service. Key recommendations include thorough testing of GenAI technologies, structured training programs for RMs, and strategies for smooth transitions to mitigate integration challenges.”

There is a strong alignment between the propositions and the research findings. Based on the interviews with participants, each proposition aligns with the

questions that banks are beginning to address as they explore how to leverage this emerging technology which is anticipated to disrupt their industry. The findings of this study provide strong support for all four propositions while also highlighting practical strategies and barriers that banks must navigate to fully realise the potential of Generative AI (GenAI). The discussion in the conclusion section, which addresses the research objectives, further validates this statement

This chapter synthesises these insights, summarising the study's contributions to the banking industry and identifying key impediments that require attention.

Additionally, the recommendations outlined aim to guide banks in successfully adopting and implementing GenAI technologies. Suggestions for future research are also presented, addressing areas that warrant further exploration to advance the integration of GenAI in supporting RMs and driving innovation in the banking sector.

5.2 Conclusions regarding research objectives

In this section, key findings, and conclusions on the results of the research are provided for each research objective.

- Objective 1: Explore Generative AI (GenAI) technologies and how they can support Relationship Managers in delivering personalized and timely customer service in banking.

Findings and Conclusions

GenAI enables Relationship Managers (RMs) to provide hyper-personalised services through advanced data analytics, real-time insights, and predictive capabilities. Participants highlighted how GenAI enhances operational efficiency by automating routine tasks and offering timely, tailored recommendations. This leads to improved customer satisfaction and stronger trust.

However, some participants noted concerns about data accuracy and the need to ensure outputs are contextually relevant. Compared to existing literature, which also emphasises the benefits of hyper-personalisation (Ooi et al., 2023;

Singh, 2024), this research addresses practical constraints such as data integration and the reliance on accurate datasets, which were less explored in prior studies.

- Objective 2: Identify key opportunities and use cases where GenAI can enhance the functions and interactions of Relationship Managers to improve customer service in the banking sector.

Findings and Conclusions

Participants identified several opportunities and use cases for Generative AI (GenAI) to enhance the functions and interactions of Relationship Managers (RMs) in the banking sector. Key use cases include automating administrative tasks, streamlining essential processes such as Know Your Customer (KYC), and enabling predictive analytics to anticipate customer needs. GenAI also facilitates enhanced customer engagement by providing timely, personalized interactions and actionable insights.

Participants highlighted innovative applications such as campaign management and competitive analysis, showcasing GenAI's potential to drive strategic initiatives. The integration of GenAI across these varied use cases has the potential to transform RM functions thereby freeing RMs to focus on higher-value, client-centric activities.

While participants noted opportunities to enhance client engagement, improve decision-making, and personalise customer service, they also emphasised the need for balancing AI-driven insights with human oversight. Ensuring relevance, accuracy, and contextual understanding remains essential to achieving optimal outcomes in customer interactions.

The findings align with prior research emphasising GenAI's potential for operational scalability and customer-focused innovation (Taneja & Rao, 2023). However, this study extends the discussion by detailing specific applications and addressing limitations such as ensuring human oversight and balancing automation with client-centric service delivery.

- Objective 3: Outline factors influencing the adoption and possible challenges to integrate GenAI into relationship management, including ethical concerns, technological constraints, regulatory issues, and organizational barriers.

Findings and Conclusions

The research identified organizational readiness, data quality, regulatory compliance, and ethical concerns as critical factors. Participants underscored challenges such as resistance to change, legacy system constraints, data privacy concerns, and regulatory compliance. However, strategies like leadership commitment, targeted training, and incremental deployment were highlighted as solutions. Ethical considerations, such as bias mitigation and data privacy, were emphasized as essential to successful adoption.

This aligns with the literature that identifies similar barriers (Dhake et al., 2024). However, the research advances the discussion by offering actionable strategies to mitigate these challenges, such as incremental deployment, fostering interdepartmental collaboration, and promoting an adaptive organizational culture.

- Objective 4: Provide insights and recommendations for effective implementation and integration of GenAI tools to enhance the customer servicing process by RM's in banking.

Findings and Conclusions

Effective implementation of GenAI requires seamless system integration, comprehensive training, and alignment with business goals. Pilot testing, stakeholder collaboration, and data management practices were highlighted as essential success factors. Emphasis was placed on aligning GenAI initiatives with business objectives. Participants also stressed the importance of maintaining a balance between automation and human oversight to preserve the quality of

client interactions. Organizational commitment and collaboration with vendors and regulators are key to addressing integration challenges.

Compared to some of the literature, which often focuses on high-level strategies (Cao et al., 2024), this research provides practical insights, such as leveraging software as a service platforms approach (SaaS) for smoother integration. This aligns with the view of Dhake et al. (2024) where they highlight the strategy that banks in their study are considering in the integration of this technology. The research also provides insights addressing regulatory ambiguities through proactive partnerships with regulators.

5.3 Recommendations

The table below provides a summary of the recommendations which are directed primarily at key stakeholders within South African banks, including executive leadership, IT and data governance teams, Relationship Management heads, and regulatory compliance officers. Where relevant, certain recommendations also extend to external partners such as fintech collaborators and policymakers. These recommendations are categorised using the Technology–Organization–Environment (TOE) framework (see **Figure 2**) to guide effective integration of Generative AI within the Relationship Management function.

Table 11: *Recommendations*

Category	Recommendations
Technology	• Banks to invest in the integration of GenAI within the Relationship Management space. • Invest in cleaning, centralising, and integrating data across systems to ensure accurate and reliable GenAI outputs. Develop robust data governance frameworks to address privacy and security concerns. • Use pilot testing to refine GenAI models and address integration challenges before full-scale implementation. Collaborate with

	vendors and fintech partners for expertise and resource optimisation. • Establish frameworks to mitigate data bias and ensure transparency in AI-driven decisions.
Organizational	• Foster leadership commitment and align GenAI initiatives with strategic business objectives. • Implement targeted training programs to upskill employees and address resistance to change. Ensure that a robust change management strategy is in place led by organizational leadership. • Ensure that RMs retain control over AI-generated outputs to maintain the human touch in customer interactions. Use GenAI as an augmentation tool rather than a replacement for RMs.
Environmental	• Address regulatory gaps by engaging with policymakers to shape relevant AI regulations. • Develop robust data governance frameworks to address privacy and security concerns. (*Cross-listed as it applies both at technology in the organization and regulatory levels*).

5.4 Research contribution

The research contribution of this research is divided into theoretical and practical due to the nature of this study. From a theoretical perspective, this study advances the existing body of knowledge on the integration of Generative AI (GenAI) in banking by providing empirical insights into its role in enhancing Relationship Managers' (RMs) functions and customer service delivery. While prior research has emphasized the transformative potential of AI technologies, this study extends these discussions by focusing on the Relationship Manager role and how GenAI can support RMs. Highlighting GenAI's unique capacity to enable RMs to provide hyper-personalization, real-time decision-making, and

efficient task management, which are less explored in previous literature from an RM role perspective.

The existing literature reviewed offers limited coverage of legacy system complexities in the banking industry concerning the integration of GenAI technology. This study addresses this limitation by highlighting the importance of this aspect, as emphasised by the technical community interviewed.

Although previous studies cover the aspect of data and data management. The insights from this research extend this by adding to the discussion on the need for advanced data validation tools, automated cleaning technologies, and fostering interdepartmental collaboration to ensure data consistency.

Additionally, the study adds to the global discourse by examining GenAI adoption within South Africa, a market characterized by high regulatory demands and diverse technological capabilities. This regional focus adds to the body of literature by incorporating the perspective of GenAI from a South African point of view. Lastly, the study added to the literature by highlighting the importance of looking at GenAI technology more as an augmenting capability rather than a replacement of Relationship managers due to the need for human oversight.

Practically the study provides actionable recommendations for banking institutions seeking to integrate GenAI into relationship management and operational workflows. The findings from the study demonstrated how GenAI can automate routine tasks such as email generation, document verification, and meeting scheduling, enabling RMs to prioritize strategic client engagement. It offers insights into the importance of clean, centralized, and integrated data for effective GenAI implementation, addressing data governance, privacy, and security concerns within the banking industry.

Highlighting the necessity of leadership commitment, targeted training programs, and robust change management strategies to mitigate resistance and build employee confidence in GenAI tools. The findings in this study advocate for proactive collaboration with policymakers to shape AI regulations, ensuring compliance while fostering innovation. It also illustrates how GenAI can enable

hyper-personalization and proactive client engagement, meeting rising customer expectations for tailored financial services.

These practical insights provide banks with a roadmap for navigating the complexities of GenAI adoption, balancing technological advancements with organizational readiness and environmental constraints. Furthermore, the study's findings underscore the importance of maintaining the human touch in AI-augmented service delivery, ensuring that RMs retain control over GenAI-generated outputs to ensure accuracy, build trust and enhance client relationships.

5.5 Reflection on Research Limitations

This section provides a reflection on the research limitations, which are detailed in Table 11.

Table 12: *Reflection on Research Limitations*

Research Limitations	Reflections
Data collection methods in qualitative studies are more in-depth (interviews and focus groups), and a smaller sample size is utilized, findings might not be generalizable.	The study's reliance on a small sample of relationship managers and technology experts limits the generalizability of the results. While the insights are rich and context-specific, they may not fully represent the diversity of perspectives across all banks or regions. Future research could consider increasing the sample size or employing mixed-method approaches to improve representativeness.
Gaining access to busy professionals, such as relationship managers and technology experts, can be difficult	Securing participation from professionals with demanding schedules was difficult, affecting the depth of data collection to some degree as other participants had to

	ensure they kept within the allocated time which might have been restrictive. This limitation highlights the need for more flexible research designs, such as asynchronous interviews to accommodate participants' availability.
Participants may have different levels of understanding and familiarity with Generative AI technologies.	Participants' varying familiarity with Generative AI technology influenced the depth and specificity of their responses. This variability highlights a broader challenge in studying emerging technologies which is bridging knowledge gaps among participants while avoiding overly technical discussions that may impede engagement. Preparatory materials or brief overviews before interviews could help mitigate this issue in future research.
Ethical considerations are critical, especially when discussing the implementation of AI technologies, which may cause participants' concerns about privacy and job security.	The discussion of AI did not raise major alarms as most participants were the first to raise that there are claims that AI might impact job roles. This was mainly due to the calibre of participants as most were in senior roles. There are broader societal concerns about AI's implications which highlights the need to promote a more open dialogue. Future research should include an understanding of how robust ethical protocols for such sensitive topics could be implemented as well as suggest possible ways this can be done.

***Additional reflections*:**

- As with any qualitative study, the researcher's interpretations of participant responses carry the risk of subjectivity. Despite efforts to ensure rigour through thematic coding and analysis, personal biases may have influenced how themes were identified and discussed. Thus having similar studies carried out by a group of researchers where an agreement on coding the same data is reached could enhance the credibility of findings in similar future studies.
- The study takes place in a rapidly evolving technological landscape. GenAI is one of the technologies that is developing at radical speed. As this technology advances, some findings may become obsolete or require reconsideration in light of new capabilities or applications.

In conclusion, these limitations highlight the complexities of researching emerging technologies such as Generative AI in banking. While they do not diminish the value of the findings, they highlight opportunities for methodological refinements and future research that builds on the insights generated by this study.

5.6 Suggestions for further research

1. Future research to consider similar research increase the sample size and use a mixed method approach to improve representativeness and accommodate participants' availability
2. Research how robust ethical protocols for sensitive topics like GenAI impact could be implemented as well as suggest possible ways this can be done
3. Investigate GenAI's long-term impact on customer satisfaction, operational efficiency, and employee roles in banking.
4. Investigate the impact of GenAI on Relationship Managers’ roles within the banking industry
5. Conduct in-depth studies on the ethical implications of GenAI, including bias mitigation, data privacy, and transparency in AI systems.

6. Explore how financial institutions can collaborate with regulators to establish comprehensive AI governance policies.
7. Assess how GenAI influences job roles, employee satisfaction, and organisational culture in banking.
8. Investigate how banks can integrate GenAI technology in other areas and functions.

5.7 Conclusion

This research aimed to provide practical insights into the deployment of Generative AI (GenAI) in the South African banking sector, focusing on how it can assist Relationship Managers (RMs) in delivering superior customer service while addressing the opportunities and challenges associated with its implementation. Grounded in the Technology-Organization-Environment (TOE) framework, the study examined the technological, organizational, and environmental factors critical to adopting this emerging technology.

The findings revealed that integrating GenAI across various banking use cases significantly enhances RM functions through process automation, predictive analytics, and streamlined advisory services. GenAI demonstrates strong potential for personalising customer service, optimising risk management, and improving client engagement. However, participants emphasised the importance of maintaining human oversight to ensure AI-driven insights remain relevant and accurate.

Critical barriers identified included organizational resistance to change, legacy system constraints, data quality issues, and regulatory ambiguities. Nevertheless, the research highlighted actionable strategies to mitigate these challenges, such as fostering leadership commitment, implementing targeted training programs, and adopting incremental deployment approaches. Ethical considerations, particularly around data privacy, bias mitigation, and transparency, were underscored as essential for successful integration.

The study's practical recommendations which range from pilot testing and seamless system integration to robust data governance and strategic

collaboration with vendors and regulators offer a roadmap for South African banks to navigate the complexities of GenAI adoption. While banks are already experimenting with this transformative technology, these insights can guide their efforts to ensure its effective integration and maximise its potential benefits.

In conclusion, this research contributes valuable perspectives to the discourse on GenAI in banking, offering both theoretical grounding and practical guidance. By addressing operational, ethical, and regulatory challenges, South African banks can harness the full potential of GenAI to enhance customer service and drive innovation in an increasingly competitive landscape.

Table 13: Consistency table: research questions, propositions, data collection and data analysis

Research objective	Proposition	Data collection	Data Analysis
Explore Generative AI (GenAI) technologies and how they can support Relationship Managers in delivering personalized and timely customer service in banking.	The adoption of Generative AI (GenAI) technologies in South African banks will improve Relationship Managers' ability to provide personalized and timely customer service by improving operational efficiency, providing valuable customer insights, and increasing customer engagement.	Interviews	Qualitative Thematic data analysis
Identify key opportunities and use cases where GenAI can enhance the functions and interactions of Relationship Managers to improve	The integration of Generative AI (GenAI) technologies across various use cases in the banking sector will improve Relationship Managers' (RMs') functions and interactions by	Interviews	Qualitative Thematic data analysis

customer service in the banking sector.	personalizing customer service, streamlining financial advisory processes, and optimizing risk management.		
Outline factors influencing the adoption and possible challenges to integrate GenAI into relationship management, including ethical concerns, technological constraints, regulatory issues, and organizational barriers.	The successful integration of Generative AI (GenAI) into bank relationship management is influenced by a combination of ethical concerns, technological constraints, regulatory issues, and institutional barriers. Addressing these factors is critical for improving customer service and increasing operational efficiency.	Interviews	Qualitative Thematic data analysis
Provide insights and recommendations for effective implementation and integration of GenAI tools to enhance the customer	Effective implementation and integration of Generative AI (GenAI) tools in banking require comprehensive planning and training, ensuring that Relationship Managers (RMs) can	Interviews	Qualitative Thematic data analysis

servicing process by RM's in banking.	utilize these tools to enhance customer service. Key recommendations include thorough testing of GenAI technologies, structured training programs for RMs, and strategies for smooth transitions to mitigate integration challenges.		

REFERENCES

Ahmed, T., & Hussain, B. (2023). The Role of AI in Enhancing Customer Experience and Engagement in Digital Transformation. *Researchgate.Net*, *371205771*. https://www.researchgate.net/publication/371205771_The_Role_of_AI_in_Enhancing_Customer_Experience_and_Engagement_in_Digital_Transformation.

Alharahsheh, H. H., & Pius, A. (2020). A review of key paradigms: Positivism vs interpretivism. *Global Academic Journal of Humanities and Social Sciences, 2*(3), 39–43.

Alladi, R. (2024). How AI can transform Customer Relationship Management. International Journal of Management, IT and Engineering, 14(7), 44–52.

Åström, J., Reim, W., & Parida, V. (2022). Value creation and value capture for AI business model innovation: A three-phase process framework. *Review of Managerial Science*, *16*(7), 2111–2133. https://doi.org/10.1007/s11846-022-00521-z

Atadoga Akoh, Obi Ogugua Chimezie, Onwusinkwue Shedrack, Dawodu Samuel Onimisi, Osasona Femi, & Andrew Ifesinachi Daraojimba. (2024). AI's evolving impact in US banking: An insightful review. *International Journal of Science and Research Archive*, *11*(1), 904–922. https://doi.org/10.30574/ijsra.2024.11.1.0157

Awa, H. O., Ukoha, O., & Emecheta, B. C. (2016). Using T-O-E theoretical framework to study the adoption of ERP solution. *Cogent Business & Management, 3*(1), 1196571. https://doi.org/10.1080/23311975.2016.1196571

Babajide, D. A. (2023). Concept of relationship banking. https://doi.org/10.13140/RG.2.2.24396.39046

Bamberger, S., Clark, N., Ramachandran, S., & Sokolova, V. (2023, July 6). *How Generative AI Is Already Transforming Customer Service*. Boston Consulting Group (BCG). https://www.bcg.com/publications/2023/how-generative-ai-transforms-customer-service

Banala, S. (n.d.). The Future of IT Operations: Harnessing Cloud Automation for Enhanced Efficiency and The Role of Generative AI Operational Excellence.

Bandi, A., Adapa, P. V. S. R., & Kuchi, Y. E. V. P. K. (2023). The power of generative AI: A review of requirements, models, input–output formats, evaluation metrics, and challenges. *Future Internet, 15*(8), 260. https://doi.org/10.3390/fi15080260

Bansal, A. (2022). Customer Relationship Management in Banking Sector. *International Journal of Research in IT and Management*, *12*(6). https://www.researchgate.net/publication/362685597_Customer_Relationship_Management_in_Banking_Sector

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120. https://doi.org/10.1177/014920639101700108

Bendersky, A. (2024, February 26). What is an AI copilot? *The 360 Blog*. Retrieved May 19, 2024, from https://www.salesforce.com/blog/ai-copilot/

Bhangu, S., Provost, F., & Caduff, C. (2023). Introduction to qualitative research methods – Part I. *Perspectives in Clinical Research, 14*(1), 39. https://doi.org/10.4103/picr.picr_253_22

Bhattacharya, C., & Sinha, M. (2022). The Role of Artificial Intelligence in Banking for Leveraging Customer Experience. *Australasian Business, Accounting and Finance Journal*, *16*(5), 89–105. https://doi.org/10.14453/aabfj.v16i5.07

Bingham, A. J. (2023). From data management to actionable findings: A five-phase process of qualitative data analysis. *International Journal of Qualitative Methods, 22*, 16094069231183620. https://doi.org/10.1177/16094069231183620

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research, 26*(13), 1802–1811. https://doi.org/10.1177/1049732316654870

Biswas, S., Carson, B., Chung, V., Singh, S., & Thomas, R. (2020). *AI-bank of the future: Can banks meet the AI challenge?* New York: McKinsey & Company. Retrieved April 29, 2024, from https://www.mckinsey.de/~/media/McKinsey/Industries/Financial%20Services/Our%20Insights/AI%20bank%20of%20the%20future%20Can%20banks%20meet%20the%20AI%20challenge/AI-bank-of-the-future-Can-banks-meet-the-AI-challenge.pdf

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Bryan, J. D., & Zuva, T. (2021). A review on TAM and TOE framework progression and how these models integrate. *Advances in Science, Technology and Engineering Systems Journal, 6*(3), 137–145. https://doi.org/10.25046/aj060316

Brynjolfsson, E., Li, D., & Raymond, L. (2023). Generative AI at work (w31161; p. w31161). National Bureau of Economic Research. https://doi.org/10.3386/w31161

Cao, L., Sarkar, S., Ramesh, B., Mohan, K., & Park, E. H. (2024). Shift of ambidexterity modes: An empirical investigation of the impact of artificial intelligence in customer service. *International Journal of Information Management, 76*, 102773. https://doi.org/10.1016/j.ijinfomgt.2024.102773

Chau, P. Y. K., & Tam, K. Y. (1997). Factors Affecting the Adoption of Open Systems: An Exploratory Study. *MIS Quarterly*, *21*(1), 1. https://doi.org/10.2307/249740

Chui, M., Hazan, E., Roberts, R., Singla, A., Smaje, K., Sukharevsky, A., Yee, L., & Zemmel, R. (2023). *The economic potential of generative AI: The next productivity frontier*. McKinsey & Company. Retrieved April 13, 2024, from https://www.mckinsey.com/~/media/mckinsey/business%20functions/mckinsey%20digital/our%20insights/the%20economic%20potential%20of%20generative%20ai%20the%20next%20productivity%20frontier/the-economic-potential-of-generative-ai-the-next-productivity-frontier.pdf

Colgate, M., & Lang, B. (2005). Positive and negative consequences of a relationship manager strategy: New Zealand banks and their small business customers. *Journal of Business Research, 58*(2), 195–204. https://doi.org/10.1016/S0148-2963(02)00494-0

Creswell, J. W., & Poth, C. N. (n.d.). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage. Retrieved June 10, 2024, from https://books.google.co.za/books?hl=en&lr=&id=DLbBDQAAQBAJ&oi=fnd&pg=PP1&dq=+John+W.+Creswell&ots=-io82aLNQx&sig=cxb4c-Qsj0yd363Wgp4693zyhCM&redir_esc=y#v=onepage&q=John%20W.%20Creswell&f=false

Creswell, J. W., Hanson, W. E., Clark Plano, V. L., & Morales, A. (2007). Qualitative research designs: Selection and implementation. *The Counseling Psychologist, 35*(2), 236–264. https://doi.org/10.1177/0011000006287390

Dennis, N. (2023, November 29). Banking industry has most to gain from development of generative AI, says Moody's Analytics. *Benzinga Newswires*. Retrieved April 14, 2024, from https://www.proquest.com/docview/2894683125?accountid=15083&sourcetype=Wire%20Feeds.

Donaldson, L. (2001). *The contingency theory of organizations*. Sage Publications Inc. Retrieved June 23, 2024, from https://books.google.co.za/books?hl=en&lr=&id=hXroN8btsN8C&oi=fnd&pg=PR11&dq=Donaldson,+L.+(2001).+%22The+Contingency+Theory+of+Organizations.%22+SAGE+Publications.&ots=4fspjFQ_OD&sig=CyuGFgVI9bRS0ZhSk-ezNAhlvlc&redir_esc=y#v=onepage&q=Donaldson%2C%20L.%20(2001).%20%22The%20Contingency%20Theory%20of%20Organizations.%22%20SAGE%20Publications.&f=false

Dhake, S., Lassi, L., Hippalgaonkar, A., Gaidhani, R. A., & Jyothi, N. M. (2024). Impacts and Implications of Generative AI and Large Language Models: Redefining Banking Sector. *Journal of Informatics Education and Research*, *14*(2), 248–257. https://doi.org/10.52783/jier.v4i2.767

Erdmann, A., & Potthoff, S. (2023). Decision criteria for the ethically reflected choice of a member check method in qualitative research: A proposal for discussion. *International Journal of Qualitative Methods, 22*, 160940692311776. https://doi.org/10.1177/16094069231177664

Eze, S. C., Awa, H. O., Okoye, J. C., Emecheta, B. C., & Anazodo, R. O. (2013). Determinant factors of information communication technology (ICT) adoption by government-owned universities in Nigeria: A qualitative approach. *Journal of Enterprise Information Management*, *26*(4), 427–443. https://doi.org/10.1108/JEIM-05-2013-0024

Fares, O. H., Butt, I., & Lee, S. H. M. (2023). Utilization of artificial intelligence in the banking sector: A systematic literature review. *Journal of Financial Services Marketing, 28*(4), 835–852. https://doi.org/10.1057/s41264-022-00176-7

Felemban, H., Sohail, M., & Ruikar, K. (2024). Exploring the Readiness of Organisations to Adopt Artificial Intelligence. *Buildings*, *14*(8), 2460. https://doi.org/10.3390/buildings14082460

Ferri, F., Grifoni, P., & Guzzo, T. (2020). Online learning and emergency remote teaching: Opportunities and challenges in emergency situations. *Societies, 10*(4), 86. https://doi.org/10.3390/soc10040086

Feuerriegel, S., Hartmann, J., Janiesch, C., & Zschech, P. (2024). Generative AI. *Business & Information Systems Engineering, 66*(1), 111–126. https://doi.org/10.1007/s12599-023-00834-7

Financial Services Monitor Worldwide. (2023, September 7). Temenos first to launch secure generative AI solution in banking to help banks offer personalized experiences. *SyndiGate Media Inc.* Retrieved April 14, 2024, from https://www.proquest.com/wire-feeds/temenos-first-launch-secure-generative-ai/docview/2861607357/se-2?accountid=15083

George, A. S. (2024). Consequences of enterprise cloud migration on institutional information technology knowledge. https://doi.org/10.5281/zenodo.10938874

Gill, P., & Baillie, J. (2018). Interviews and focus groups in qualitative research: An update for the digital age. *British Dental Journal, 225*(7), 668–672. https://doi.org/10.1038/sj.bdj.2018.815

Guo, Y. (2018). Implementing relationship banking strategies and techniques and improving customer value. Finance and Market, 2(2). https://doi.org/10.18686/fm.v2i2.980

Hagendorff, T. (2024). Mapping the Ethics of Generative AI: A Comprehensive Scoping Review. *Minds and Machines*, *34*(4), 39. https://doi.org/10.1007/s11023-024-09694-w

Ho, S. P. S., & Wong, A. (2023). The role of customer personality in premium banking services. *Journal of Financial Services Marketing, 28*(2), 285–305. https://doi.org/10.1057/s41264-022-00150-3

Hossan, D., Dato' Mansor, Z., & Jaharuddin, N. S. (2023). Research population and sampling in quantitative study. *International Journal of Business and Technopreneurship (IJBT), 13*(3), 209–222. https://doi.org/10.58915/ijbt.v13i3.263

Hussain, M. A., Elyas, T., & Nasseef, O. A. (2013). Research paradigms: A slippery slope for fresh researchers. *Life Science Journal, 10*(4), 2374–2381.

Insider Intelligence. (2023, June 2). ChatGPT and generative AI in banking: Reality, hype, what's next, and how to prepare. *Business Insider*. Retrieved April 14, 2024, from https://www.proquest.com/docview/2821682567?parentSessionId=C3YS7hzPUkJg0jtZ33PfwKSyrK9sRjWuya3FFEwWgxo%3D&pq-origsite=summon&accountid=15083&sourcetype=Newspapers.

International Trade Administration. (2024). Leading sectors for US exports and investments: Information technology. Retrieved April 25, 2024, from https://www.trade.gov/knowledge-product/south-africa-information-technology

Jain Rita. (2023). Role of artificial intelligence in banking and finance. *Journal of Management and Science*, *13*(3), 1–4. https://doi.org/10.26524/jms.13.27

Jiang, J., Rui, Y., Ran, B., & Luo, P. (2023). Design of an intelligent vehicle behavior decision algorithm based on DGAIL. *Applied Sciences, 13*(9), 5648. https://doi.org/10.3390/app13095648

Juniper Research Trends. (2024). Generative AI spending from banking industry to grow by over 1,400% by 2030, as banks seek to scale AI to revolutionize business models. *Shillito Market Intelligence Ltd*. Retrieved April 23, 2024, from https://www.proquest.com/wire-feeds/generative-ai-spending-banking-industry-growover/docview/2917498438/se-2?accountid=15083

Kanbach, D. K., Heiduk, L., Blueher, G., Schreiter, M., & Lahmann, A. (2024). The GenAI is out of the bottle: Generative artificial intelligence from a business model innovation perspective. Review of Managerial Science, 18(4), 1189–1220. https://doi.org/10.1007/s11846-023-00696-z

Kaur, A., & Tanwar, A. (2023). Adoption potential and challenges of artificial intelligence in banking. In S. Taneja, P. Kumar, S. Grima, E. Ozen, & K. Sood (Eds.), *Advances in Finance, Accounting, and Economics* (pp. 271–293). IGI Global. https://doi.org/10.4018/979-8-3693-1388-6.ch019

Kaur, N., Sahdev, S. L., Sharma, M., & Siddiqui, L. (2020). Banking 4.0: “The influence of artificial intelligence on the banking industry & how AI is changing the face of modern-day banks”. *International Journal of Management, 11*(6). https://doi.org/10.34218/IJM.11.6.2020.049

Koerber, A., & McMichael, L. (2008). Qualitative sampling methods: A primer for technical communicators. *Journal of Business and Technical Communication, 22*(4), 454–473. https://doi.org/10.1177/1050651908320362

Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. Oxford University Press. Retrieved June 25, 2024, from https://books.google.co.za/books?hl=en&lr=&id=BgJREAAAQBAJ&oi=fnd&pg=PR7&dq=Latour,+B.+(2005).+%22Reassembling+the+Social:+An+Introduction+to+Actor-Network-Theory.%22+Oxford+University+Press.&ots=Z7eB5yyOWg&sig=f0FzZk0pq0OMmYEuBQg9cYYxJLY#v=onepage&q=Latour%2C%20B.%20(2005).%20%22Reassembling%20the%20Social%3A%20An%20Introduction%20to%20Actor-Network-Theory.%22%20Oxford%20University%20Press.&f=false

Lazo, M., & Ebardo, R. (2023). Artificial intelligence adoption in the banking industry: Current state and future prospect. *Journal of Innovation Management, 11*(3), 54–74. https://doi.org/10.24840/2183-0606_011.003_0003

Louw, C., & Nieuwenhuizen, C. (2020). Digitalisation strategies in a South African banking context: A consumer services analysis. *SA Journal of Information Management, 22*(1). https://doi.org/10.4102/sajim.v22i1.1153

Luz, A., & Olaoye, G. (2024). Data quality and data privacy challenges in AI applications. *Researchgate.Net*. https://www.researchgate.net/publication/378904709

M2 Presswire. (2024, March 11). Salesforce's first 25 years: Blazing a trail to the #1 AI CRM. Normans Media Ltd. Retrieved April 14, 2024, from https://www.proquest.com/docview/2954706914?sourcetype=Wire%20Feeds.

Macdonald, C., Adeloye, D., Sheikh, A., & Rudan, I. (2023). Can ChatGPT draft a research article? An example of population-level vaccine effectiveness analysis. *Journal of Global Health, 13*, 01003. https://doi.org/10.7189/jogh.13.01003

Manyanga, W., Makanyeza, C., & Muranda, Z. (2022). The effect of customer experience, customer satisfaction and word of mouth intention on customer loyalty: The moderating role of consumer demographics. *Cogent Business & Management, 9*(1), 2082015. https://doi.org/10.1080/23311975.2022.2082015

Mariani, M., & Dwivedi, Y. K. (2024). Generative artificial intelligence in innovation management: A preview of future research developments. *Journal of Business Research, 175*, 114542. https://doi.org/10.1016/j.jbusres.2024.114542

Mazhar, S. A., Anjum, R., Anwar, A. I., & Khan, A. A. (2021). Methods of data collection: A fundamental tool of research. *Journal of Integrated Community Health, 10*(01), 6–10. https://doi.org/10.24321/2319.9113.202101

Mbatha, S., Lina M, M., & Tlale, L. (2024). Exploring challenges of student support in foundation phase. *International Journal of Research in Business and Social Science (2147-4478), 13*(4), 485–494. https://doi.org/10.20525/ijrbs.v13i4.3312

Matsepe, N. T., & van der Lingen, E. (2022). Determinants of emerging technologies adoption in the South African financial sector. *South African Journal of Business Management*, *53*(1). https://hdl.handle.net/10520/ejc-busman_v53_i1_a2493

Mikalef, P., Lemmer, K., Schaefer, C., Ylinen, M., Fjørtoft, S. O., Torvatn, H. Y., Gupta, M., & Niehaves, B. (2023). Examining how AI capabilities can foster organizational performance in public organizations. *Government Information Quarterly, 40*(2), 101797. https://doi.org/10.1016/j.giq.2022.101797

Mookerjee, J., & Rao, O. R. S. (2021). A review of the impact of disruptive innovations on markets and business performance of players. *International Journal of Grid and Distributed Computing, 14*(1), 605–630.

Moonstone Information Refinery. (2023, May 18). The two banks with the biggest increase in complaints in 2022. Moonstone Information Refinery. Retrieved April 29, 2024, from https://www.moonstone.co.za/the-two-banks-with-the-biggest-increase-in-complaints-in-2022/.

Morgan, D. L., & Nica, A. (2020). Iterative Thematic Inquiry: A New Method for Analyzing Qualitative Data. *International Journal of Qualitative Methods*, *19*, 1609406920955118. https://doi.org/10.1177/1609406920955118

Mthelebofu, R. (2022). Financial sector outlook study. *Financial Sector Conduct Authority*. Retrieved April 25, 2024, from https://www.fsca.co.za/Documents/FSCA%20Financial%20Sector%20Outlook%20Study%202022.pdf

Mtisi, S. (2022). The qualitative case study research strategy as applied on a rural enterprise development doctoral research project. *International Journal of Qualitative Methods, 21*, 160940692211458. https://doi.org/10.1177/16094069221145849

Musaigwa, M. (2023). The Role of Leadership in Managing Change. *International Review of Management and Marketing*, *13*(6), 1–9. https://doi.org/10.32479/irmm.13526

Nicholas, K., Deus, T., & Devis, A. (2024). Technology adoption and its impact on organizational productivity: A case study of Metropolitan International University. *Metropolitan Journal of Business & Economics, 3*(1), 515–521.

Nicolescu, L., & Tudorache, M. T. (2022). Human-computer interaction in customer service: The experience with AI chatbots—A systematic literature review. *Electronics, 11*(10), 1579. https://doi.org/10.3390/electronics11101579

Odeyemi Olubusola, Mhlongo Noluthando Zamanjomane, Nwankwo Ekene Ezinwa, & Soyombo Oluwatobi Timothy. (2024). Reviewing the role of AI in fraud detection and prevention in financial services. *International Journal of Science and Research Archive*, *11*(1), 2101–2110. https://doi.org/10.30574/ijsra.2024.11.1.0279

Ooi, K.-B., Tan, G. W.-H., Al-Emran, M., Al-Sharafi, M. A., Capatina, A., Chakraborty, A., Dwivedi, Y. K., Huang, T.-L., Kar, A. K., Lee, V.-H., Loh, X.-M., Micu, A., Mikalef, P., Mogaji, E., Pandey, N., Raman, R., Rana, N. P., Sarker, P., Sharma, A., … Wong, L.-W. (2023). The Potential of Generative Artificial Intelligence Across Disciplines: Perspectives and Future Directions. *Journal of Computer Information Systems*, 1–32. https://doi.org/10.1080/08874417.2023.2261010

O'Reilly, M., Celner, A., Weston, D., & Srinivas, PhD, V. (2023). *2023 banking and capital markets outlook*. Deloitte.com. Retrieved May 21, 2024, from https://www2.deloitte.com/content/dam/insights/articles/us175544_cfs-fsi-outlook-banking/DI_CFS_FSI_Outlook-Banking.pdf

Orlikowski, W. J. (1992). The duality of technology: Rethinking the concept of technology in organizations. *Organization Science, 3*(3), 398–427. https://doi.org/10.1287/orsc.3.3.398

Paliwal, A. (2023, June 2). Why implementing generative AI is challenging for banks [Financial]. *Finextra*. Retrieved April 25, 2024,

from https://www.finextra.com/blogposting/24293/why-implementing-generative-ai-is-challenging-for-banks

Pechter, J., & Kuusik, A. (2024). NPS from the customer's perspective: The influence of the recent experience. *International Journal of Market Research*, *66*(2–3), 261–277. https://doi.org/10.1177/14707853231214188

Peres, R., Schreier, M., Schweidel, D., & Sorescu, A. (2023). On ChatGPT and beyond: How generative artificial intelligence may affect research, teaching, and practice. *International Journal of Research in Marketing*, *40*(2), 269–275. https://doi.org/10.1016/j.ijresmar.2023.03.001

Pinto, A., Sousa, S., & Santos, J. (2024). Relationship between new technologies and burnout: A systematic literature review. In O. Titrek, C. S. De Reis, & J. G. Puerta (Eds.), *International Conference on Lifelong Education and Leadership for All (ICLEL 2023)* (Vol. 17, pp. 254–265). Atlantis Press International BV. https://doi.org/10.2991/978-94-6463-380-1_25

Priya, A. (2021). Case Study Methodology of Qualitative Research: Key Attributes and Navigating the Conundrums in Its Application. *Sociological Bulletin*, *70*(1), 94–110. https://doi.org/10.1177/0038022920970318

Raftopoulos, M., & Hamari, J. (2024, April). *Organizational challenges in adoption and implementation of artificial intelligence*. Paper presented at the Hawaii International Conference on System Sciences (HICSS), Honolulu, Hawaii, USA. https://www.researchgate.net/publication/379831873_Organizational_Challenges_in_Adoption_and_Implementation_of_Artificial_Intelligence

Rane, N., Choudhary, S. P., & Rane, J. (2024). Acceptance of artificial intelligence: Key factors, challenges, and implementation strategies. *Journal of Applied Artificial Intelligence*, *5*(2), 50–70. https://doi.org/10.48185/jaai.v5i2.1017

Rashid, Y., Rashid, A., Warraich, M. A., Sabir, S. S., & Waseem, A. (2019). Case study method: A step-by-step guide for business researchers. *International Journal of Qualitative Methods, 18*, 160940691986242. https://doi.org/10.1177/1609406919862424

Rasool, T., Warraich, N. F., & Sajid, M. (2022). Examining the impact of technology overload at the workplace: A systematic review. *SAGE Open, 12*(3), 215824402211143. https://doi.org/10.1177/21582440221114320

Reddy, S. (2024). Generative AI in healthcare: An implementation science informed translational path on application, integration and governance. *Implementation Science*, *19*(1), 27. https://doi.org/10.1186/s13012-024-01357-9

Rita Jain. (2023). Role of artificial intelligence in banking and finance. *Journal of Management and Science*, *13*(3), 1–4. https://doi.org/10.26524/jms.13.27

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press

Ruslin, Mashuri, S., Rasak, M. S. A., Alhabsyi, F., & Syam, H. (2022). Semi-structured interview: A methodological reflection on the development of a qualitative research instrument in educational studies. *IOSR Journal of Research & Method in Education, 12*(1), 22–29. https://doi.org/10.9790/7388-1201052229

Salinger, T. (2024, March). The case for deploying AI in wealth management: Experts see vast potential for artificial intelligence helping—Rather than replacing—Financial advisors. *SourceMedia*, *54(2)*. Retrieved April 25, 2024, from https://www.proquest.com/docview/2933475831?sourcetype=Magazines

Sari, G. (2023, October 17). How can generative AI add value in banking and financial services? Retrieved April 25, 2024, from https://www.mckinsey.com/featured-insights/lifting-europes-

ambition/videos-and-podcasts/how-can-generative-ai-add-value-in-banking-and-financial-services

Sheth, J. N., Jain, V., Roy, G., & Chakraborty, A. (2022). AI-driven banking services: The next frontier for a personalised experience in the emerging market. *International Journal of Bank Marketing, 40*(6), 1248–1271. https://doi.org/10.1108/IJBM-09-2021-0449

Singh, B. (2024). Generative artificial intelligence: Prospects for banking industry. *International Journal of Research in Engineering, Science and Management, 7*(3), 83–86.

Singh, K., Chatterjee, S., & Mariani, M. (2024). Applications of generative AI and future organizational performance: The mediating role of explorative and exploitative innovation and the moderating role of ethical dilemmas and environmental dynamism. *Technovation, 133*, 103021. https://doi.org/10.1016/j.technovation.2024.103021

Stratton, S. J. (2021). Population research: Convenience sampling strategies. *Prehospital and Disaster Medicine, 36*(4), 373–374. https://doi.org/10.1017/S1049023X21000649

Tad, M. C. S., Mohamed, M. S., Samuel, S. F., & J, D. M. (2023). Artificial intelligence and robotics and their impact on the performance of the workforce in the banking sector. *Revista de Gestão Social e Ambiental, 17*(6), e03410. https://doi.org/10.24857/rgsa.v17n6-012

Taherdoost, H. (2022). What are different research approaches? Comprehensive review of qualitative, quantitative, and mixed method research, their applications, types, and limitations. *Journal of Management Science & Engineering Research, 5*(1), 53–63. https://doi.org/10.30564/jmser.v5i1.4538

Taneja, R., & Rao, Dr. G. V. S. (2023). Role of generative AI in the finance industry. *International Journal of Research Publication and Reviews, 4*(9), 1722–1725.

Tenny, S., Brannan, J. M., & Brannan, G. D. (n.d.). *Qualitative study*. National Center for Biotechnology Information. Retrieved June 17, 2024, from https://www.ncbi.nlm.nih.gov/books/NBK470395/#:~:text=Qualitative%20research%20gathers%20participants'%20experiences,combines%20qualitative%20and%20quantitative%20data

Thakkar, A., Gupta, A., & De Sousa, A. (2024). Artificial intelligence in positive mental health: A narrative review. *Frontiers in Digital Health*, *6*, 1280235. https://doi.org/10.3389/fdgth.2024.1280235

Tornatzky, L. G., & Fleischer, M. (1990). The processes of technological innovation. Lexington Books.

Truby, J., Brown, R., & Dahdal, A. (2020). Banking on AI: Mandating a proactive approach to AI regulation in the financial sector. Law and Financial Markets Review, 14(2), 110–120. https://doi.org/10.1080/17521440.2020.1760454

Turnbull, D., Chugh, R., & Luck, J. (2021). The use of case study design in learning management system research: A label of convenience? *International Journal of Qualitative Methods, 20*, 160940692110041. https://doi.org/10.1177/16094069211004148

Urban, B. (2020). TymeBank: *Digital Disruption in South Africa's Banking Sector*. Graduate School of Business Administration, University of the Witwatersrand.

Van den Berg, M., & Pather, K. (2023). How South African banks can deploy and benefit from generative AI [Online Industry view]. *Ernest & Young*. Retrieved May 21, 2024, from https://www.ey.com/en_za/financial-services/sa-banks-and-generative-ai

Wang, H., Fu, T., Du, Y., Gao, W., Huang, K., Liu, Z., Chandak, P., Liu, S., Van Katwyk, P., Deac, A., Anandkumar, A., Bergen, K., Gomes, C. P., Ho, S., Kohli, P., Lasenby, J., Leskovec, J., Liu, T.-Y., Manrai, A., … Zitnik, M. (2023). Scientific discovery in the age of artificial intelligence. *Nature, 620*(7972), 47–60. https://doi.org/10.1038/s41586-023-06221-2

Wank, A. A., Andrews-Hanna, J. R., & Grilli, M. D. (2021). Searching for the past: Exploring the dynamics of direct and generative autobiographical memory reconstruction among young and cognitively normal older adults. *Memory & Cognition, 49*(3), 422–437. https://doi.org/10.3758/s13421-020-01098-2

Williams, M., & Moser, T. (2019). The art of coding and thematic exploration in qualitative research. *International Management Review, 15*(1), 45-55.

Yan, H., Zhang, H., Liu, L., Zhou, D., Xu, X., Zhang, Z., & Yan, S. (2023). Toward intelligent design: An AI-based fashion designer using generative adversarial networks aided by sketch and rendering generators. *IEEE Transactions on Multimedia, 25*, 2323–2338. https://doi.org/10.1109/TMM.2022.3146010

APPENDIX A (ETHICAL CLEARANCE FORM)

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

Wits Business School

Wits Business School Ethics Committee
Constituted under the University Human Research Ethics Committee (Non-Medical)

Ethics Clearance Certificate

Ethics protocol number: WBS/DB2773372/411
This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below).

Project title	Factors influencing the adoption of Generative AI for customer service in the South African banking sector
Investigator / Researcher	Ms Sibongile Mgcina
Nature of Project	MM (Digital Business)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed confidentialty.
Issue Date of Certificate	02/09/2024
Expiry date	Date of submission of the project / research report
Chairperson	Dr Ayanda Magida ☎ +27 11 717 3953 ✉ ayanda.magida@wits.ac.za

Declaration by Researcher

One copy must be signed by the Researcher and returned to the Chairperson of the Wits Business School Ethics Committee.

I fully understand the conditions under which I am authorized to carry out the abovementioned research and I guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I undertake to resubmit the protocol to the Committee.

Mgcina — Signature

03 September 2024 — Date:

APPENDIX B (SUPERVISOR APPROVAL EMAIL)

MMDB Submission for Examination

External

Inbox

T

Tendani Mawela Thu 13 Feb, 12:46 (1 day ago)

to Bongi, me

Good day

I hereby confirm that I support the submission of the research report for examination by the following MMDB student:

Student Name: **Sibongile Mgcina**
Student Number: **2773372**

Please do not hesitate to contact me if you have any questions.

Kind regards,
Tendani
--

Tendani Mawela
Associate Professor
Department of Informatics

Tel +27 (0)12 420 6484, Fax +27 (0)12 362 5346
Email tendani.mawela@up.ac.za
www.up.ac.za/informatics

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Engineering, Built Environment and Information Technology
Room 5-99, Level 5, Information Technology Building
University of Pretoria, Private Bag X20
Hatfield 0028, South Africa

This message and attachments are subject to a disclaimer.
Please refer to http://upnet.up.ac.za/services/it/documentation/docs/004167.pdf for full details.

APPENDIX C (PARTICIPANT CONSENT FORM)

Participant Consent Form for Research Study

Factors influencing the adoption of Generative AI for customer service in the South African banking sector.

Name of researcher: Sibongile Mgcina

I, ……., agree to participate in this research project.

I agree to the following:

(Please circle the relevant options below)

The research study was explained to me. I understand what this study is about.	YES	NO
I understand that I can volunteer to take part in the study.	YES	NO
I agree that the interview will be audio-recorded.	YES	NO
I agree that direct quotations from my interview may be used by the researcher in their research report.	YES	NO
I agree that my participation will remain anonymous (my name or other identifying data will not be used by the researcher in their research report)	YES	NO

Name of participant……
Participant Signature ……
Date……

Name of researcher/person seeking consent……..
Signature……
Date……..

APPENDIX D (PARTICIPANT INFORMATION SHEET)

Good day Participant,

My name is Sibongile Mgcina. I am completing a master's degree in digital business at the University of the Witwatersrand Johannesburg under the supervision of Prof. Tendani Mawela. Part of the requirements to complete my degree is to complete a research project. I am there conducting a research study on how Generative AI technologies may be effectively used to support Relationship Managers in providing enhanced customer service within banks in South Africa.

The purpose of this study is to explore how Generative AI technologies can support Relationship Managers in providing better customer service in the banking sector. The study will also identify key opportunities and challenges associated with using this technology.

I would like to invite you to take part in an interview. If you decide to participate, your involvement will last about 45 minutes. The interview will take place online based on your availability. With your permission, I would like to audio record the interview. This data will be securely stored for a period specified by the university. Only the researcher will have access to the data.

During the interview, I will ask for some information about your experience in banking and the technologies you are exposed to. Your participation will be confidential and anonymous. When sharing the results of the study, your name and any identifying information will not be included.

Participation in this study is entirely voluntary. You may choose not to take part, and you can withdraw from the study at any time without any consequences. You are also free to skip any questions you do not wish to answer. There will be no direct benefits to you for participating in this study. The risks involved in this study are minimal and are no more than what you would encounter in everyday life. However, some questions may cause discomfort. If you feel upset at any point, we can pause or reschedule the interview.

The findings of this research will be compiled into a report and made available on the university library website. If you would like to receive a summary of the report, I will be happy to send it to you.

If you have any questions about this research study, please feel free to contact me or my supervisor using the details below. For any concerns or complaints about the ethical aspects of this research, you are welcome to contact the University Human Research Ethics Committee (Non-Medical) at +27(0) 11 717 1408 or email hrecnon-medical@wits.ac.za.

Yours sincerely,

Sibongile Mgcina
Researcher
2773372@students.wits.ac.za
082 406 4765

Prof. Tendani Mawela
Supervisor
tendani.mawela@wits.ac.za / tendani.mawela@up.ac.za
012 420 6484

APPENDIX E (INTERVIEW GUIDE)

Research Instrument_ Interview Guide					
#	**Research Question**	**Alignment to Theoretical Framework**	**Research Objective**	**Reference**	**Short motivation for including the question**
1	Can you describe your role and your main responsibilities within the bank?	Organizational	Background		Understanding the participant role helps to contextualize their responses and assess how Generative AI might impact various responsibilities within the bank.
2	**For Relationship Managers**: How do you currently manage customer relationships? What tools or methods do you use? What technologies are you currently using to support your work as a Relationship Manager? How effective are they?	Organizational	Background		Identifying current tools and methods helps to establish a baseline for evaluating how Generative AI can enhance or replace existing technologies.
3	Are you familiar with Generative AI technologies? If yes, how do you perceive their potential in supporting the Relationship Manager role?	Organizational	Background		Measuring familiarity and perception of Generative AI helps understand the readiness and potential resistance within the organization.
4	What benefits do you think Generative AI could bring to Relationship Manager's work in terms of enhancing customer service?	Organizational	Background		Identifying perceived benefits can help in understanding the expected impact of Generative AI on customer service and relationship management.
5	How might Generative AI technologies change your day-to-day processes? What adjustments would need to be made to accommodate these changes?	Organizational	Background		Exploring potential changes and necessary adjustments helps in planning the integration process and managing the transition smoothly.
6	How do you see the inclusion of AI in banking services? GenAI in particular	Technology	Objective 1 Practical Applications of Generative AI	(Sheth et al., 2022)	Understanding overall perceptions of AI helps in assessing the technological readiness and willingness to adopt new technologies.
7	What steps do you think the bank should take to successfully implement Generative AI technologies?	Technology	Objective 1 Practical Applications of Generative AI		Gathering insights on necessary steps helps in creating a practical implementation roadmap and ensuring successful integration.
8	Is the current IT architecture able to accommodate the integration of Generative AI technology?	Technology	Objective 1 Practical Applications of Generative AI	(Bhattacharya & Sinha, 2022)	Assessing the current IT infrastructure's capability to support Generative AI helps in identifying potential technical challenges and needed upgrades.

9	Would you be open to participating in pilot programs to test Generative AI applications? Why or why not?	Technology	Objective 1 Practical Applications of Generative AI		Understanding openness to pilot programs helps in planning initial testing phases and identifying potential champions within the organization.
10	What specific areas of your work do you think could benefit the most from Generative AI? Can you provide examples of tasks or interactions where AI could be particularly useful?	Environment	Objective 2 Key Opportunities and Use Cases		Identifying key areas and tasks that could benefit from AI helps in prioritizing implementation efforts and demonstrating value.
11	How prepared do you think the bank is to implement Generative AI technologies? What resources are available to support this integration?	Environment	Objective 2 Key Opportunities and Use Cases		Assessing preparedness and available resources helps in planning the implementation process and ensuring adequate support.
12	How do you think Generative AI could improve the quality and personalization of your interactions with customers?	Environment	Objective 2 Key Opportunities and Use Cases		Exploring potential improvements in customer interactions helps in demonstrating the value of Generative AI and gaining buy-in from stakeholders.
13	How do you think customer expectations for personalized and efficient service have evolved in recent years? How could Generative AI help meet these expectations?	Environment	Objective 2 Key Opportunities and Use Cases		Understanding evolving customer expectations helps in aligning Generative AI adoption with customer needs and enhancing service delivery.
14	What regulatory challenges do you foresee in adopting Generative AI technologies in banking? How might these challenges be addressed?	Environment	Objective 3 Factors Influencing Adoption and Challenges		Identifying regulatory challenges helps in ensuring compliance and addressing potential legal and ethical concerns.
15	How important do you think it is for the bank to adopt Generative AI technologies to stay competitive? Why?	Environment	Objective 3 Factors Influencing Adoption and Challenges		Assessing the perceived importance of AI adoption helps in understanding competitive pressures and motivating the organization to embrace change.
16	What technical challenges do you anticipate in integrating Generative AI into your work? How could these be overcome?	Environment	Objective 3 Factors Influencing Adoption and Challenges		Identifying technical challenges helps in planning mitigation strategies and ensuring a smooth integration process.

17	Are there any ethical concerns or risks associated with using Generative AI for customer service? How should these be addressed?	Environment	Objective 3 Factors Influencing Adoption and Challenges		Exploring ethical concerns helps in addressing potential risks and ensuring responsible AI usage.
18	What organizational challenges do you think might hinder the adoption of Generative AI? How could these be mitigated?	Environment	Objective 3 Factors Influencing Adoption and Challenges		Identifying organizational challenges helps in planning change management strategies and ensuring successful adoption.
19	What are the drivers that lead to the adoption of AI technologies?	Environment	Objective 3 Factors Influencing Adoption and Challenges	(Cao et al., 2024)	Understanding adoption drivers helps in aligning implementation efforts with organizational goals and priorities.
20	What steps do you think the bank should take to successfully implement Generative AI technologies?	Recommendations for Implementation	Objective 4 Recommendations for Implementation		Gathering practical recommendations helps in creating a clear implementation roadmap and ensuring successful integration.
21	What steps do you think the bank should take to successfully implement Generative AI technologies?	Recommendations for Implementation	Objective 4 Recommendations for Implementation		Gathering practical recommendations helps in creating a clear implementation roadmap and ensuring successful integration.
22	How do you envision the role of Generative AI in the future of banking? What long-term impacts do you foresee on customer service and relationship management?	Recommendations for Implementation	Objective 4 Recommendations for Implementation		Exploring long-term impacts helps in planning for future developments and ensuring sustainable adoption.
23	Is there anything else you would like to share about your views on Generative AI and its potential impact on your work and the banking industry?	Recommendations for Implementation	Objective 4 Recommendations for Implementation		Providing an open-ended question allows participants to share additional insights and perspectives that may not have been covered.
24	Do you have any additional thoughts or suggestions on how Generative AI technologies could be effectively utilized to enhance customer service in the banking	Recommendations for Implementation	Objective 4 Recommendations for Implementation		Gathering additional suggestions helps in identifying innovative ideas and ensuring comprehensive implementation strategies

APPENDIX F (PARTICIPANTS PROFILES)

PARTICIPANTS PROFILE			
Participant Code	**Role**	**Interviewed**	**Date of Interview**
Participant 1	Relationship Manager	Yes	1-Oct-2024
Participant 2	Feature Analyst/Solution design	Yes	12-Sep-2024
Participant 3	Technical Lead	Yes	20-Sep-2024
Participant 4	Executive	Yes	4-Oct-2024
Participant 5	Technical Lead/Solution design	Yes	18-Sep-2024
Participant 6	Senior Manager Tech	Yes	13-Sep-2024
Participant 7	Technology Expert	Yes	1-Oct-2024
Participant 8	Senior Manager/Product Owner	Yes	16-Sep-2024
Participant 9	Relationship Manager	Yes	27-Sep-2024
Participant 10	Feature Analyst/Solution design	Yes	20-Sep-2024
Participant 11	Senior Manager (Business)	Yes	18-Sep-2024
Participant 12	Senior Manager (Business)	Yes	12-Sep-2024
Participant 13	GenAI Specialist/ Architect	Yes	6-Oct-2024
Participant 14	Relationship Manager	Yes	9-Sep-2024
Participant 15	Enterprise Architect	Yes	23-Sep-2024
Participant 16	Solution Architect	Yes	20-Sep-2024
Participant 17	Senior Solution Owner	Yes	4-Oct-2024
Participant 18	Relationship Manager	Yes	12-Sep-2024
Participant 19	Tech lead	Yes	18-Sep-2024