THE EFFECTS OF TECHNOLOGY ADOPTION ON ORGANISATIONAL PERFORMANCE FOR INSURANCE BROKERS

Student Number: 22964127

Abstract

Globally, the insurance industry in developing countries is regarded as one of the most old-fashioned sector in terms of adopting technology disruptions. It mainly hinges and relies on in-person meetings. However, digital transformation has changed that, as players in the insurance industry are beginning to adopt new digital technologies such as insurtech in order to remain relevant to the present and future landscape of the market. Due to the high operating expenses of existing systems and general lack of motivation, the insurance industry has always been hesitant to embrace new technologies. The main objective of this study was to assess the effect of technology adoption on organisational performance for the insurance Brokers in Botswana. This study utilized the positivism research philosophy. Data was collected from 101 registered and licensed Insurance Brokers drawn from NBFIRA 2022 database. Spearman Rank correlation was used to measure the monotonic nexus between technology readiness and internal expertise on organisational performance of Insurance Brokers in Botswana. Results of the study revealed that there is an insignificant weak positive correlation between technology readiness and organisational performance. The results also showed that there is a moderate positive relationship between the internal expertise and organisational performance. The study findings further indicated that technology adoption has improved and has the potential to improve the organisational performance of insurance brokers. The implications of these results in relation to management theory, policy, and practice and for future research were also discussed and supported. The study recommended that the government must support insurance companies with finance and other resources which will help the players in the insurance sector to sharpen their internal expertise through training and development, reskilling, recruitment, acquiring latest technologies that promote digital transformations. Proper ICT infrastructures must be put in place to facilitate technology adoption and readiness.

Keywords

Technology adoption, Digital transformation, Technology readiness, Internal expertise, Organisational performance

Plagiarism Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

STUDENT NUMBER: **22964127**

DATE: **01/11/2023**

Table of Contents

CHAPTER ONE: OVERVIEW OF THE STUDY

1.0 Introduction

The insurance industry has historically been rooted in traditional, procedures and in-person interactions. Cappiello (2020) and Njegomir et al. (2021) concur that insurance companies have been among the slowest to adopt digital transformation. Similarly, Niraula and Kautish (2019) maintain that while financial businesses have mostly embraced IT to achieve a competitive edge, insurance companies have lagged behind in fully embracing IT. Even though insurance businesses continue operating in the same manner as they have for years, pressure has increased due to changes brought about by digitilisation from businesses in other industries (Pisoni, 2021). However, the insurance industry has not been immune to the disruptive effects of technology, and COVID-19 has further hastened this change. Digital disruption impacted every aspect of the world, including business, and has made businesses re-evaluate their approaches. This study assesses how technology adoption affects organisational performance, particularly for insurance brokers in Botswana.

There is limited literature that explains the relationship between technology adoption, internal expertise, technology readiness, and organisational performance for insurance brokers at the organisational level. Only a few studies have been done on technology adoption at an organisational level (Oliveira et al., 2014). This factor has prompted this researcher to conduct this study with the aim of contributing new knowledge to the existing literature. Moreover, technology adoption in the insurance sector of Botswana is still in its infancy, there is a need to investigate this transformation to guide brokers effectively. By understanding the effects of technology adoption on organisational performance, insurance brokers in Botswana can formulate informed strategies to navigate this landscape. This research seeks to equip brokers with insights that enable them to harness technology effectively to enhance performance and maintain a competitive edge in an evolving market. As technology adoption continues to redefine the insurance sector, understanding these new territories becomes a cornerstone of informed decision-making, and this research seeks to provide the foundation for this understanding.

Technology adoption can be analysed at the customer, organisational, industry, and country levels (Matzler et al., 2018). A notable amount of research has been done on technology

adoption and its impact on organisational performance at an individual and industry level, but not much has been done at the organisational level, despite the fact that successful IT adoption has a major impact on business performance (Ali et al., 2022). These levels of analysis are different and cannot be treated the same. It is important to zoom in on the organisational level to understand the effect of technology adoption components on organisational performance, hence the study.

The aim of this research is to investigate the effects of technology adoption on organisational performance for insurance brokers in Botswana. The study will specifically assess the effects of internal expertise and technology readiness on organisational performance. The research strives to offer an understanding of the relationship between technology adoption and organisational performance, thus equipping insurance brokers with the requisite knowledge to navigate this landscape.

1.1 Context of the Research Problem

Globally, technology transformation has changed the business landscape of many organisations (Chiguvi, 2023). The advancement and development of technology will keep progressing at a faster pace, shaping what lies ahead in the future. This is particularly true in today's modern world, characterized by swift and constant changes in high-technology innovations (Lakhwani et al., 2020). Moreover, for all organisations, public and private, technology is increasingly being used as the primary tool to address the issue of increased productivity (Lakhwani et al., 2020). The use of information and communications technology (ICT) in industries is very prevalent and cannot be ignored. Large companies and even small and medium-sized enterprises (SMEs) are actively incorporating ICT into their operations. They are embracing ICT because it has a significant impact on how they do business and is seen as beneficial for improving how businesses operate (Chairoel et al., 2015).

In the context of Botswana, companies lag behind mainly because of high computer illiteracy in the market, a lack of ICT infrastructure, low internet connectivity, fear of risk, and apathy. Supedu et al. (2023) mentioned that technology infrastructure plays a critical role in determining the readiness of e-services in any organisation. Reliance on legacy systems, implementation difficulty, and immature technology are the top three technological concerns

confronting insurers today, according to the Deloitte Centre for Financial Services 2022 Insurance Outlook survey. But as insurers start implementing new digital technologies to stay competitive, the digital transformation is beginning to disrupt that. The insurance sector is presently experiencing a digital revolution, as numerous organisations are integrating novel technology to enhance customer support and optimise workflows (Cappiello, 2020; Njegomir et al., 2021; Pisoni, 2021; De, 2022; Rice-Boshi, 2023). Therefore, it is critical for businesses to learn the impact of digital technology on organisational performance in light of the changing environment (Vial, 2019).

According to Vial (2019), in order for organisations to be competitive in the digital era and create value for their stakeholders, a complex puzzle that includes not only technology but also strategy, leadership, structure, procedures, and culture must be resolved. As such, organisations must look at all the different internal components of the business for value creation. Ali et al. (2022) highlight that many businesses today view adopting technology successfully as a major competitive advantage. Moreover, it is crucial for businesses to comprehend the organisational preparedness elements that are crucial for adopting new IT systems. The factors include technological readiness and technical expertise, among others. Digital transformation has made access to information about firms easier, and it has opened up communication channels (Pisoni, 2021). According to Verhoef et al. (2021), this shift has put businesses that have not embraced digital transformation under pressure. Similarly, Pisoni (2021) warns organisations that do not adopt technology that this will negatively affect organisational performance.

1.1.1 Overview of the insurance sector in Botswana

The Botswana insurance market is divided into two segments, namely life insurance and general insurance. According to the Non-Bank Financial Institutions Regulatory Authority (NBFIRA, 2021), Botswana has 9 Life insurance companies with total assets of BWP18,405 million, 12 General insurance companies also known as Short-term companies with BWP2,615 million assets and 5 Re-Insurers with BWP684 million assets. The industry has 216 broker houses. The gross premiums for life and general insurers as a percentage of nominal GDP stayed constant at 3.1%. A study conducted by Global Data (2022) indicated that the life insurance segment dominated the market in 2021, and the gross written premium

of the Botswana insurance market was BWP6 billion ($544.3 million) in 2021. Global Data's survey from 2022 also showed that the insurance industry in different countries has not led the way in digitalization. One of the reasons mentioned was the absence of regulations addressing cybersecurity and other regulatory flaws that discourage the use of new technologies. However, post-Covid, many players in the insurance sector have adopted digital transformation. NBFIRA, the insurance regulator in Botswana, highlighted driving digitalization as one of its strategic targets for the 2021–2026 corporate strategy and mentioned that this was a result of the company seeing the necessity to embrace technology and address the impact of its adoption. It is still elusive for the players to understand the effects of technological adoption on organisational performance; hence, the research gap this study seeks to close. The purpose of this study is to allow the insurance brokers in Botswana to understand the effects and nexus between technology adoption and organisational performance.

1.2 Problem statement

In an era of rapid technological advancement, insurance brokers in Botswana face the critical challenge of adopting and integrating advanced technology solutions into their operations. The insurance industry has been slow to fully embrace technology (Cappiello, 2020; Njegomir et al., 2021). The industry is becoming increasingly competitive, and competition also comes from financial institutions such as banks. Therefore, it is imperative to investigate how the adoption of technology impacts the organisational performance of insurance brokers in Botswana. This study aims to study the effect of internal expertise and technological readiness on organisational performance for insurance brokerages in the Botswana market. By examining this relationship, the researcher seeks to provide valuable insights and strategic recommendations for insurance brokers and policymakers to navigate this evolving landscape and enhance their organisational performance.

1.3 Primary objective

The primary purpose of this research is to assess the effect of technology adoption on organisational performance for insurance brokers in Botswana.

1.1.2 Secondary objectives

- To assess the effect of Technological Readiness on organisational performance for insurance brokers in Botswana
- To measure the effect of Internal Expertise on organisational performance for insurance brokers in Botswana
- To determine the effect of Technology Adoption on organisational performance for insurance brokers in Botswana
- To provide recommendations for improving Technology Adoption for insurance brokers in Botswana to help improve organisational performance

1.4 Theoretical need

This study is underpinned by two theoretical frameworks, namely Diffusion of Innovation Theory (DOI) and the Technology-Organization-Environment (TOE) framework, as these are the two models that focus on the technology adoption at an organisational level (Oliveira et al., 2014; Mabad et al., 2021; Haneem et al., 2019). These frameworks are selected because the level of analysis for this study is organisational level and these frameworks assist in understanding the effects of technology adoption at the organisational level. According to Ali et al. (2022), DOI looks at the general preparedness mechanisms affecting the effective technology adoption, including internal expertise and technological readiness. The DOI and TOE frameworks are studied to help understand the relationship between technology adoption and organisational performance at the organisational level.

The Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), Theory of Planned Behaviour (TPB) are some the commonly used theories that explain the relationship between the adoption of technology and organisational performance at the level of an individual (Oliveira et al., 2014; Mabad et al., 2021; Haneem et al., 2019).

1.5 Business need

The significance of this research project lies in its potential to provide insights and guidance to the insurance sector in Botswana, primarily focusing on insurance brokers. In an era characterised by significant technological advancements and changes, this study is well positioned to fill a vital knowledge gap and provide insights to meet the business needs of the industry.

The research endeavours to offer an understanding of the relationship between technology adoption and organisational performance, thus equipping insurance brokers with the requisite knowledge to navigate this competitive industry. The findings are poised to guide brokers towards sound technology adoption strategies. By gaining insights into the ramifications of IT adoption, brokers can make informed decisions, cultivate adaptability, and remain competitive in a rapidly evolving industry. Furthermore, the research delves into the realm of IT adoption preparedness. It evaluates the technological readiness and internal technical expertise of insurance brokers. This assessment is instrumental in steering brokers towards the right investments in technology and strategic implementations that align with their unique organisational needs.

The results of this study will assist insurance brokers in Botswana in driving organisational performance by leveraging technology adoption. This research thus contributes to the empowerment of the insurance brokerage sector, fostering a future where technology is not a challenge but a catalyst for organisational performance.

1.6 Contribution of the study

This research is expected to make not only theoretical but also practical contributions across various areas of the insurance brokerage sector in Botswana. This study furnishes valuable insights to insurance brokers in Botswana, enabling them to make well-informed decisions about adopting information technology. Consequently, this enhances their competitiveness and adaptability within the technology-centric insurance sector. Furthermore, the knowledge gained from this research project can empower insurance brokers in Botswana to make informed and strategic decisions about technology adoption, armed with an understanding of the impact of IT adoption on organisational performance.

Moreover, the study contributes to the existing body of knowledge by offering a nuanced perspective on the relationship between technology adoption and organisational performance in the context of insurance brokerage in Botswana. Moreover, this study lays a foundation for future studies in related domains.

1.7 Delimitations

The study was conducted in Botswana. Insurance brokers who are operating in Gaborone and Francistown were selected for this study. Gaborone and Francistown were selected because the two are the capital cities of Botswana, where many of the head offices of the insurance brokers are located. The study focused on individual insurance brokers registered with the Non-Bank Financial Institutions Regulatory Authority (NBFIRA) in Botswana. The study only focused on assessing the effect of technology adoption, technological readiness, and internal expertise on the organisational performance for insurance brokers in Botswana. The respondents of the research comprised management and employees of the insurance brokers in Gaborone, Botswana. Moreover, the level of analysis adopted for this study is organisational. This perspective enables an exploration of how technology adoption strategies and practises within individual insurance brokerages contribute to or impede overall organisational performance.

1.8 Conclusion

This chapter discussed the context of the problem, the problem statement, as well as the theoretical and business need of the study. The contribution of the study was also elaborated, along with the delimitations of the study. The next will provide a literature review of the study.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

The previous chapter explained the context of the study on the effects of technology adoption on organisational performance. The chapter also provided both the theoretical and business need of digital transformation in the insurance sector. This chapter will discuss organisational performance and how it is measured. It will further discuss the theoretical lens used for this study. The diffusion of innovation (DOI) and technology organisation environment (TOE) theories are used to inform the basis for adopting digital technology at an organisational level. Moreover, the chapter will give a give a context of the insurance in Botswana. Lastly, the two independent variables being technology readiness and internal expertise will be discussed.

This section of the research proposal reviews the current literature on the adoption of digital technology and its effects on organisational performance. The review further looks at the benefits that insurance companies can reap from adopting new technologies and how they can improve the performance of their insurance brokers. The diffusion of innovation (DOI) and technology organisation environment (TOE) theories are used to inform the basis for adopting digital technology at an organisational level. Technology readiness and internal technological expertise are discussed as integral components of the DOI framework. The purpose of this study is to get insights into how the constructs can improve organisational performance for insurance brokers in Botswana. Lastly, this section will give a picture of the insurance industry in Botswana.

2.1 Organisational performance

An organization's ability to reach its objectives and maximise outcomes is seen as a measure of its performance (Ribeiro et al., 2016). An organisation’s performance can be assessed by both its financial and non-financial resources: the former is the amount of quantifiable financial success that a company has attained including assets, sales, net income, and investments while the latter refers to growth in employment, reputation, the quality of service and social networking (Thathsarani & Jianguo, 2022; Ribeiro et al., 2016). Innovativeness, financial performance, company growth and competitive advantage are some of the key indicators that can be used to measure organisational performance linked to digital technology (Vial, 2019). Hammadi and Hussain (2019) suggest that key performance indicators derived from an

organization’s strategic objectives are also used to evaluate its performance. Also, a company's reputation as compared to its competitors must be taken into consideration when judging its success or failure.

In order for organisations to know if they are accomplishing their objectives and going in the right direction, they must evaluate their performance (Ribeiro et al., 2016). A thorough performance measurement system leads to improved organisational performance, regardless of the chosen strategic direction (Anwar & Abdullah, 2021). In contrast, Bourne et al. (2018) argue that organizations should be adaptable and approach performance measurement management as a flexible iterative process to respond and adapt to a business environment that is changing quickly. This study, however, will only use financial performance to measure organisational performance because it is quantifiable and consistent. This decision was motivated by several authors having chosen to use financial measurements to assess organisational performance (Chakravarty et al., 2013; Wamba et al., 2017).

In Khin’s (2019) view, businesses that embrace digital technologies are more likely to produce cutting-edge digital solutions that boost organisational performance than those that do not. Verhoef et al. (2021) recommend the development of skills in big data analytics, digital networking, and digital assets long before the implementation of digital technology. Also, organizations need to incorporate IT and analytical skills in order to create agile frameworks (Verhoef et al., 2021). In support of this idea, Hammadi and Hussain (2019) maintain that using technology has a direct impact on productivity. Taking cognizance of all these variables, the researcher would like to investigate the effects of the use of digital technology, the readiness of insurance companies in Botswana and the level of their technological expertise on organisational performance.

There are many performance indicators used by the organizations to measure organisational performance (Tahir, 2020). Operational performance concentrates on observable metrics such as customer satisfaction and loyalty, the firm's social capital, and competitive edge derived from capabilities and resources. Economic performance examines financial and market outcomes that evaluate profits, sales, return on investment for shareholders, and other financial matrices (Tahir, 2020). It is worth noting that different organisations use different

metrics to assess their performance (Yu, 2023). Professionals monitor and report on the performance of their organisations for a number of reasons, including controlling costs, guiding managerial decision-making by highlighting problem areas, and comparing the results of various projects, functions, and individuals (Tahir, 2020).

2.2 Understanding technology adoption

This paper uses Information Technology (IT), Information Systems (IS), Digital Technology (DT), and Information and Communication Technology (ICT) interchangeably. IT is a subset of IS, the two are quite similar, and IT only occupies the technology part of IS (Chouki et al., 2020) According to Vial (2019), the use of technology like the Internet of Things, analytics, and the cloud to drastically change an entity's properties is known as digital transformation. Digital transformation calls for companies to have a fresh perspective on how they do business (Matzler et al., 2018).

Chouki et al. (2020) argue that the adoption of IT offers businesses many opportunities such as cost-saving and an improved organisational performance. Khin (2019) and Matzler et al. (2018) similarly argue that to improve performance, businesses must adopt digital transformation, or else they will risk being put out of business by their competitors who will have adopted the new technology. Digital transformation also helps to transform companies by making them technologically savvy which makes them have a competitive advantage (Chouki et al., 2020). Njegomir et al. (2021) unreservedly credit digital transformation for improving the way some companies do their business which has a positive impact on their operational performance.

Over the past few years, there has been an upsurge in the use of digital technology as a strategy to achieve a competitive advantage over rivals (Chanias et al., 2019). Warner & Wager (2019) and Westerman & Bonnet (2015) categorically maintain that the adoption of digital technology has immense implications on a company's performance. However, despite the fact that IT has expanded exponentially in businesses, Chouki et al. (2020) point out that little attention has been paid to the modalities of implementing IT, which this proposed study attempts to do.

A study by Hlahatsi (2020) on the adoption of digital transformation in life insurance in South Africa discovered that the adoption of digital transformation relied on the quality of leadership and the culture of the workforce. Consequently, the study recommended that life insurance companies need to develop digital strategies so that they can handle the rapidly changing technological environment which, in turn, would help them manage efficiently the profits from investments in digital technology. According to Njegomir et al. (2021), the adoption of digital technology leads to a simpler access to insurance services, lower operating costs and more profitability. Hlahatsi (ibid) further notes that South African life insurance companies are eager to recognise the value of investing in digital technology because they understand the possibility of being outperformed by their competitors who use digital technology. Hlahatsi's (ibid) study is important in that it unequivocally concludes that companies that adopt digital technology perform better than those that do not, and they significantly contribute to the South African economy. Hlahatsi's (ibid) study also comes to the conclusion that digital technology eventually replaces old technologies, processes and systems; and frees financial resources from the shackles of inefficient organisational systems.

2.3 Technology and Organisational Performance in the Insurance Sector

As technology has developed over time, the world is now in a new phase known as "Industry 4.0," which is defined by the automation of many industries and the integration of cutting-edge digital technologies. This phase signifies a substantial shift in the ways that industries and businesses function (Martínez-Caroa et al., 2020). Moreover, technology is being seen as a key instrument for fostering innovation and improving organisational performance, and it does so by opening up new channels for service delivery and value network collaboration (Martínez-Caroa et al., 2020). Organisations that implement digital technologies get a competitive edge and capture long-term value (Firtzgerald et al., 2013; Martínez-Caroa et al., 2020; Venkatesan, 2020). Businesses are often advised to adopt technology to become more competitive, however, not much research has been done on how to make the most of these acquired technologies in order to make them a tool for enhancing performance, argue Martínez-Caroa et al., (2020). There has been discussion on the relationship between performance and IT for many years. Despite a large amount of research on the topic, the results are filled with contradictions and ambiguities (Martínez-Caroa et al., 2020).

2.4 Theoretical Literature

According to (Sreekumar, 2023) a theoretical framework is the structure that supports and describes a theory. This study is underpinned by two theoretical frameworks namely the Diffusion of Innovation Theory, and the Technology-Organization-Environment (TOE) framework.

2.4.1 Diffusion of Innovation (DOI)

The Diffusion of Innovation (DOI) framework was developed in 1962 by E.M. Rogers. It was originally employed in the field of communication to explain how an idea or object progressively gains traction and diffuses—or spreads—throughout a specific community or social structure. The Diffusion of Innovations (DOI) framework is used to effectively explain the broad factors impacting the successful adoption of IT (Ali et al.,2022; Oliveira et al., 2014). This theory is frequently used to explain how, why, and what percentage of IT aspects can be adopted (Haneem et al. (2019). According to the DOI theory, there are five factors that influence the adoption of an innovation namely relative advantage, complexity, compatibility, trialability, and observability. These factors are useful in this study because they provide insight into the effects of technology adoption on organisational performance. In the context of the insurance sector, factors like compatibility, relative advantage, and complexity are vital because they determine the rate of the adoption process and also facilitate the diffusion process of technology adoption. For example, if the technology adopted by the insurance brokers is not compatible with the one used by other stakeholders, especially insurers and clients, technology adoption will be slow and sometimes not successful.

2.4.2 Technology-Organization-Environment (TOE) Framework

Another theory underpinning this study is the Technology-Organization-Environment (TOE) framework. This theory focuses on four components: human, technology, organisation and environment that influence organisations on how to embrace new technologies (Mabad et al., 2021; Ali et al.,2022; Oliveira et al., 2014; Lian et al., 2014). The organisational context encompasses the organisation’s size, its structural complexity, and the availability of human resources; while the environmental factor involves the competitiveness of the society, its economic stability, political climate, and the extent to which the government interferes with private enterprise. For this study, only the technology component is looked at because level

of analyses for the study. One important component of the technological dimension is the degree of system compatibility. The adoption of technology will be more beneficial and practical if it can work with the organization's current systems and/or applications (Lian et al., 2014).

2.5 Technology adoption framework

Haneem et al. (2019) point out that although the diffusion of innovation (DOI) theory is supported by strong empirical evidence, its usefulness in explaining organisational performance has drawn a lot of criticism from other researchers. This is because the DOI theory doesn't consider how organisational and environmental factors can affect the adoption of IT. This researcher, therefore, regards the DOI theory inadequate in explaining the effectiveness of IT in order to enhance organisational performance. Instead, it should be complemented with technology organisation environment (TOE) (Haneem et al., 2019) so that all variables are taken into consideration.

2.6 Understanding Technology readiness

Technology readiness is the internal preparedness and ability of organizations for IT adoption (Nugroho et al., 2017) and this includes IT networks, enterprise systems, and IT budgets that are placed inside a broader technological framework (Ali et al., 2022).

Jafari-Sadeghi et al. (2021) argue that regardless of the assessment method employed, there two critical criteria that determine the readiness of digital technologies to drive digital transformation for better organisational performance, these are the availability of the technology and an organization’s capacity to utilize it,.

Ali et al. (2022) define technology readiness as developing the appropriate level of technological competency before the actual adoption process. Technological readiness also implies the ability of an organisation to integrate or replace existing technologies with new ones, which involves having an appropriate infrastructure and systems, adequate funds and resources (Webster and Gardner, 2019). According to Ali et al. (ibid), factors that determine readiness include organisational resources, IT infrastructure and organisational systems and IT budget.

2.7 Understanding internal expertise

Internal expertise refers to the skilled personnel that the company has on hand to support the adoption of new technology (Sun & Jeyaraj, 2013). These skilled personnel help the company either with their IT experience or by introducing them to people who can help recruit experts in the field, like workers with strong computer abilities (Lian et al., 2014). Moreover, the internal expertise component of the DOI theory encompasses specific skills and resources such as preparedness, expertise, and technical competence to ensure that the introduction of IT is successful (Ali et al., 2022). In addition, the organisational-level capabilities contribute to the general aim and favorable attitude toward embracing new technology. This internal expertise component looks at employee IT knowledge, IT expertise, and technical competence (Ali et al., 2022).

To understand organisational performance, the researcher is studying it through the lens of the DOI and TOE frameworks and it is influenced by technology readiness and internal expertise.

2.8 Conclusion

The literature review explored organisational performance as a dependable variable, specifically discussing what it is, why it is important, and how it is measured. This chapter also discussed the insurance landscape; globally and locally and how the industry interacts with technology. Moreover, this chapter discussed the DOI and TOE frameworks that were used for this study. Lastly, this chapter discussed the independent variables of the study technology adoption which is assessed by technology readiness and internal expertise.

CHAPTER 3: RESEARCH HYPOTHESES OF THE STUDY

3.0 Introduction

The key objective of the study is to measure the effects of technology adoption on organisational performance for insurance brokers in Botswana. This chapter discusses the research objectives and the research hypotheses of the study.

3.1 Research Objectives

- To assess the effect of technological readiness on organisational performance for insurance brokers in Botswana
- To measure the effect of internal expertise on organisational performance for insurance brokers in Botswana
- To determine the effect of technology adoption on organisational performance for insurance brokers in Botswana
- To provide recommendations for improving technology adoption for insurance brokers in Botswana

3.2 Conceptual Framework

The research questions are designed to explore the nature of the relationship between technology adoption and organisational performance in the context of Botswana's insurance brokerage sector. The research hypotheses serve to assess the nexus between technology readiness, internal technological expertise, technology adoption, and organisational performance. The key constructs underpinning this study are as follows:

- Independent Variables: Technology Adoption: Technology Readiness and Internal Technological Expertise
- Dependent Variable: Organisational Performance

The conceptual framework diagram in Figure 3.0 visually represents the relationships between the key constructs of the study: technology adoption, technology readiness, internal technological expertise, and organisational performance.

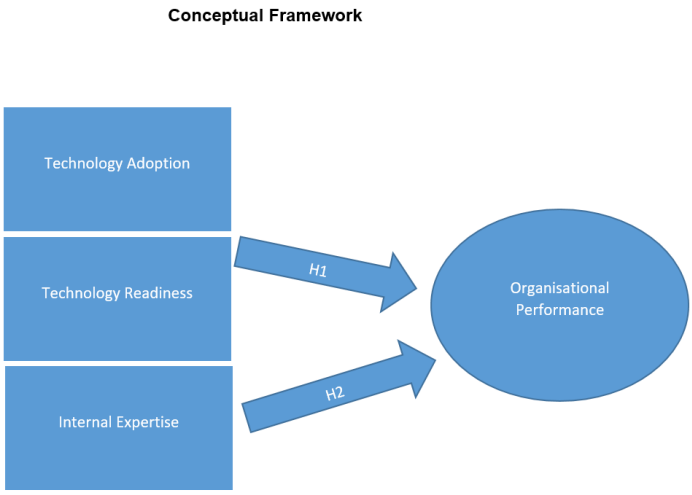


Figure 3.0: The Conceptual Framework Model of the Study

Source: Author (2023)

3.2.1 Hypotheses Development

3.2.1.1 Technology readiness and Organisational performance

Blut and Wang (2019) acknowledge that readiness for technology is not a one-size-fits-all trait but can change based on specific circumstances and needs. It is a situational attribute that characterises long-term tendencies to act in a particular way. A number of studies have taken a four-dimensional approach to defining technology readiness and looked at the effects of each component separately. These components include innovativeness, discomfort, optimism, and insecurity. (Lam et al., 2008; Son and Han 2011). According to Parasuraman and Colbyin (2015), comfort and uncertainty are barriers to technological preparedness, but creativity and optimism are facilitators. Arguably the most significant effect of technology readiness is its relationship to technology usage, as some research has revealed. Organisations with high degrees of technological readiness are strategically positioned to adopt and utilise emerging technologies, according to Ali et al. (2022). This has led to the development of Hypothesis 1:

H1: Technological Readiness has a significant positive effect on organisational performance for insurance brokers in Botswana

3.2.1.2 Internal expertise and organisational performance

Internal expertise refers to skilled human resources within an organisation that are available to help with the adoption of new technology (Ali et al., 2022; Lien et al., 2014; Sun & Jeyaraj, 2013). IT and other cultural practises are largely determined by an individual's knowledge, skills, abilities, and other capabilities (KSAOs) (Ali et al., 2022). Organisational capabilities also contribute to the overall goal and optimistic outlook on new technology. The human capital resources (HCR) held at the organisational level differ from the abilities held at the individual level. In other words, the organization-level HCR is the culmination of the abilities at the personal level, and it is the HCR where IT readiness is especially appropriate (Ali et al., 2022; Murray, 2018). Specialised human resources at the individual level help the company with its unique IT needs or by giving it the contacts and know-how it needs to hire qualified IT professionals (Ali et al., 2022; Lien et al., 2014). As a result, the hired IT specialists serve as internal experts who help others learn from their experience by implementing new technology. The cooperative participation of IT experts and the organization's workforce is crucial for implementing innovative technology solutions. (Ali et al., 2022). This has led to the development of Hypothesis 2:

H2: Internal Expertise has a significant positive effect on organisational performance for insurance brokers in Botswana

3.2.1.3 Technology adoption and organisational performance

Numerous studies (Kelly and Fontanetta, 2018; Boobier, 2020; Eckert et al., 2022; Sabu, 2023) underscore the transformative impact of technology adoption on business profitability. Ali (2022) provides evidence that businesses at the forefront of technology integration tend to outperform their competitors, who have been slower to embrace these advancements. The adoption of new technologies not only sets businesses apart but also results in tangible, quantifiable outcomes, such as increased profit margins and a stronger foothold in the market. Khin (2018) and Boobier (2020) highlight the integral role of digital innovation in enhancing organisational performance. This improvement is achieved through the translation of digital

focus and competence into tangible operational advantages. The ability to harness digital technologies and competencies emerges as a driving force behind organisations achieving superior performance outcomes. Sabu (2023) posits that there is a relationship between technology adoption and organisational performance. This has led to the development of Hypothesis 3:

H3: Technology adoption has a significant positive effect on organisational performance for insurance brokers in Botswana

3.3 Conclusion

This chapter has outlined the foundation for empirical inquiry, providing a clear direction for the research by formulating the research hypotheses that guide the subsequent data collection and analysis. The identified research hypotheses are integral to exploring the effect of technology adoption on organisational performance in the brokerage sector in Botswana. The developed hypotheses will be tested, and a conclusion will be made to explain how technology adoption affects insurance brokers' organisational performance in Botswana. Chapter 4 will explain the research methodology of the study.

CHAPTER 4: RESEARCH METHODOLOGY

4.0 Introduction

The previous chapter explained the conceptual framework of the study. The purpose of the research is to measure the effect of technology adoption on organisational performance. The research methodology describes the steps that were followed by the researcher to gather and collect data that was used to address the research objectives of this study. The aim of this chapter is to describe and justify the research philosophy, research strategy, and approach of this study. The chapter will also present the research design, data collection methods, population, and sampling procedures used to determine the sample size of the research. The data collection method and the reliability and validity of the measurement items of the study will also be discussed along with the data presentation and analysis of the study.

4.1 Research Philosophy

Conducting research is an exercise in the development of knowledge within a specific field, which is shaped by the fundamental assumptions that underpin the research process. These assumptions are not only limited to the researcher but are also interwoven with the respondents' beliefs and perspectives (Saunders & Lewis, 2018). These assumptions can be classified into three categories: ontological, epistemological, and axiological (Saunders & Lewis, 2018). Ontological assumptions pertain to the nature of reality and are the basis of one's perceptions of the world. In this research, the ontological assumption underpins the belief that there is an objective reality regarding the effects of technology adoption on organisational performance for insurance brokers in Botswana. The is an assumption that there are tangible and measurable impacts of technology adoption on organisational performance that can be discovered and understood. This assumption guides the research in recognising that there are concrete outcomes related to technology adoption in the context of Botswana's insurance industry.

Epistemological assumptions, on the other hand, relate to the nature of knowledge and what constitutes knowledge that is deemed acceptable, valid, and legitimate. The assumptions also entail the ways in which knowledge is imparted to a learner. In the same vein, this research is grounded in a positivist approach, which implies that knowledge is best obtained through empirical observation and measurement. It assumes that it is possible to gather

reliable data and generate generalizable findings regarding the relationship between technology adoption and organisational performance for brokers in Botswana. This epistemological stance leads to a quantitative research methodology, emphasizing the collection of objective data to derive insights. Moreover, axiological assumptions underscore the ethical values held by both the researcher and respondents, which are the moral compass that guides an investigation. This assumption for this research acknowledges the value of objectivity and neutrality in the pursuit of knowledge. It recognises the importance of minimising researcher bias and personal values that could influence the research process and findings. This research aims to provide a balanced and unbiased analysis of technology adoption's impact on organisational performance, allowing stakeholders to make informed decisions based on objective insights rather than subjective perspectives.

This study adopted the positivist research philosophy. To objectively characterise the cause and effect relationship between technological readiness and internal expertise as independent variables and organisational performance as a dependent variable of the study is the underlying assumption of this research paradigm. Saunders and Lewis (2018) suggest that positivism in research yields information that is clear and precise and produces data that is not easy to manipulate. This philosophy is often used when the researcher wants to assess the underlying relationship between two variables in a study (Saunders and Lewis, 2018; Zikmund et al., 2010), which in this context are technology adoption and organisational performance. It is usually applicable in quantitative research studies (Saunders, 2014). Past scholars (Blut and Wand 2019; Uren and Edwards, 2023; Sabu, 2023) have also used this research philosophy to measure the almost similar measurement items of the study. This philosophy fits well in this study because it assisted the researcher in assessing the effect of technology adoption on organisational performance, as explained in Figure 3.0 in Chapter 3.

4.2 Approach to theory development

This study employed the deductive reasoning approach. In deductive reasoning, a conclusion is derived logically from a set of hypotheses that are developed (Hassan, 2023; Zikmund et al., 2010), it moves from a broader theoretical perspective to specific conclusions (Saunders & Lewis, 2018). In this research, the phenomenon of ‘technology adoption’ was investigated

based on the literature review discussed in chapters 2 and 3. Applications of deductive reasoning patterns are common in many fields, such as philosophy, science, mathematics, and law (Hassan, 2023). These are hypothetical syllogism, disjunctive syllogism, categorical logic, and categorical syllogism. In this study, the hypothetical syllogism was used. It involved assessing the effect of technological readiness on organisational performance and the effect of internal expertise on organisational performance for insurance brokers in Botswana. Understanding how hypotheses are formulated from identified theories and how data analysis can validate or reject the hypothesis is critical (Saunders & Lewis, 2018).

4.3 Research design

A research design is a technique for addressing several issues; it is also sometimes called a research plan (McCombes, 2019). According to Grey (2014), the research design establishes the method for gathering the necessary data and how it will all fit together to address the study topic. Saunders and Lewis (2018) highlight the significance of selecting the appropriate research approach because it aids in the researcher to accomplish goals of the study. Descriptive, exploratory, and correlational research designs are the three categories of research designs. This study employed a correlational research design. Correlational research aims to examine the relationship between variables (Sassower, 2017). For this study, the researcher is interested in understanding how technology adoption (an independent variable) is related to organisational performance (a dependent variable) among insurance brokers in Botswana. Moreover, in correlational research, specific hypotheses are formulated to test whether there is a significant correlation between the variables. For this study, it was hypothesised that technological readiness has a significant positive effect on organisational performance for insurance brokers in Botswana and internal expertise has a significant positive effect on organisational performance for insurance brokers in Botswana.

The type of research used for this study is quantitative. This method was selected because the researcher wanted to measure the nexus between the independent variables and the dependent variables. Moreover, this method was fitting because the researcher was collecting quantifiable data, which allowed the researcher to employ statistical techniques to analyse the collected data and test hypotheses. This is important to assess correlations,

differences, and associations between variables (Saunders & Lewis, 2018). Ulz (2023) argues that positivist research philosophy utilises quantitative methods in their studies. This suggests that a positivist paradigm research procedure usually starts with the proposal of an empirical hypothesis, which is subsequently confirmed or denied by gathering and analysing data. Correlational design is a popular choice for researchers who wish to ascertain and quantify the relationship between two or more variables without altering them (Jansen, 2023). A correlational research design, according to Bhandari (2021), is a study that aims to find out the correlations between variables without the researcher changing or modifying any of them. In this study, the researcher sought to establish the relationship between technological readiness, internal expertise, and technology adoption on organisational performance for insurance brokers in Botswana.

4.4 Population and Sampling Frame

Population is the whole set of objects from which the researcher gathers data for a statistical analysis (Ravikiran, 2023; Saunders and Lewis, 2018). The population of this study comprised insurance brokers registered and licenced by the Non-Bank Financial Institutions Regulatory Authority (NBFIRA) in Botswana. These insurance brokers are jointly owned by Batswana and expatriates, with a total of 216 such entities (NBFIRA, 2022). Brokers that were not licenced by NBFIRA were not considered part of the population.

The targeted population was all the insurance brokers in Gaborone and Francistown, Botswana. The choice of insurance brokers was based on their significant role within the insurance sector in Botswana, where technology is integral to enhancing their operational efficiency. Brokers often find themselves at the mercy of insurance underwriters who expect them to use new technology, whether they are prepared for it or not. This expectation arises from the fact that insurance companies offer various technological solutions to brokers with the aim of improving their overall performance. Given that brokers function as intermediaries, their ability to sell insurance policies has a direct impact on the overall performance of insurance companies.

4.5 Unit of analysis

A unit of analysis is the primary subject or entity that the researcher plans to gather data from in order to fulfil the goals of the study (Kumar, 2018; Creswell & Creswell, 2017). In this study, each individual insurance broker based in Gaborone or Francistown in Botswana served as a unit of analysis for this study. The individual broker is the unit the researcher studied and analysed to understand how technology adoption practises within that firm correlate with its organisational performance. The study considered technology adoption as an independent variable and organisational performance as a dependent variable, as illustrated in Figure 3.0.

4.6 Sampling technique and sample size

In research, a sample is defined as a subset of a larger population that represents the demographic characteristics of the overall population (Saunders and Lewis, 2018). In quantitative research, sampling and sample size play a crucial role in attempting to draw statistically supported conclusions about the study's findings for broader applications (Fox, 2007). Sampling is the process of selecting a subset of the population to estimate the characteristics of the full population and derive statistical inferences from them (Saunders & Lewis, 2018). This study employed a random probability sampling technique. Saunders and Lewis (2018) further assert that the random probability sampling technique ensures that every member of the population has an equal chance of being included in the sample that is chosen. This sampling technique was easy and economical to use. The rationale for this sampling technique is that the study results can be generalised to other insurance brokers across countries.

The target population from which the sample was to be taken had to be defined before a random (or probability) sample could be obtained. In this study, the targeted population is 216 insurance brokers. The sample size table by Krejcie and Morgan (1970) was used to calculate the sample size *(see Table 4.0).* As guided by the sample size table, the sample size for this study is 140.

Table 4.0: Table for determining the Sample Size for a Finite Population

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

By using a probability sampling technique, each broker had a 64.8% chance of being selected. It is worth noting that researchers typically work with a 95% confidence level, characterised by a 5% allowable error margin (Saunders and Lewis, 2018). This level of precision means that the researcher can be 95% confident that the sample of 140 brokers is a statistically sound representation of the larger population of 216 brokers.

The data for this study was collected over a 4-week period. It was important to acknowledge that 101 responses had been collected instead of the initially anticipated 140 at the end of the 4-week period. This discrepancy will be addressed in the subsequent phases of data analysis and interpretation.

4.7 Measurement Instrument

A questionnaire (see Appendix A) was used for data gathering, which had been carefully crafted to capture the relationship between technology adoption, technological readiness, internal expertise, and organisational performance. The different sections of the questionnaire were adapted from questionnaires used by different scholars in their studies.

Section	**Scholar(s)**
Demography	Venkatesan (2020); Hlahatsi (2020)
Technology adoption	Venkatesan (2020)
Technological readiness	Hlahatsi (2020); Ali et al. (2022)
Internal expertise	Hlahatsi (2020); Ali et al. (2022)
Organisational performance	Venkatesan (2020)

To ensure that the instrument was measuring the constructs consistently and systematically, a 5-point Likert-point rating questionnaire was used, ranging from "Strongly Disagree" to "Strongly Agree", in order to gauge the respondents' perceptions of their organisational performance when using new technology. Questions ranged from the performance of the brokers to the improvement of the broker’s performance.

To assess the extent to which technology had been adopted within insurance brokerages, a Likert scale was still used, with responses that ranged from "Not at all" to "Extensive adoption". The insurance brokers were also asked to rate their appetite for adopting technology, whether it was a priority in their respective companies, and whether they were

happy with the pace of adopting technology. The questionnaire also required the brokers to evaluate perceptions of the internal expertise of insurance companies ranging from "very low" to "very high" on a Likert scale. Respondents also rated how confident they were in their use of IT. The instrument similarly asked the brokers to evaluate their state of readiness to adopt technology on a scale ranging from "strongly disagree" to "strongly agree". The responses proffered by the brokers provided valuable insights into their perceptions and experiences, which formed the basis for drawing meaningful conclusions regarding the impact of technology on their performance.

The research instrument was first approved by the GIBS ethics committee before the researcher could start collecting data. Saunders and Lewis (2018) note that a questionnaire is suitable for a survey study because it can reach many people quickly, can solicit consistent responses, and is cost-effective.

4.8 Data Collection Method

Online questionnaires were used to collect the quantitative data for this study. The researcher used self-administered online questionnaires to collect data from insurance brokers. The structured e-questionnaire comprised five sections. The first section was a built-in consent form, which asked respondents to consent to participating in the survey. Section 2 was gathering demographic data about the respondents. The researcher wanted to know the gender, position, years of work, and number of employees employed by each broker. It is important to know the demographic data because the researcher wanted a diverse perspective; for example, managers and non-managers influence technology adoption differently. Moreover, knowing the size of the organisation is important, as different organisations will have different technological needs. Section 3 was about organisational performance and technology adoption. Sections 4 and 5 included questions on technology readiness and internal expertise, respectively. A five-point Likert scale of Strongly Agree to Strongly Disagree was used to assess the measurement items of the study (see Appendix A).

The questionnaires were distributed online via Google Forms, which gave the researcher an opportunity to gather and save responses with minimal challenges. The advantage of distributing the questionnaires online was that typing errors were minimised when capturing

the responses on an Excel spreadsheet before analysing the data. Moreover, an online questionnaire could be accessed anytime and anywhere, provided one had internet access. Zikmund (2010), however, cautions us that in self-administered questionnaires, the researcher does not have control over how quickly respondents complete the surveys or how well they comprehend the questions, which may result in inaccurate responses.

4.8.1 Administration of instrument

A questionnaire was self-administered online to collect data from insurance brokers, and a link was shared with respondents via email or WhatsApp. The respondents were contacted twice weekly during the four weeks of the data collection period. A consent form was attached to the questionnaire to indicate whether the respondents were willing to be the subjects of the study. In addition, the consent form also assured the respondents that their responses were going to be treated with the strictest confidentiality. These procedures were necessary in order to uphold research ethics.

4.9 Data gathering procedure

4.9.1 Pilot testing

The questionnaire was first shared with the researcher's MBA research supervisor to assess the questions to see if they served the intended purpose as well as check if the instrument covered the research objectives. The supervisor was also asked to check the flow of the questions and see if they were not leading. After the supervisor's approval, a pilot test was conducted as a second layer to make sure that the research instrument was valid and reliable. The questionnaire was pre-tested to ensure that the questions were clear and did not lead to a particular response. The responses of the people who were pilot-tested were not included in the final results of the study. This decision was made in order to maintain the integrity of the research, as respondents in the pilot test were likely to bring external influences to their responses. The pilot test had three objectives: to assess the clarity of the questions, to gauge the time required for completing the questionnaire, and to identify any potential spelling or grammar errors.

Five questionnaires were administered for the pilot study, targeting owners and managers of insurance brokerages in Botswana. The subjects for the pilot study were chosen because

they represented a subset of the insurance brokers in Botswana. The outcomes of the pilot test were positive. The respondents found the questionnaire easy to understand, with no significant spelling or grammatical errors. Furthermore, the piloted respondents indicated that it took an average of 13 minutes to complete the questionnaire, as opposed to the initially estimated 20 minutes. Consequently, the consent form was adjusted to reflect this time estimate. In the pilot study, the primary objective was to evaluate the questionnaire instead of providing substantive data related to the goals of the study. In the end, the pilot study played a crucial role in enhancing the quality and reliability of the research instrument, ensuring that the subsequent data collection process was both efficient and accurate.

4.9.2 Time horizon

A cross-sectional time horizon was selected for this study because it was in line with the research objectives, which were to investigate the effects of technology on the performance of insurance brokers in Botswana. Because of the research period stipulated by the university, the study used a cross-sectional time horizon, which involved gathering data from brokers during a specified time was suitable. Any data that came before or after the stipulated period was rejected because it was likely to contaminate the findings.

4.10 Measurement of the scales

4.10.1 Reliability

Reliability refers to the degree to which a tool used to analyse the variables is consistent and stable (Kumar 2018; Saunders and Lewis, 2018; Hair et al., 2020). It measures the internal consistency of the questionnaire. This study used Cronbach's Alpha to measure the internal consistency of the constructs for this study, which are technology adoption, technology readiness, and internal expertise. A Cronbach's alpha of 0.6 and above was acceptable (Zikmund et al., 2010). Other scholars recommend a Cronbach's alpha of above 7 as their benchmark (Ali et al., 2022; Niland, 2017; Hair et al., 2020). The results will be presented in Chapter 5.

The researcher eliminated factors that could have rendered the findings unreliable by ensuring that the instrument was authenticated by the supervisor and other researchers. It was also tested in a pilot study. To ensure that there was no collusion among the respondents,

the questionnaire was sent out to respondents at different times of the day who were at different places.

4.10.2 Validity

Validity measures the accuracy of the research instrument (Zikmund et al., 2010). The validity of the study was ensured by having a representative sample of true facts on the effects of technology adoption on organisational performance; both internal and external validity were maintained. External validity was improved by conducting a pilot test of the questionnaire. Sufficient time was allocated for data collection and analysis to ensure that the output was accurate.

Construct validity is important for this study because it checks whether the tool used for the study measures the constructs accurately. The researcher used confirmatory factor analysis (CFA). The CFA is used to assess the validity of a research model and its associated measurement scales, with a specific focus on ensuring that the scales effectively measure the same underlying constructs. This is important for ensuring the reliability and accuracy of the research findings. The loading estimates and construct reliability were examined in order to evaluate convergent validity.

4.10.3 Dealing with Missing Values

Before analysing the data, the researcher transferred the responses from Microsoft Google Forms to Microsoft Excel and prepared it by cleaning it up and checking for missing values. Venkatesan (2020) maintains that removing redundancies is important because it improves the reliability of the findings. The researcher used Little's MCAR test to assess whether the missing data in a dataset is consistent with the MCAR assumption. Listwise or case deletion will be adopted if the assumption of MCAR is met, and rows containing these missing values will be removed from the data set.

It's important to note that MCAR is considered the most favourable mechanism for missing data because it implies that missing data points are not systematically biassed in any way. Researchers use Little's MCAR test to assess whether the MCAR assumption is reasonable

for their dataset, and if it is, they can use various imputation techniques to handle the missing data without introducing substantial bias.

4.10.4 Detecting and Removing Outliers

The researcher used the Z-score method to detect outliers. The Z-score method was used because it provides a way to quantify how extreme or unusual a data point is relative to the rest of the data. Data points with Z-scores that are significantly larger or smaller than 2 as the set threshold (Z >2 or Z <−2) are considered outliers and will be removed as they have the potential to introduce variations to the data and skew the findings. Outliers can also inflate the estimates of Cronbach's alpha (Liu et al., 2010). Inflated alpha values could give a false impression of the reliability of the scale, as they may indicate better internal consistency than what actually exists when outliers are considered.

4.11 Data Analysis and Presentation

After the data was cleaned and checked for validity and reliability, it was uploaded into an IBM Statistical Package for Social Sciences (SPSS), where it was coded using auto-coding. This was to allow for statistical analysis. The researcher used tables, pie charts, and bar graphs to communicate the findings.

A statistical method known as 'factor analysis' was further used to analyse the variables (Zikmund et al., 2010). Factor analysis was used to reduce data complexity, uncover the structure of relationships among variables, and simplify data by identifying common factors that influence those variables (Ali et al., 2022). The Bartlett's Test and the Kaiser-Meyer-Olkin (KMO) Test are the two techniques for determining factorability or sampling adequacy. Bartlett's test of sphericity is used to examine whether the correlations between the observed variables in a factor analysis are statistically significant. If the test results in a statistically insignificant p-value ($p > 0.05$), it suggests that the factor analysis is not feasible. Shifting focus to the KMO Test, this method is used to assess the suitability of data for factor analysis. It calculates a KMO value, and if this value is less than 0.6, it indicates that the dataset does not have enough shared variance among the observed variables, making factor analysis inappropriate. This means questions cannot be grouped; they have to be analysed at the individual question level. For this study, validity assessment was done at the construct level.

Moreover, the researcher used Spearman's rank correlation for analysis because it aligns with the research goals and works well with the dataset collected. The researcher examined the relationships between technology adoption, internal expertise, and technological readiness as independent variables and their impact on organisational performance as the dependent variable within the insurance brokerage sector in Botswana. The spearman's rank correlation was a fitting methodological approach because the data collected consisted of non-parametric variables that may not adhere to the assumptions of normal distribution. Additionally, the researcher recognised that the nature of the insurance brokerage industry in Botswana may introduce outliers, making Spearman's rank correlation an ideal choice due to its resistance to extreme values. The strength of this correlation analysis method is to ensure the reliability and accuracy of the findings in addressing the research hypotheses.

4.12 Quality Controls

Subject bias occurs when respondents do not give honest responses, assuming it may portray them badly. This was mitigated by assuring confidentiality and also reporting the responses as aggregated data. Observer error may occur when the researcher asks questions in a way that may be misinterpreted. This error was mitigated by piloting questions to ensure that the questions were clear and easy to understand.

To check if the measurement scale was reliable, the researcher used Cronbach’s alpha, and to test for the validity of the data, the researcher used factor analysis.

4.13 Ethical considerations

The researcher complied with the ethics guidelines of GIBS when the data was collected. No minors or mentally incapacitated respondents were involved in the study. Moreover, no data was collected before the approval of the ethics committee. In addition, personal information about the respondents was not captured.

4.14 Data storage and perseveration

A folder containing the raw data was stored in my Google Drive, and a second copy was stored on my external hard drive. This was necessary in order to guarantee the secure

preservation of the data for a minimum of 10 years, which can only be accessed by using a secret password. The information in the folder is indexed to make it easy for authorised persons to access it during the 10-year period. The stored data would be periodically transferred to newer versions in order to keep up with technological changes.

4.15 Limitations

The methodological limitation of the study could be the use of a questionnaire, which can be flawed due to the sampling technique used. For example, the discrepancy between the true value of the broader population and the sample that was chosen may lead to a random sampling error. To minimise this problem, the researcher ensured that the 140 sampled insurance brokers would truly represent the insurance brokers in Botswana.

Errors in the design of study questions, such as leading questions that reveal the researcher's prejudices, can lead to systematic inaccuracy, which is another potential methodological drawback. To avoid these potential threats to the validity of the research instrument, the researcher involved other research specialists to verify the accuracy of the questions and their relevance to the research questions and objectives.

Also, there may be a limitation caused by a cross-sectional time horizon selection. The fact that the study was conducted within a set period of time compelled the researcher to ignore data that was not yielded within the time frame of the research period. Also, some of the respondents failed to complete the survey because they either did not have internet or airtime to complete the questionnaire on their mobile phones.

Lastly, since the researcher’s current role as a relationship manager for brokers made one an interested party in the research phenomenon, this might have influenced the way the respondents answered the research questions. They might have given answers that they thought would please the researcher, as she is one of their colleagues. Some supervisors were uncomfortable with me getting in touch with brokers who worked directly for them, even if they didn't say it out loud. This made some brokers more likely to provide information that was intended to appease their bosses rather than the whole truth.

4.16 Conclusion

This chapter has described in some detail the methods used for data collection, such as the approach, strategy, research philosophy, research population, sampling technique, data collection procedures, analysis, and ethical considerations that underpin the entire process of data collection. To facilitate easy access to the research population, a list of insurance brokers was downloaded from the NBFIRA website. A probability sampling technique was used to select the respondents to whom a questionnaire was sent electronically, and data was collected using Microsoft Google Forms. The data were analysed using the SPSS software, and the results were quantified using descriptive statistics. To check the validity and reliability of the instrument, the KMO factor analysis and Bartlett's and Cronbach's alpha were used. To test the hypotheses posited, Spearman's rank correlation was used. In the next chapter, the researcher discusses the findings, focusing on the research objectives of the study.

CHAPTER 5: DATA ANALYSIS AND RESULTS

5.1 Introduction

This chapter presents results from data collected and analysed from insurance brokers across Botswana. The data was collected using online Google Forms. The first section of this chapter displays the characteristics of the survey data and the demographic variables of insurance brokers. The section also outlines the descriptive statistics of the survey responses with regard to organisational performance, technology adoption, technology readiness, and internal expertise. The results for this section were prepared using IBM SPSS version 22. The second section covers inferential statistics. Firstly, an assessment of the measurement model with regard to the reliability and validity measures is presented. The validity of the scales was assessed using confirmatory factor analysis (CFA), and the internal consistency of the measurements was ascertained by conducting additional statistical tests related to the validity and reliability of the scales. For hypothesis testing, Spearman rank correlation was utilised to test for the relationship between the dependent and the independent variables. With that said, all inferential analyses were performed using Python.

5.2 Descriptive statistics

5.2.1 Characteristics of Surveyed Data

Descriptive statistics were employed to summarise the characteristics of the data. Data was collected from 101 respondents over a four-week period, spanning from July 27, 2023, to August 20, 2023, resulting in 101 responses. The survey was closed on August 21, 2023, because responses were not forthcoming despite biweekly reminders throughout the four-week period. During the data collection phase, responses were distributed as follows: Week 1 yielded 34 responses, Week 2 generated 52 responses, Week 3 obtained 7 responses, and Week 4 had only 8 responses.

Table 1 depicts the number of missing responses per section of respondents. The study observed 5.9% (6/101) of missingness, and this missingness was missing completely at random (MCAR), as depicted by Little's MCAR (p-value = 1.00). Due to the above-mentioned assumption, listwise or case deletion was adopted since the assumption of MCAR was met,

and rows containing these missing values were removed from the data set. From this process, the remaining sample size was 95.

Table 1: Summary of missing responses detected per section

Section Detail	**Variable**	**Frequency**
A: Demographics	Question 1: Gender	1
B. Organisational Performance	-	-
C: Technology Adoption	Questions 11 & 15	2
D: Technology Readiness	Questions 17 & 19	2
E: Internal Expertise	Question 26	1
Missing values removed		6
Remaining sample		**95**

Note: - represents not applicable

The next step was to detect the outliers in the remaining sample size of 95. The Z-score method was used because it provides a way to quantify how extreme or unusual a data point is relative to the rest of the data. Data points with Z-scores that are significantly larger or smaller than a certain threshold, for example, $Z > 3$ or $Z < -3$, are considered outliers, and the threshold was set to 3 to determine the outliers in our dataset (Anusha et al, 2019). Table 2 shows that only variable '**Question 7'** contained an outlier and this outlier was removed as outliers can inflate the estimates of Cronbach's alpha (Liu, Wu and Zumbo, 2010). Inflated alpha values could give a false impression of the reliability of the scale, as they may indicate better internal consistency than what actually exists when outliers are considered. After the removal of cases containing missing values and outliers, a sample size of 94 was considered for analysis.

Table 2: Summary of outliers detected per section using Z-score method

Section Detail	Variable	Z-score (> 3 or < -3)	Frequency
B.Organisational Performance	Question 7	3.107	*1
C. Technology Adoption	-	-	-
D. Technology Readiness	-	-	-
E. Internal Expertise	-	-	-
Total outliers removal			*1
Total useful sample			**94**

Note: Z-score > 3 or < -3 is considered an outlier. *Number of outliers detected. – represents not applicable

5.2.2 Profile of the respondents

According to the results, the majority of respondents were males (64%), compared to females (Figure 1). With regard to the seniority of the job position, 44.8% of respondents were owners of brokerages, 22.9% were senior managers, and 19.8% were non-managers. 12.5% of respondents were junior managers (Figure 2).

Figure 1: Gender distribution

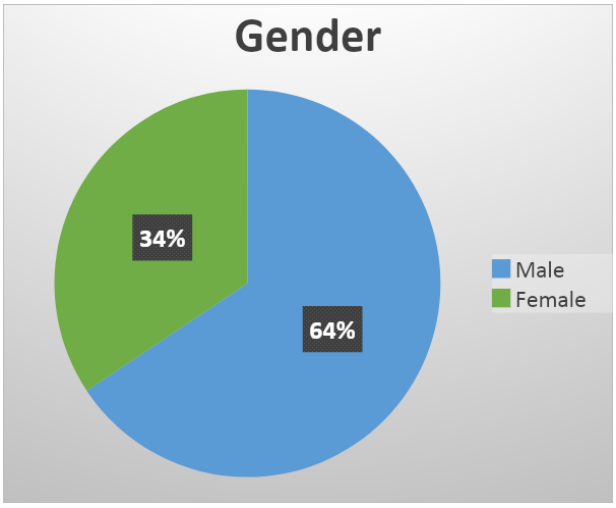


Figure 2:Job position of respondents

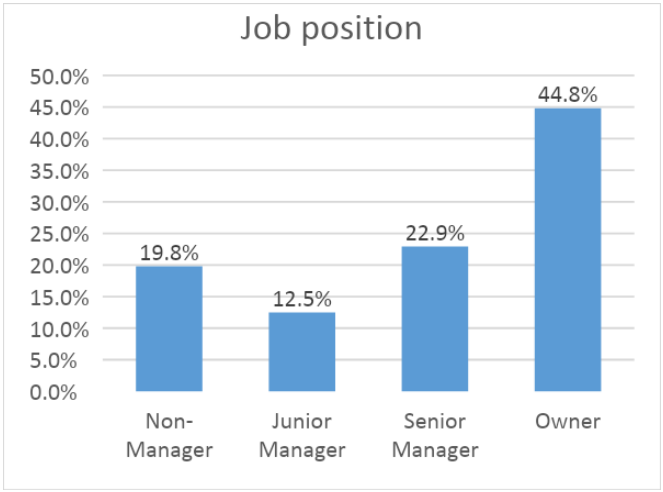


Figure 4: Years with broker

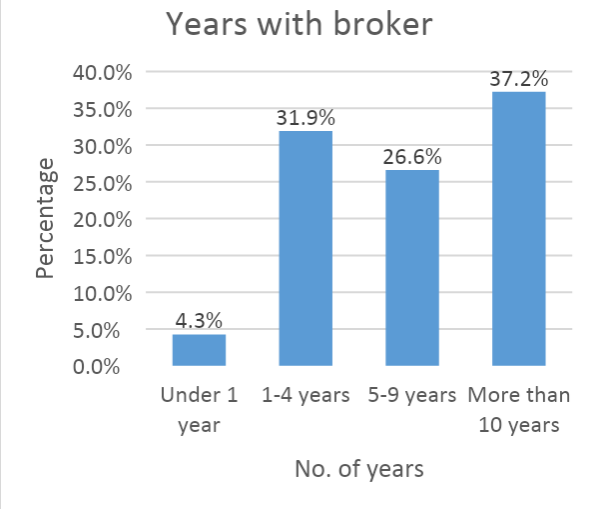
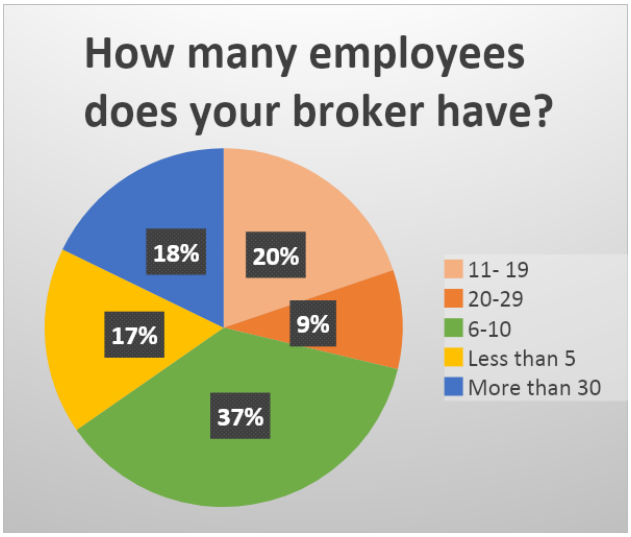


Figure 5: Broker size

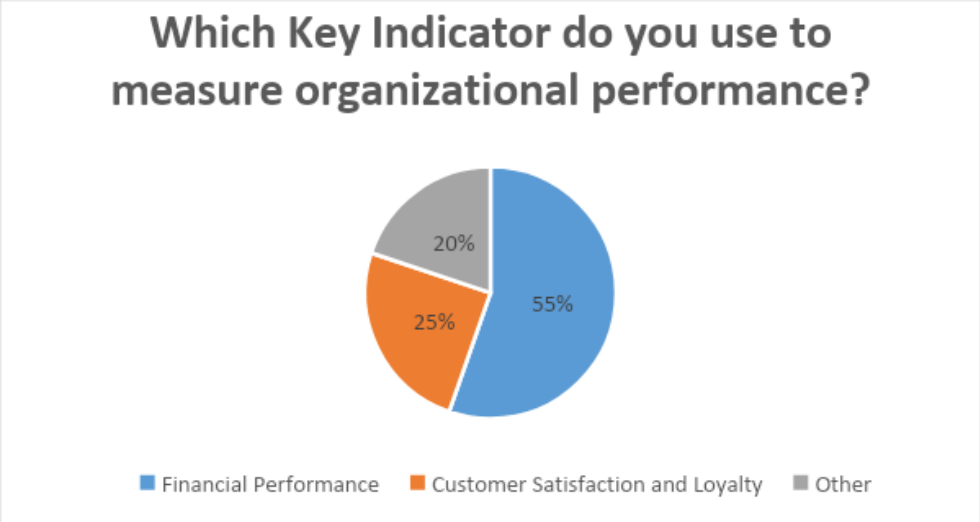


Respondents were asked to state the years they have been working at their different brokers. The results obtained revealed that 37.2% of respondents had been working with their brokers for more than 10 years, followed by those who had been with their brokers for one to four years (31.9%). 26.6% indicated that they had been with their broker for five to nine years, and 4.3% of respondents had under one year with their broker (see Figure 4).

In relation to how many employees the broker has, 36% of brokers hired six to ten employees, followed by those who hired 11 to 19 employees (20%) and more than 30 employees (18%). On the other hand, 17% of brokers had less than five employees, while 9% had hired 20 to 29 employees (Figure 5).

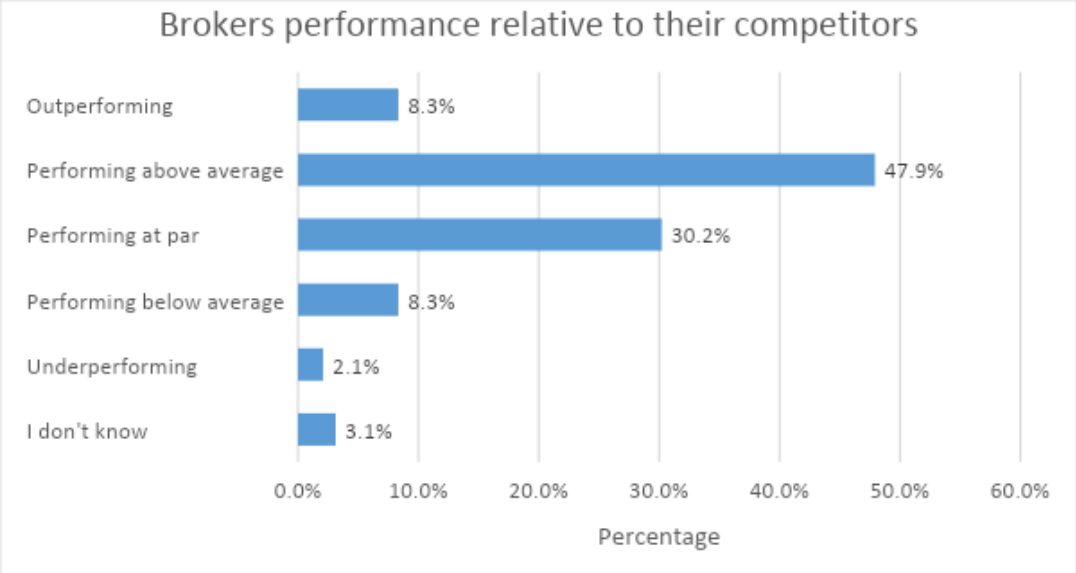
5.2.3 Organisational Performance

Figure 6: Key indicator to measure organisational performance



The results revealed that 55% of brokers use their financial performance to measure their overall performance, compared to 25% who use customer satisfaction and loyalty and those who use other measures (20%). See Figure 6.

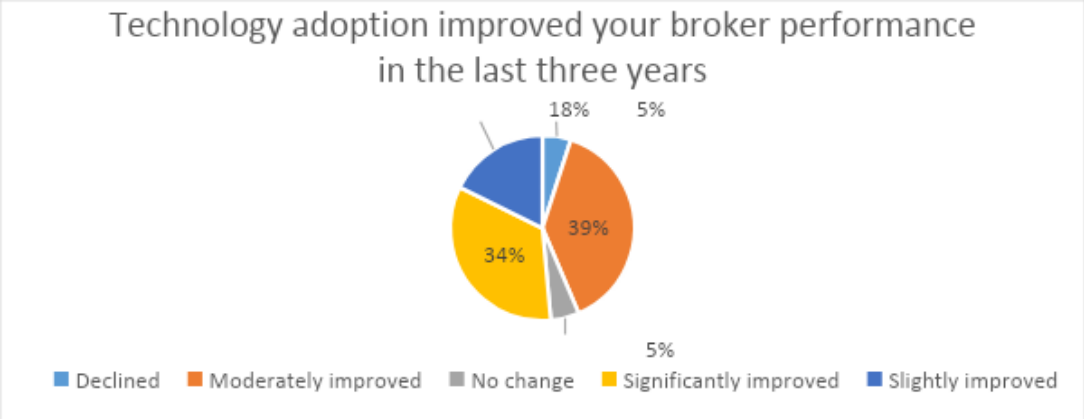
Figure 7: Broker performance relative to their competitors



Based on how the broker is performing relative to competitors, 47.9% of respondents indicated that their broker was either performing above average or at par (30.2%). Meanwhile,

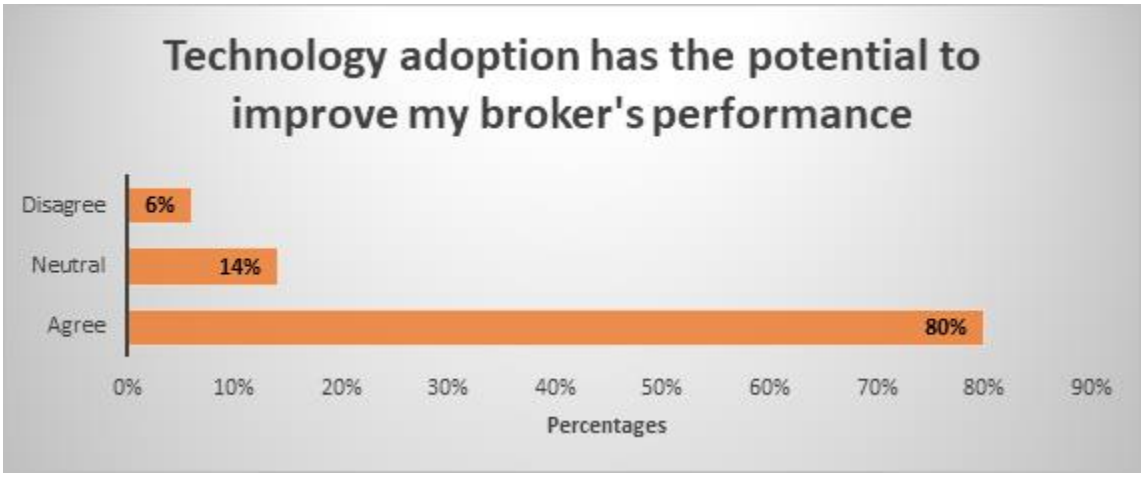
2.1% stated that their broker was underperforming or performing below average (8.3%), while 3.1% could not tell how their broker was performing (see Figure 7).

Figure 8: Technology adoption improved performance in the last 3 years



With regard to the impact of technology adoption on improving broker performance in the last three years, 34% of respondents stated that there was significant improvement, while 39% stated that there was moderate improvement. Those who said the performance of brokers had declined were 18%, followed by 5% who indicated that the performance had declined or there was no change at all in the last 3 years (Figure 8).

Figure 9: Technology adoption has the potential to improve broker performance



According to whether technology adoption has the potential to improve broker's performance, 80% of the respondents agreed, while 20% remained neutral. The remaining respondents (6%) disagreed that technology adoption has the potential to improve their broker's performance. (Figure 9).

5.2.4 Technology adoption

With regard to technology adoption, the results revealed that 44.7% of the respondents indicated that their broker had a high appetite for technology adoption, while 47.9% indicated that the appetite was medium. Of those who indicated a high appetite for technology in their broker, 52.4% were the owners of the insurance brokers. Concerning the broker's open budget for technology adoption, 47.9% of the respondents agreed that their broker had an open budget for technology adoption. Nonetheless, 41.5% of the total respondents remained neutral on the issue of budget. Furthermore, 61.1% of those who remained neutral were those in non-managerial positions and those who were in junior management positions (50%).

Looking at the prioritisation of technology adoption, 68.1% of respondents indicated that technology adoption was prioritised in their organisation. In addition, 68.1% of respondents indicated that their broker has moderately adopted technology. The digital transformation journey in the past 5 years has been rated average (52.1%), above average (27.7%), and poor (20.7%), respectively. In relation to whether they were satisfied with their broker's current technology adoption pace, 31.9% of respondents agreed, 47.9% were neutral,l and 20.2% disagreed. Moreover, 35.7% of the owners agreed, 47.6% were neutral, and 16.6% disagreed in the latter regard. Lastly, 95.7% of respondents stated that the implementation of ICT systems for their company is vital. (See Appendix 1).

5.2.5 Technology readiness

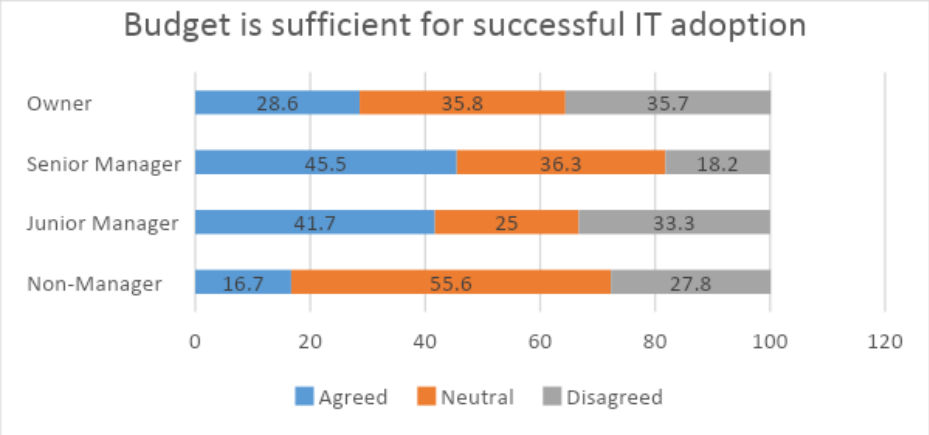
According to the results, 51.1% of respondents agreed that they were confident in their broker's preparedness for future digital waves, 43.6% were neutral, and 5.3% disagreed. In addition, 34.1% agreed that their broker was technologically prepared compared to their competitors and that they had sufficient technological resources for successful IT adoption (45.7%). Furthermore, 66% of respondents agreed that their broker's IT infrastructure has the potential to accommodate future growth or technological advancements.

However, respondents were not confident enough as to whether their broker's IT budget was sufficient for successful IT adoption since 31.9% of the respondents agreed to this, 26.6% disagreed, and 38.3% remained neutral (see Table 3). Further analysis was performed to determine respondents who remained neutral or were not sure of a sufficient IT budget for IT adoption. The analysis revealed that 55.6% were in non-managerial positions. In addition, 45.5% of senior managers agreed that their broker's IT budget was sufficient for successful IT adoption (Figure 10).

Table 3: Summary statistics of technology readiness

		N	**%**
I am confident in my broker's preparedness for future digital waves	Agree	48	51.1
	Neutral	41	43.6
	Disagree	5	5.3
My broker is more technologically prepared compared to our competitors	Agree	32	34.1
	Neutral	41	43.6
	Disagree	21	22.3
My Broker's technological resources are sufficient for successful IT adoption	Agree	43	45.7
	Neutral	33	35.1
	Disagree	18	19.2
My Broker's IT infrastructure including servers, databases, security systems, or cloud computing resources is sufficient for successful IT adoption	Agree	45	47.9
	Neutral	29	30.9
	Disagree	20	21.3
My Broker's IT infrastructure has the potential to accommodate future growth or technological advancements	Agree	62	66.0
	Neutral	19	20.2
	Disagree	13	13.8
Our IT budget is sufficient for successful IT adoption	Agree	30	31.9
	Neutral	36	38.3
	Disagree	25	26.6

Figure 10: IT Budget is sufficient for successful IT adoption by job position



5.2.6 Internal expertise

Table 4: Summary statistics of internal expertise

		N	%
How would you rate your overall employee IT knowledge?	High	31	33.0
	Moderate	41	43.6
	Low	22	23.4
How confident are you in your IT knowledge and skills in your broker?	Confident	50	53.2
	Not confident	44	46.8
How do you rate your broker's IT expertise in assisting in adopting new technology?	High	33	35.1
	Moderate	44	46.8
	Low	17	18.1
I am satisfied with the support or guidance available when implementing IT solutions within my organisation.	Agree	38	40.4
	Neutral	32	34.0
	Disagree	24	25.5
	High	37	39.4
	Moderate	40	42.6

How do you rate your organization's technical competence?	Low	17	18.1
How effectively does your organisation stay updated with emerging IT trends and implement relevant technologies?	Effective	76	80.9
	Not effective	18	19.1

In relation to internal expertise, respondents were asked to rate their overall IT knowledge; 43.6% of respondents rated it moderate. In addition, 53.2% indicated that they were confident in their broker's IT knowledge and skills. However, 35.1% of respondents rated their broker's IT expertise in assisting in adopting new technology as high compared to those who rated it at moderate (46.8%). Respondents stated that they were satisfied with the support or guidance available when implementing IT solutions within their organisation at 40.4%. Meanwhile, 42.6% of respondents rated their organization's technical competence as moderate. Lastly, 80.9% of respondents stated that their organisation was effective in staying updated with emerging IT trends and implementing relevant technologies (see Table 4).

5.3 Factor analysis

Factor analysis is used to reduce data complexity, uncover the structure of relationships among variables, and simplify data by identifying common factors that influence those variables (Ali et al., 2022). In order to identify coherent factors in the dataset, factor analysis must first assess factorability, which is the presumption that there is at least some correlation among the observed variables. Bartlett's Test and the Kaiser-Meyer-Olkin (KMO) Test were used for checking factorability.

For technology readiness, internal expertise, and organisational performance constructs, the p-value is 0. This indicates that the factor analysis is feasible. Shifting focus to the KMO Test, for this study, validity assessment was done at the construct level. Bartlett's test was statistically significant, indicating that the observed correlation matrix is not an identity matrix

(p-value = 0.00). Moreover, the overall KMO for the data was 0.82, which is excellent and indicates that the researcher can proceed with the factor analysis.

Table 5: KMO and Bartlett's test for factor analysis

Construct/Scale	**Kaiser-Meyer-Olkin**	**Bartlett's Test of Sphericity**	
		Chi-Square (χ^2)	**p-value**
Technology readiness	0.77	96.29	0.000
Internal expertise	0.83	294.32	0.000
Organisational Performance	0.62	28.51	0.000

Source: Author

5.3.1 Confirmatory factor analysis

Validity checks if a measurement tool is valid and whether it captures the data that was intended (Blunch, 2013; Hair et al., 2020). Confirmatory factor analysis (CFA) was conducted for this study to assess the construct validity of technology adoption, internal expertise, technological readiness, and the scales.

Table 6: Fit Statistics

Goodness-of-fit statistics	**Values**	**Desired range of values for a good fit**
χ^2	58.46, p = 0.04	p > 0.05
RMSEA	0.07	< .08
GFI	0.88	> .90
AGFI	0.83	> .90
NNFI	0.94	> .90
CFI	0.96	> .95

Source: Author

CFA was performed using the package *semopy* in Python to measure the uni-dimensionality, convergent, and discriminant validity. The CFA results provide overall fit indices (χ^2 = 58.46,

p-value = 0.04), RMSEA (root mean square error of approximation) = 0.07, GFI (goodness-of-fit) = 0.8408, AGFI (adjusted goodness-of-fit) = 0.83, CFI (comparative fit index) = 0.96 and NNFI (non-normed fit index) or TLI = 0.94 (see Table 6). As it can be seen from Table 6, the goodness-of-fit of the final model indicated "reasonable or good fit" or RMSEA = 0.07. All things considered, these numbers show that the model is sufficiently fit and sufficient to be evaluated (Hair et al., 2019).

Table 7: CFA summary of construct validity and reliability of all constructs

Factor/Item	**Factor Loading**	**CR[a]**	**AVE[b]**
Technical Readiness		**0.97**	**0.92**
T1. I am confident in my broker's preparedness for future digital waves	0.15		
T2. My Broker's technological resources are sufficient for successful IT adoption	1.01		
T3. My Broker's IT infrastructure including servers, databases, security systems, or cloud computing resources is sufficient for successful IT adoption	1.06		
T4. My Broker's IT infrastructure has the potential to accommodate future growth or technological advancements	1.25		
T5.Our IT budget is sufficient for successful IT adoption	0.93		
Internal Expertise		**0.87**	**0.55**
I1.How would you rate your overall employee IT knowledge?	0.67		
I2.How confident are you in your IT knowledge and skills in your Broker?	0.63		
I3.How do you rate your broker's IT expertise in assisting in adopting new technology?	0.89		
I4.I am satisfied with the support or guidance available when implementing IT solutions within my organization.	0.99		

I5.How do you rate your organisation's technical competence?	0.78		
I6.How effectively does your organisation stay updated with emerging IT trends and implement relevant technologies?	0.26		
Organisational Performance		**0.61**	**0.36**
OP1. How is your broker performing relative to your competitors?	0.42		
OP2. Has technology adoption improved your broker performance in the last three years?	0.50		
OP3. technology adoption have the potential to improve my broker's performance?	0.81		

Notes*: [a]Composite reliability = (square of the summation of the factor loadings)/ {(square of the summation of the factor loadings) + (square summation of the error variances)}; [b]Average variance extracted = (summation of squared factor loadings)/ {(summation of squared factor loadings) + (summation of error variances)}*

Convergent validity was further evaluated by looking at individual reliability (CR) and average variance extracted (AVE), as seen in Table 7. Most of the items had factor loadings greater than the 0.4 threshold. Due to the factor loadings of items I6 and T1 being less than 0.4, they were removed. Internal expertise ranged from 0.26 to 0.99, technological preparedness from 0.15 to 1.23, and organisational performance from 0.42 to 0.81 in terms of factor loading estimates. AVE values for technical readiness and internal expertise were all above 0.5, confirming the convergent validity. Shifting the focus to organisational performance, the AVE value was 0.36, and this number does not mean that there was no convergent validity due to the fact that composite reliability was more than 0.6. Therefore, convergent validity was realised.

5.3.2 Reliability indicators

Reliability is the consistency with which a technique measures a construct (Hair et al., 2020). A measurement is deemed reliable if it regularly yields the same result when the same procedures are followed in the same conditions (Basto & Pereira, 2012). For this study, the

internal reliability of each construct was tested using Cronbach's alpha, and a value of 0.6 and higher was considered acceptable. (Zikmund et al., 2010). Other scholars recommend a Cronbach's alpha of above 7 as their benchmark (Ali et al., 2022; Niland, 2017; Hair et al., 2020).

Table 8: Reliability statistics

Scale	No of items	Cronbach's alpha
Technology Adoption	7	0.64
Technology readiness	5	0.73
Internal expertise	6	0.81
Organisational Performance	3	0.60

Source: Author (2023)

The scales are reliable, as Cronbach's alpha estimates are all greater than 0.60. Internal expertise and technology readiness are very reliable since they have a Cronbach's alpha of more than 0.70. Items on Technical Adoption and Organisational Performance are not too reliable since the Cronbach's alpha value is less than 0.70; however, they are acceptable as they exceed the threshold of 0.60 (see Table 8).

5.4 Research hypotheses

5.4.1 Research hypothesis 1

The first research question sought to understand the relationship between technology readiness and organisational performance. This was done through hypothesis 1:

H_1 : there is a relationship between technology readiness and organisational performance

A Spearman's rank correlation was used for correlation analysis to answer research hypotheses. Statistical significance was declared at a *p-value* < 0.05. The results as displayed in Table 9 below indicated that there is an insignificant weak positive correlation between technology readiness and organisational performance (r = 0.123, p-value = 0.233). Therefore,

we failed to reject the null hypothesis, which suggests that there is no relationship between organisational performance and technology readiness.

Table 9: Correlation analysis between technology readiness and organisational performance

	Spearman rho correlation coefficient, r	p-value (2 tailed)	N
Technology Readiness	0.123	0.233	94

5.4.2 Research hypothesis 2

Similarly, Spearman's rank correlation was used to address the following research null hypothesis 2:

H_2**: There is a relationship between internal expertise and organisational performance**

Table 10: Correlation analysis between organisational performance and internal expertise

	Spearman rho correlation coefficient, r	p-value (2 tailed)	N
Internal expertise	0.369**	0.000	94

Note: **Correlation is significant at the 0.01 level (2-tailed) i.e., $p < 0.01$.

The results from Table 10 show that there was a significant moderate positive correlation between organisational performance and internal expertise ($r = 0.369$, p-value < 0.01). Therefore, the null hypothesis is rejected in favour of the alternate hypothesis H_2 as our p-value is less than our significant level. Thus, this relationship shows that with an increase in internal expertise, there is an increase in organisational performance.

Chapter 6: DISCUSSION OF RESULTS

6.0 Introduction

This chapter presents insights from the results drawn in Chapter 5. These insights will be linked to the literature review and the research hypothesis. The main focus of the discussion is to understand the effects of technology adoption on organisational performance for Insurance Brokers in Botswana. The aim of this research was to measure the relationship between technology adoption on organisational performance through technology readiness and internal expertise constructs. The study findings are discussed in the context of empirical literature review and theoretical lens of the Technology-Organization-Environment (TOE) framework and Diffusion of Innovation (DOI) theory. The study results will be compared with the study findings of the previous scholars and scrutinized to see if the study results are identical or different. This analysis will provide better insights to the policymakers when making decisions with regard to technology adoption and its impact on organisational performance.

6.1 The measurement instrument

The data collected for this study was from 101 responses and it was collected over 4 weeks. Six respondents did not answer some of the questions and they were removed from the data set. The missed questions were confirmed to be missing completely at random, there was no pattern and this suggested that the questions were skipped by mistake. This is a good indicator that the instrument used to collect data for this study was clear and easy to understand. This was translated to the questionnaire completion rate of 94.4%.

The instrument used to collect data for this study was checked for reliability before any further analysis was done. The instrument was confirmed to be reliable. Moreover, each construct for the study was assessed for validity, and it was found that there was internal consistency, the questions under each construct measured what they were supposed to measure.

6.2 The profile of respondents

According to the results, the majority of respondents were males compared to females. This is attributed to the fact that in most economies including Botswana the labour market is male-dominated, despite the fact that in Botswana females (51.24%) are slightly more than males (Ottawa, 2023). In addition, women around the world provide unpaid caregiving three times longer than males do (United Nations, 2022). Furthermore, since technology has historically been a field dominated by men, gender stereotypes about the industry also make it difficult for people to enter and advance in it (Hlahatsi, 2020).

With regard to work experience, the results revealed that most respondents were experienced on the job with above 5 years of experience. This communicates that people stay longer in their jobs. This is a contradiction to the industry's belief that employees in the insurance brokerage are highly mobile. Employees may be reluctant to move because of the high unemployment rate of 25.4% in 2022 in Botswana (Botswana MPO, 2022). Moreover, the other possible reason for this high staff retention is that the majority of the respondents were owners of brokers and people in senior management positions (67.7%). In relation to how many employees the broker has, the analysis indicated that the majority of brokers hired less than twenty employees. With 23 insurers providing individual and corporate products in life and non-life business, and roughly 400,000 nominally employed adults, Botswana's insurance industry is generally quite small (Mitchell, 2020). In this regard, Insurance Brokers are positioned at a low or medium scale hence they end up not hiring a lot of employees.

6.2 Organisational performance of insurance brokers

The researcher wanted to know the indicator used to measure organisational performance in for insurance brokers. The study findings revealed that financial performance is used to measure the overall performance of the brokers, followed by customer satisfaction and customer loyalty. The results of this investigation are consistent with those of Katsuri's (2006) study, which indicated that the financial metrics used to assess the performance of insurance companies, these metrics include net premium earned, underwriting profitability, annual turnover, return on investment, and return on equity. This sentiment was also corroborated by Delaney & Huselid (1996) who confirmed that organisational performance in the insurance sector is often measured in financial terms.

The literature review revealed that financial performance is one of the components that can be used to measure organisational performance (Vial, 2019; Jiangou, 2022, Sabu, 2023). Also, al Hammadi and Hussain (2019) are of the view that organisations should use key performance indicators such as the aforementioned to assess their overall organisational performance. Hence the results obtained fulfill this view since organisations have adopted various measures for organisational performance. On the other hand, Thathsarani and Jianguo (2022) argue that an organisation's performance can be judged by both its financial and non-financial resources: the former is the amount of quantifiable financial success that a company has attained including assets, sales, net income and investments while the latter refers to growth in market share, reputation, the quality of service and social networking. This infers that the results obtained fulfill this view since Insurance Brokers are using various measures for organisational performance like financial performance, customer satisfaction, and customer loyalty as depicted in Figure 6.

Based on how the broker is performing relative to competitors, the majority of respondents indicated that their broker was either performing above average or at par. Meanwhile a few respondents, less than 10% stated that their broker was underperforming or performing below average while some could not tell how their broker was performing. These results imply that organizations that adopt technology perform better than their competitors. Chouki et al. (2020) affirmed that digital transformation awards firms a competitive advantage. Khin (2019) and Matzler et al. (2018) also supported this by mentioning that companies must adopt digital transformation to avoid the risk of being displaced by competitors who do. The analysis further revealed that the impact of technology adoption on improving broker performance in the last three years.

6.3 The extent of technology adoption by Insurance Brokers in Botswana

The analysis of technology adoption by insurance brokers in Botswana revealed that most respondents indicated that their Insurance Broker had a high or medium appetite for technology adoption. The respondents also agreed that their broker had an open budget for technology adoption. Furthermore, the majority of the respondents indicated that technology adoption was prioritized at their organization, however, in terms of the extent to which the

organization has adopted technology, while others stated that technology has been moderately adopted by their organization. This implies that in general Insurance brokers have embraced the use of technology although their budget may be low given that respondents who stated that their broker has an open budget for technology adoption are below fifty percent.

The literature review highlighted that over the past few years, there has been an upsurge in the use of digital transformation (Chanias et al. 2019). In support, existing reports stated that most insurers understand that digitizing the business is necessary in the near future hence overall, digital investments are on the rise (Matouschek et al. 2021). Nonetheless, Chouki et al. (2020) contended that little attention has been paid to the modalities of implementing IT. The analysis attests by revealing that the broker's digital transformation journey in the past 5 years was mostly rated on average. Therefore, although Insurance Brokers have embraced, adopted, and invested in technology they need to put more effort in order to improve productivity.

6.4 Technology adoption and organisational performance

The key objective of the research was to assess the effects of technology adoption and its effects on organisational performance. The study findings indicate that technology adoption has improved and has the potential to improve the organisational performance of insurance brokers. This finding is in line with the study findings by (Sabu, 2023; Cappiello, 2020; Njegomir et al., 2021; Pisoni, 2021; De, 2022; Rice-Boshi, 2023) who all concurred and posited that technology adoption improves organisation efficiency, effectiveness, and service delivery among other positive contributions. This finding also agrees with and is supported by the Technology-Organization-Environment theory (Davis et al. 1989; Lam et al. 2008; Son and Han 2011) which postulates that technology adoption helps to streamline work activities which improves business efficiency and facilitates service delivery.

For example, in the case of the insurance industry technology adoption helps to build more efficient and transparent claims procedures, which will cut down on fraud and increase the accuracy of claim settlements. The way customers interact with brands is changing as a result of Chatbots and other digital assistants. Customers may now communicate with brokers

around the clock and receive prompt answers to their queries and worries. As a result, customer support staff has less work to do and are able to concentrate more on improving customer happiness. The insurance sector is being significantly impacted by technology (Boobier, 2020). This implies that technology adoption positively impacts organisational performance. In support, al Hammadi and Hussain (2019) stated that utilizing technology has a direct impact on productivity and is associated with organisational performance.

6.5 Technology readiness and organisational performance

According to the results depicted in Table 3, the respondents agreed that they were confident with their insurance broker's preparedness for future digital waves. This finding seems to be true because the existing literature indicated that Botswana ranks 108th out of the 131 economies included in the Network Readiness Index of 2022 with its main strength relating to technology (NRI 2022). Vision 2036 also speaks loudly with regard to transforming Botswana into a knowledge-based economy. One of the pillars to drive this goal is ICT to accelerate the production of goods and services. Therefore, insurance brokers are better positioned with technology readiness. Moreover, Louise Mitchell (2020) emphasized that Botswana's business environment is less challenging, and the World Bank's 2019 Doing Business report ranks Botswana 86 out of the 190 countries surveyed, however, she contended that the market for insurance is relatively low in Botswana.

The study's findings reveal a weak positive relationship (r=0.123) between technology readiness and organisational performance, with a p-value of 0.233. This suggests that as technology readiness increases, there is a slight improvement in organisational performance. These results align with the diffusion of innovation theory (Rogers, 1957; Ali et al., 2022), which posits that the compatibility and complexity of technology can either facilitate or hinder technological innovation. For instance, when technology is compatible and easy to understand, it is more likely to attract the interest of insurance brokers, encouraging the adoption of digital transformation within the insurance sector. On the contrary, if new technological advancements are complex and incompatible, they may serve as barriers to technology adoption. This finding was also confirmed by Sabu, (2023) who posits that technology readiness is positively linked to organisational performance. However, in the context of Botswana, despite the efforts the Government is making to close the digital gap,

especially between urban and rural areas, there are still disparities. Letsholathebe (2022) highlighted that with the global divide, the availability and use of technologies are far from optimal in developing countries. As a result, exposure to crucial competencies that engender the drive for innovation is thus not adequate and the technological know-how is still a challenge. The study findings by Parasuraman and Colbyin (2015) indicated that discomfort and insecurity are inhibitors of technology readiness while optimism and innovativeness are the enablers of technology readiness. This sentiment is in line with the study findings by (Webster and Gardner, 2019) who mentioned that appropriate resources like skills, infrastructure, and systems must be put in place to expedite technology readiness and adoption.

According to Ali et al. (2022), organizations with high levels of technological readiness are strategically positioned to embrace and leverage new technologies. Technological readiness also implies the ability of an organization to integrate or replace existing technologies with new ones, which involves having an appropriate infrastructure and systems, and adequate funds and resources (Webster and Gardner, 2019). According to Ali et al. (2022), factors that determine readiness include the availability of human, financial, and material resources. This finding contradicts findings from similar studies of technology use on which this study is based. Similar studies established that utilizing technology has a direct impact on productivity and is associated with organisational performance (al Hammadi and Hussain 2019). Furthermore, this result was not expected due to technology being at the forefront of business capabilities, hence insurance brokers ought to be ready to use technology in this rapidly changing world in order to be at par with competitors. Hlahatsi (2019) attests to this by highlighting that there is a significant relationship between new technologies and the adoption of digital transformation in the Insurance industries. The study results in Table 3 indicate that at the present moment, the Insurance Brokers in Botswana are not technologically ready to embrace technology due to poor ICT infrastructure, and poor internet connectivity among other factors. However, the zeal to embrace technology adoption is there and evident as illustrated in Table 3.

6.6 Internal expertise and organisational performance

The study findings indicate that internal expertise is positively linked to organisational performance of the insurance brokers. This finding was also corroborated by (Ali, et al 2022; Lien, et al., 2014; Sun and Jeyaraj 2013) who postulate that there is a positive nexus between the internal expertise of staff and organisational performance. This infers that organisations with the right staff in terms of knowledge, skills, and competencies are likely to increase organisational productivity and performance. This is supported by Niland (2017) in his study suggesting that organisations realize the best results when they have expertise within. This finding is in line with the diffusion of innovation theory. This is because the internal expertise component of the DOI framework encompasses the specific skills and resources within an organisation that aid in the adoption of new technologies and ensure the successful integration of IT systems (Ali et al. 2022).

The study results in Table 4 revealed that less than half of the total respondents rated overall IT knowledge as low and moderate. Most respondents indicated that they were confident in their broker's IT knowledge and skills, while the majority of respondents stated that their organization is effective in staying updated with emerging IT trends and implementing relevant technologies. This implies that employees who work for Insurance brokers are not too knowledgeable in the field of technology and they are fairly confident in their broker's general knowledge and skills. This sentiment was echoed by (Cappiello, 2020; Njegomir et al., 2021; Pisoni, 2021; Sabu, 2023; Rice-Boshi, 2023) who mention that the insurance sector has historically been sluggish to adopt new technology; digitalization advances have recently upended the sector and changed how insurance companies do business. Nonetheless, respondents strongly affirmed that their Insurance Broker was effective in keeping up with technology trends.

CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

7.0 Introduction

The findings of the research were covered in chapter six. Chapter seven provides the research's conclusions and implications. This chapter also outlines the key findings of this researcher and literature insights to answer research questions. The main objective of this research was to investigate the effect of technology adoption on organisational performance for insurance brokers in Botswana. The components of the TOE framework - internal expertise and technology readiness - were investigated for their impact on broker performance. Additionally presented are the research's implications for policy and practice, the contribution to literature, and the research methodology. In order to provide relevant suggestions based on the provided findings, the study limitations are indicated.

7.1 Conclusions

7.1.1 Technology adoption and insurance broker performance

The researcher wanted to establish whether technology adoption has the potential to increase Insurance Brokers' performance. The study findings in Figure 9 indicated that technology adoption has the potential to improve a broker's performance. The study findings also revealed that Insurance Brokers had a high appetite for technology adoption. Therefore, the researcher can safely conclude that the adoption of technology by the Insurance Brokers has got high potential to increase the performance of the players in the sector. The study results also indicated that the Insurance Brokers are confident in their preparedness for future digital waves. This infers that the Insurance Brokers have faith and belief in the success of adopting technology in the future. The literature review highlighted that over the past few years, there has been an upsurge in the use of digital transformation (Chanias, et al. 2019). In support, according to previous research, the majority of insurers recognise that digitising their operations is imperative for the foreseeable future, which is why overall digital investments are increasing. (Matouschek, et al., 2021).

7.1.2 Technology adoption and organisational performance

The key objective of the research was to assess the effects of technology adoption on organisational performance. The study findings indicated that technology adoption has improved and has the potential to improve the organisational performance of insurance brokers. This finding was supported by findings from other scholars (Sabu, 2023; Njegomir et al., 2021; Pisoni, 2021; Rice-Boshi, 2023) who all concurred and posited that technology adoption improves organisation efficiency, effectiveness, and service delivery among other positive contributions. This finding also agrees with and is supported by the Technology-Organization-Environment theory (Davis et al. 1989; Lam et al. 2008; Son and Han 2011) which postulates that technology adoption helps to streamline work activities which improves business efficiency and facilitates service delivery. Therefore, the researcher can conclude that technology adoption improves organisational performance of Insurance Brokers. This infers that insurance brokers should invest in technology adoption in order to improve organisational performance in areas of service delivery, customer service, and streamlining business operations. Technology has a big impact on the insurance industry (Boobier, 2020). This implies that technology adoption positively impacts organisational performance. In support, al Hammadi and Hussain (2019) stated that utilizing technology has a direct impact on productivity and is associated with organisational performance.

7.1.3 Technology Readiness and Organisational Performance

One of the secondary objectives of the study was to measure the relationship between technology readiness and organisational performance. The study results revealed that there is an insignificant weak positive correlation between technology readiness and organisational performance. The study's findings reveal a weak positive relationship between technology readiness and organisational performance. This suggests that as technology readiness increases, there is a slight improvement in organisational performance. These results align with the diffusion of innovation theory (Rogers, 1957; Ali et al., 2022), which posits that the compatibility and complexity of technology can either facilitate or hinder technological innovation. For instance, when technology is compatible and easy to understand, it is more likely to attract the interest of insurance brokers, encouraging the adoption of digital transformation within the insurance sector. This infers that the effect of technology readiness is only affecting organisational performance of the insurance brokers by approximately

12.3%. The impact is weak and this indicates that as technology readiness increases, there is a slight improvement in organisational performance. This suggests that the management of insurance brokers needs to educate their staff on the importance of technology readiness and they also need to invest in technologies that are compatible with their business operations and systems which are less complex in order to increase the rate and acceptance of technology readiness and adoption. This is in line with the ethos of the diffusion of innovation theory. The diffusion of Innovation theory states that if innovation is compatible and less complex to apprehend, it increases the acceptance rate of the innovation and readiness. However, if it is complex and incompatible, it acts as a barrier to the diffusion process of technology adoption. This sentiment was echoed by (Cappiello, 2020; Njegomir et al., 2021; Pisoni, 2021; Sabu, 2023; Rice-Boshi, 2023) who mention that the insurance industry has always been slow to embrace new technologies, but recent developments in digitalization have completely upended the industry and altered how insurance companies conduct business. It is, therefore, concluded that technology readiness is less positively linked to the organisational performance of the insurance brokers in Botswana. This suggests that management and owners of the insurance brokers must improve the organisational environment of the business in order to increase organisational performance.

7.1.4 Internal expertise and organisational performance

The other secondary objective of the study was to establish the relationship between internal expertise and organisational performance. The study findings indicate that internal expertise is positively linked to organisational performance of the insurance brokers. This finding was also corroborated by (Ali, et al 2022; Lien, et al., 2014; Sun and Jeyaraj 2013) who postulate that there is a positive relationship between the internal expertise of staff and organisational performance. This infers that organisations with the right staff in terms of knowledge, skills, and competencies are likely to increase organisational productivity and performance. This is supported by Niland (2017) in his study suggesting that organizations realize the best results when they have expertise within. It was, therefore, concluded that there was a significant correlation between internal expertise and organisational performance. According to the study's findings, there is a meaningful, statistically significant, and moderate positive correlation between organisational performance and internal expertise. This implies that if the insurance brokers have internal expertise, it increases their organisational performance. It is,

therefore, concluded that internal expertise has positive effect on organisational performance of the insurance brokers.

7.2 Implications for management theory

There are few studies examining the effect of technology adoption and its influence on organisational performance for insurance brokers in developing countries. By analysing the effect of technology adoption on organisational performance, this research aimed to add to the body of literature currently available (Sabi, 2023; Pisoni, 2021; Ali, et al 2022; Lien, et al., 2014; Hlahatsi, 202) on insurance management theory. This study is novel in the Botswana context especially in the insurance broker sector. Most insurance brokers in Botswana have started to adopt technology. The study findings indicated the majority of insurance brokers are keen to invest in digital transformations but they are not aware of the effects of technology adoption on organisational performance. The findings of this research helped to close this gap in the literature in Botswana and other developing countries which are operating at the same level as Botswana. There is enough evidence in the literature review that the field of technology adoption has been extensively researched ((Sabu, 2023; Cappiello, 2020; Njegomir et al., 2021; Pisoni, 2021; De, 2022; Rice-Boshi, 2023), but it was clear that there is the dearth of literature in the insurance brokers. This infers that this study can be used by both brokers and insurance companies to understand which technology adoption components will have a positive impact on their performance. This would be a valuable insight to businesses.

This study contributes to the academic world because according to the researcher's knowledge, no similar study has been done in Botswana specifically targeting Insurance Brokers. Moreover, looking at assessing technology adoption and its impact on organisational performance, limited studies were done at the organisational level. The study findings indicated technology readiness and internal expertise are crucial and must be considered by any Insurance Broker who wants to adopt technology. The study findings found that technology readiness positively influences organisational performance (Lam et al. 2008; Son and Han 2011; Parasuraman and Colbyin, 2015; Blut and Wang, 2019). The study also acknowledges that internal expertise positively and significantly influences organisational performance and empirical literature agrees with the findings (Ali, et al 2022; Lien, et al., 2014; Sun and Jeyaraj 2013). The study revealed that both technology readiness and internal

expertise are positively linked to organisational performance. Similar to this study, existing literature has indicated a positive relationship between technology adoption and organisational performance (Sabi, 2023; Pisoni, 2021; Ali, et al 2022; Lien, et al., 2014).

7.3 Implications on policy and practice

The current study findings are useful to policymakers in the insurance sector in Botswana and beyond. The insurance sector in Botswana is governed and regulated by the Non-Bank Financial Institutions Regulatory Authority (NBFIRA). The study findings revealed that the effect of technology readiness is relatively weak on organisational performance of the insurance brokers in Botswana. This infers that NBFIRA and the government as policymakers should encourage the Insurance Brokers and other players in the insurance sector to prepare technological readiness adequately at organisational level for business performance. Moreover, with this study, government and other policymakers also now understand the components of technology adoption to drive and make a priority in order for the performance of insurance brokers and other players in the insurance sector to improve. This is because when organisations' performance improves this adds positively to the economy.

Insurance is essential to any economy, and nations with more established insurance markets see faster rates of economic expansion. According to this study, organizations that concentrate on the appropriate components of technology adoption can realize even greater positive contributions in terms of reduced business cost which results in high business profits, increased customer trust and confidence, and increased employee motivation among others. Most importantly, insurance is essential because it also protects the people, organisations, and country. This is critical for the economic growth and development of the country. Countries with high technology adoption rates have got high potential to increase national productivity and economic development (WTO, 2022).

As underscored by the current study, internal expertise is also critical to organisational performance. This infers the government must support insurance companies with finance and other resources that will help the players in the insurance sector to sharpen their internal expertise through training and development, reskilling, recruitment, and acquiring the latest technologies that promote digital transformations. According to Ali, et al (2022); Lien, et al., (2014), and Sun and Jeyaraj, (2013), internal expertise is the specialized human resources

available that enable organizations to adopt the latest or new technologies. The Government of Botswana also views technology as an enabler that increases productivity (Botswana Vision 2036 Report). This study, therefore, provides two critical aspects of technology adoption that should be considered at organisational by the players in the insurance sector.

7.4 Limitations of the study

This study was limited by time constraints. The effect of technology adoption on organisational performance requires a longitudinal survey. However, was able to assess the effect of technology adoption over a five-year period in order to have a better overview of its effects on the organisational performance of the insurance brokers. The study was also limited by the data collection method used in the study (Questionnaire). The study used Google Forms meaning the exclusion of all insurance brokers who have limited access to the internet. However, the researcher used a list of insurance brokers who are formally registered and licensed by NBFIRA as the respondents of the study.

7.5 Implications for future research

The study adopted the TOE and DOI theoretical frameworks. However, it only considered the internal technological components and excluded the other components of the frameworks. Future studies must consider all the components of the frameworks to broaden the scope of the research. The other area that needs inclusion is the population of the study. The present study used insurance brokers only in the insurance sector. This implies that the generalisation of the study findings is limited to insurance brokers only. However, there are other intermediaries in the insurance sector like insurance agents and re-insurers agents among others. These players were not considered. Future studies may be improved by extending similar studies to other players in the insurance industry in order to have a holistic view of the effects of technology adoption on organisational performance. The future studies should also use a longitudinal survey as compared to the cross-sectional survey used in this current research, to gather data and to comprehend the details required and involved in technology adoption in the insurance sector.

REFERENCE LIST

al Hammadi, F., & Hussain, M. (2019). Sustainable organizational performance: A study of health-care organizations in the United Arab Emirates. *International Journal of Organizational Analysis*, *27*(1), 169–186. https://doi.org/10.1108/IJOA-10-2017-1263

Ali, O., Murray, P. A., Muhammed, S., Dwivedi, Y. K., & Rashiti, S. (2022). Evaluating Organizational Level IT Innovation Adoption Factors among Global Firms. *Journal of Innovation and Knowledge*, *7*(3). https://doi.org/10.1016/j.jik.2022.100213

Alt, M. A., Săplăcan, Z., Benedek, B., & Nagy, B. Z. (2020). Digital touchpoints and multichannel segmentation approach in the life insurance industry. *International Journal of Retail and Distribution Management*, *49*(5), 652–677. https://doi.org/10.1108/IJRDM-02-2020-0040

Anwar, G., & Abdullah, N. N. (n.d.). The impact of Human resource management practice on Organizational performance. *International Journal of Engineering, Business and Management (IJEBM)*, *5*(1), 2456–8678. https://doi.org/10.22161/ijebm.5.1

Anusha, P. V., Anuradha, C., Murty, P. S. C., & Kiran, C. S. (2019). Detecting outliers in high dimensional data sets using Z-score methodology. *International Journal of Innovative Technology and Exploring Engineering*, *9*(1), 48-53.

Cappiello, A. (2020). The Technological Disruption of Insurance Industry: A Review. *International Journal of Business and Social Science*, *11*(1). https://doi.org/10.30845/ijbss.v11n1a1

Chanias, S., Myers, M. D., & Hess, T. (2019). Digital transformation strategy making in pre-digital organizations: The case of a financial services provider. *Journal of Strategic Information Systems*, *28*(1), 17–33. https://doi.org/10.1016/j.jsis.2018.11.003

Chairoel, L., Widyarto, S., & Pujani, V. (n.d.). *ICT adoption in affecting organizational performance among Indonesian SMEs*.

Chavas, J. P., & Nauges, C. (2020). Uncertainty, Learning, and Technology Adoption in Agriculture. *Applied Economic Perspectives and Policy*, *42*(1), 42–53. https://doi.org/10.1002/aepp.13003

Chiguvi, D., Zaranyika, T., Marozwa, M., & Dube, Z. (2023). The effect of visioning on digital transformation in the insurance industry. International Journal of Research in Business and Social Science (2147-4478), 12(2), 23-29.

Chouki, M., Talea, M., Okar, C., & Chroqui, R. (2020). Barriers to Information Technology Adoption Within Small and Medium Enterprises: A Systematic Literature Review. In *International Journal of Innovation and Technology Management* (Vol. 17, Issue 1). World Scientific Publishing Co. Pte Ltd. https://doi.org/10.1142/S0219877020500078

Creswell, J. W., Hanson, W. E., Plano, V. L. C., & Morales, A. (2007). Qualitative Research Designs Selection and Implementation. The Counselling Psychologist, 35(2), 236-264

Ellis, T. J., & Levy, Y. (2008). *Informing Science: The International Journal of an Emerging Transdiscipline Framework of Problem-Based Research: A Guide for Novice Researchers on the Development of a Research-Worthy Problem*.

Ewemooje, O.S., Setlhare, K., & Lekhane, O. (2023). Gender Inequalities in the Formal Workplace and Its Earnings in Botswana: Implications and Possible Solutions.

Ferrer-Dávalos, R.M. 2023. Influence of technology adoption on organizational performance: evidence from Paraguayan microenterprises. South Florida Journal of Development. 4, 2 (Apr. 2023), 696–718. DOI:https://doi.org/10.46932/sfjdv4n2-007

Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R. E (2019). Multivariate data analysis (8th ed.). Cengage

Haneem, F., Kama, N., & Bakar, N. A. A. (2019). Critical influential determinants of IT innovation adoption at organisational level in local government context. In *IET Software* (Vol. 13, Issue 4, pp. 233–240). Institution of Engineering and Technology. https://doi.org/10.1049/iet-sen.2018.5123

H.E. Douglas Letsholathebe (2022). United Nations on Science and Technology for Development (CSTD), twenty-fifth session.

Ho, C. K. Y., Ke, W., Liu, H., & Chau, P. Y. K. (2020). Separate versus joint evaluation: The roles of evaluation mode and construal level in technology adoption. *MIS Quarterly: Management Information Systems*, *44*(2), 725–746. https://doi.org/10.25300/MISQ/2020/14246

Hlahatsi, R. (2020). Title: Study of The Digital Transformation Adoption in The Life Insurance Sector in South Africa.

Jafari-Sadeghi, V., Garcia-Perez, A., Candelo, E., & Couturier, J. (2021). Exploring the impact of digital transformation on technology entrepreneurship and technological market expansion: The role of technology readiness, exploration and exploitation. *Journal of Business Research*, *124*, 100–111. https://doi.org/10.1016/j.jbusres.2020.11.020

John Niland, M. (2017). *Toward the Influence of the Organisation on Big Data Analytics*.

Khin, S., & Ho, T. C. F. (2019). Digital technology, digital capability and organizational performance: A mediating role of digital innovation. *International Journal of Innovation Science*, *11*(2), 177–195. https://doi.org/10.1108/IJIS-08-2018-0083

Lakhwani, K., Gianey, K. K, Wireko, J. K.,Hiran, K.K. (2020) Internet of Things ()IoT: Principles, Paradigms and Applications of IoT

Lian, J. W., Yen, D. C., & Wang, Y. T. (2014). An exploratory study to understand the critical factors affecting the decision to adopt cloud computing in Taiwan hospital. *International Journal of Information Management*, *34*(1), 28–36. https://doi.org/10.1016/j.ijinfomgt.2013.09.004

Liang, T. P., Kohli, R., Huang, H. C., & Li, Z. L. (2021). What Drives the Adoption of the Blockchain Technology? A Fit-Viability Perspective. *Journal of Management Information Systems*, *38*(2), 314–337. https://doi.org/10.1080/07421222.2021.1912915

Liu, Y., Wu, A. D., & Zumbo, B. D. (2010). The impact of outliers on Cronbach's coefficient alpha estimate of reliability: Ordinal/rating scale item responses. *Educational and Psychological Measurement*, *70*(1), 5-21.

Mabad, T., Ali, O., Ally, M., Wamba, S. F., & Chan, K. C. (2021). Making Investment Decisions on RFID Technology: An Evaluation of Key Adoption Factors in Construction Firms. *IEEE Access*, *9*, 36937–36954. https://doi.org/10.1109/ACCESS.2021.3063301

Matouschek, G., Kohler, T., & Dreyer, D. (2021). Accelerating the digital transformation.

Matzler, K., Friedrich von den Eichen, S., Anschober, M., & Kohler, T. (2018). The crusade of digital disruption. In *Journal of Business Strategy* (Vol. 39, Issue 6, pp. 13–20). Emerald Group Holdings Ltd. https://doi.org/10.1108/JBS-12-2017-0187

Mercenier, J., & Voyvoda, E. (2021). On barriers to technology adoption, appropriate technology and European integration. *Review of World Economics*, *157*(3), 669–702. https://doi.org/10.1007/s10290-021-00412-7

Mitchell, L. (2020). The Insurance Industry of Botswana.

Nagano, H. (2020). The growth of knowledge through the resource-based view. *Management Decision*, *58*(1), 98–111. https://doi.org/10.1108/MD-11-2016-0798

Network Readiness Index (2022). Retrieved from https://networkreadinessindex.org/

Niraula, P., & Kautish, S. (2019). Study of The Digital Transformation Adoption in The Insurance Sector of Nepal. *LBEF Research Journal of Science*, *1*(1).

Njegomir, V., Demko-Rihter, J., & Bojanić, T. (2021). Disruptive technologies in the operation of insurance industry. *Tehnicki Vjesnik*, *28*(5), 1797–1805. https://doi.org/10.17559/TV-20200922132555

Nugroho, M. A., Susilo, A. Z., Fajar, M. A., & Rahmawati, D. (2017). Exploratory Study of SMEs Technology Adoption Readiness Factors. *Procedia Computer Science*, *124*, 329–336. https://doi.org/10.1016/j.procs.2017.12.162

Olechowski, A. L., Eppinger, S. D., Joglekar, N., & Tomaschek, K. (2020). Technology readiness levels: Shortcomings and improvement opportunities. *Systems Engineering*, *23*(4), 395–408. https://doi.org/10.1002/sys.21533

Oliveira, T., Martins, M. F., & Lisboa, U. N. De. (2011). Literature Review of Information Technology Adoption Models at Firm Level. The Electronic Journal Information Systems Evaluation, 14(1), 110–121.

Oliveira, T., Thomas, M., & Espadanal, M. (2014). Assessing the determinants of cloud computing adoption: An analysis of the manufacturing and services sectors. *Information and Management*, *51*(5), 497–510. https://doi.org/10.1016/j.im.2014.03.006

Ospina, S. M., Esteve, M., & Lee, S. (2017). Assessing Qualitative Studies in Public Administration Research. Public Administrative Review, 78(4), 593–605. https://doi.org/10.1111/puar.12837

Pisoni, G. (2021). Going digital: case study of an Italian insurance company. *Journal of Business Strategy*, *42*(2), 106–115. https://doi.org/10.1108/JBS-11-2019-0225

Ribeiro, M. T., Singh, S., & Guestrin, C. (2016). "Why should i trust you?" Explaining the predictions of any classifier. *Proceedings of the ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, *13-17-August-2016*, 1135–1144. https://doi.org/10.1145/2939672.2939778

Rishi-Boshi, M. (2023). The impact of digital transformation in the insurance industry. Available at: https://www.walkme.com/blog/digital-transformation-insurance/ (Accessed on May 2, 2023).

Segodi, M. P., & Sibindi, A. B. (2022). Determinants of Life Insurance Demand: Empirical Evidence from BRICS Countries. *Risks*, *10*(4). https://doi.org/10.3390/risks10040073

Setswalo, U. (2023). A scope of the insurance industry in Botswana. Available at: https://noble.co.bw/a-scope-of-the-insurance-industry-in-botswana/ (Accessed on September 14, 2023).

Sun, Y., & Jeyaraj, A. (2013). Information technology adoption and continuance: A longitudinal study of individuals' behavioral intentions. *Information and Management*, *50*(7), 457–465. https://doi.org/10.1016/j.im.2013.07.005

Tahir, S. (2020). Organizational performance: What it is and how to measure and improve it. Available at: https://www.ckju.net/en/organizational-performance-what-it-is-how-to-measure-and-improve-it. (Accessed on December 09, 2020).

Takahashi, K., Muraoka, R., & Otsuka, K. (2020). Technology adoption, impact, and extension in developing countries' agriculture: A review of the recent literature. *Agricultural Economics (United Kingdom)*, *51*(1), 31–45. https://doi.org/10.1111/agec.12539

Thathsarani, U. S., & Jianguo, W. (2022). Do Digital Finance and the Technology Acceptance Model Strengthen Financial Inclusion and SME Performance? *Information (Switzerland)*, *13*(8). https://doi.org/10.3390/info13080390

Venkatesan, L. (2020). *The effect of digital maturity and entrepreneurial agility on firm performance in digital transformation of traditional organisations*.

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Qi Dong, J., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, *122*, 889–901. https://doi.org/10.1016/j.jbusres.2019.09.022

Vial, G. (2019). JOURNAL OF STRATEGIC INFORMATION SYSTEMS REVIEW Manuscript title: Understanding digital transformation: A review and a research agenda.

Vidhya K. (n.d.). *DIGITALIZATION OF THE INSURANCE SECTOR*. https://www.researchgate.net/publication/373658744

Wamba, S. F., Gunasekaran, A., Akter, S., Ren, S. J. fan, Dubey, R., & Childe, S. J. (2017). Big data analytics and firm performance: Effects of dynamic capabilities. *Journal of Business Research*, *70*, 356–365. https://doi.org/10.1016/j.jbusres.2016.08.009

Webster, A., & Gardner, J. (2019). Aligning technology and institutional readiness: the adoption of innovation. *Technology Analysis and Strategic Management*, *31*(10), 1229–1241. https://doi.org/10.1080/09537325.2019.1601694

World Bank (2022). The Macro Poverty Outlook for Botswana (MPO 2022).

Yu, J. (2023). Agency autonomy, public service motivation, and organizational performance. *Public Management Review*, *25*(3), 522–548. https://doi.org/10.1080/14719037.2021.1980290

Zikmund, W. G., Babin, B. J., Carr, J. C, & Griffin, M. (2010). Business Research Methods (8th ed.). Mason: South Western, Cengage Learning.

APPENDIX 1: Questionnaire

Section A: Demographic

1. What is your gender?
   Female Male Prefer not to say

2. What is your Position?
   Owner Senior Manager Junior Manager Non-Manager

3. Who long have you been with the broker?
   under 1 year 1-4 years 5-9 years More than 10 years

4. How many employees does your broker have?
   Less than 5 6-10 11- 19 20-29 More than 30 Not Sure

Section B: Organisational Performance

5. Which Key Indicator do you use to measure organisational performance?
   Financial Performance Market Share Operational Efficiency
   Customer Satisfaction and Loyalty Employee Retention I do not know

6. How is your broker performing relative to your competitors?
   Outperforming Performing Above Average Performing at Par
   Performing Below Average Underperforming I do not know

7. Has technology adoption improved your broker performance in the last three years?
   Significantly improved Moderately improved Slightly improved
   No change Declined

8. Technology adoption has the potential to improve my broker's performance?
   Strongly Disagree Disagree Neutral Agree Strongly Agree

Section C: Technology Adoption

9. For your Broker technology adoption is a/an
   Opportunity Need Challenge Ambiguous Threat

10. What is the appetite for technology adoption in your broker?
    Very Low Low Medium High Very High

11. My broker has an open budget for technology adoption
    Strongly Disagree Disagree Neutral Agree Strongly Agree
    Not Sure

12. Is technology adoption a priority at my organization?
Strongly Disagree Disagree Neutral Agree Strongly Agree

13. To what extent has your broker adopted technology?
Not at all Minimal adoption Moderate adoption Extensive adoption

14. How do you rate your broker's digital transformation journey in the past 5 years?
Poor Below Average Average Above Average Excellent

15. I am satisfied with my broker's current technology adoption pace
Strongly Disagree Disagree Neutral Agree Strongly Agree

16. How important is the implementation of ICT systems to your company?
Very Important Important Not Really Important Not Important

Section C: Technology Readiness

17. I am confident in my broker's preparedness for future digital waves
Strongly Disagree Disagree Neutral Agree Strongly Agree

18. My broker is more technologically prepared compared to our competitors
Strongly Disagree Disagree Neutral Agree Strongly Agree

19. My Broker's technological resources are sufficient for successful IT adoption
Strongly Disagree Disagree Neutral Agree Strongly Agree

20. My Broker's IT infrastructure including servers, databases, security systems, or cloud computing resources is sufficient for successful IT adoption.
Strongly Disagree Disagree Neutral Agree Strongly Agree
Not sure

21. My Broker's IT infrastructure has the potential to accommodate future growth or technological advancements.
Strongly Disagree Disagree Neutral Agree Strongly Agree
Not sure

22. Our IT budget is sufficient for successful IT adoption.
Strongly Disagree Disagree Neutral Agree Strongly Agree
Not sure

23. Are there any current initiatives to enhance and optimize your company's IT infrastructure?
Yes Somewhat No

Section D: Internal Expertise

24. How would you rate your overall employee IT knowledge?

Very low Low Moderate High Very high

25. How confident are you in your IT knowledge and skills in your Broker?
Very Confident Confident Not Really Confident Not Confident

26. Please rate your broker's IT expertise in assisting in adopting new technology.
Very low Low Moderate High Very high

27. I am satisfied with the support or guidance available when implementing IT solutions within my organization.
Strongly Disagree Disagree Neutral Agree Strongly Agree

28. How do you rate your organization's technical competence?
Very low Low Moderate High Very high

29. How effectively does your organization stay updated with emerging IT trends and implement relevant technologies?
Very effectively Somewhat effectively Moderately effectively
Not very effectively Not at all effectively

30. What are the benefits of IT adoption for brokers?
Competitive advantage Cost savings Improved efficiency Expanded market reach Perceived Benefits

APPENDIX 2: Cross Tabulation of technology adoption by position

Statements	Job position, n (%)				Total, n (%)
	Non-Manager	Junior Manager	Senior Manager	Owner	
What is the appetite for technology adoption in your broker?					
High	8 (44.4)	3 (25.0)	9 (40.9)	22 (52.4)	42 (44.7)
Medium	9 (50.0)	8 (66.7)	10 (45.5)	18 (42.9)	45 (47.9)
Low	1 (5.6)	1 (8.3)	3 (13.6)	2 (4.8)	7 (7.4)
My broker has an open budget for technology adoption					
Agree	7 (38.9)	5 (41.7)	12 (50.0)	21 (50.0)	45 (47.9)
Neutral or Not sure	11(61.1)	6 (50.0)	8 (36.4)	14 (33.3)	39 (41.5)
Disagree	0 (0.0)	1 (8.3)	2 (9.1)	7 (16.7)	10 (10.6)
Technology adoption a priority at my organization					
Agree	13 (72.2)	6 (50.0)	16 (72.7)	29 (69.0)	64 (68.1)
Neutral	5 (27.8)	6 (50.0)	6 (27.3)	11 (26.2)	28 (28.8)
Disagree	0 (0.0)	0 (0.0)	0 (0.0)	2 (4.8)	2 (2.1)
To what extent has your broker adopted technology?					
Extensive	1 (5.6)	0 (0.0)	2 (9.1)	4 (9.5)	7 (7.4)
Moderate	13 (72.2)	7 (58.3)	15 (68.2)	29 (69.0)	64 (68.1)
Minimal	4 (22.2)	4 (33.3)	5 (22.7)	8 (19.0)	21 (22.3)
Not at all	0 (0.0)	1 (8.3)	0 (0.0)	1 (2.4)	2 (2.1)
How do you rate your broker's digital transformation journey in the past 5 years?					
Above average	5 (27.8)	4 (33.3)	5 (22.7)	12 (28.6)	26 (27.7)
Average	9 (50.0)	6 (50.0)	13 (59.1)	21 (50.0)	49 (52.1)
Poor	4 (22.2)	2 (16.7)	4 (18.2)	9 (21.4)	19 (20.2)

Table 3: Cross Tabulation of Technology Adoption by seniority job position (continued)

Statements	Job position, n (%)				Total, n (%)
	Non-Manager	Junior Manager	Senior Manager	Owner	
I am satisfied with my broker's current technology adoption pace					
Agree	5 (27.8)	3 (25.0)	7 (31.8)	15 (35.7)	30 (31.9)
Neutral	8 (44.4)	5 (41.7)	12 (54.5)	20 (47.6)	45 (47.9)
Disagree	5 (27.8)	4 (33.3)	3 (13.6)	5 (16.6)	19 (20.2)
How important is the implementation of ICT systems to your company?					
Important	16 (88.9)	12 (100.0)	22 (100.0)	40 (95.2)	90 (95.7)
Not important	2 (11.1)	0 (0.0)	0 (0.0)	2 (4.8)	4 (4.3)

APPENDIX 3: Codebook

Var# (Q#)	Variable Description / Label (Question)	Variable Name	Measurement Scale/Level (N, O, I, R)	RESPONSE FORMAT		Variable Code
				Value	Value Label	
	SECTION A: DEMOGRAPHICS					
1	What is your gender?	Gender	O	0-2	Male Female Prefer not to say	1 2 0
2	What is your position?	Position	O	0-4	Owner Senior Manager Junior Manager Non Manager Missing	1 3 2 4 0
3	How long have you been with the broker?	Experience	0	1-4	Under 1 year 1 to 4 years 5 to 9 years More than 10 years	4 1 2 3
4	How many employees does your broker have?	Number of employees	O	0-5	Less than 5 years 6-10 years 11 to 19 years 20 to 29 years More than 30 years Missing	4 3 1 2 5 0
	SECTION B: ORGANISATIONAL PERFORMANCE					
5	Which key indicators do you use to measure organisational performance?	Measuring Organisational Performance	N	0-7	Financial Performance Market Share Operational Efficiency Customer satisfaction and loyalty Employee retention	3 5 7 1 2 4 0

Var# (Q#)	Variable Description / Label (Question)	Variable Name	Measurement Scale/Level (N, O, I, R)	RESPONSE FORMAT		Variable Code
				Value	Value Label	
					I do not know Missing	
6	How is your broker performing relative to your competitor	Broker performance versus competitor	O	0-6	Outperforming Performing above average Performing at par Performing below average Underperforming I do not know	2 3 4 5 6 0
7	Has technology adoption improved your broker performance in the last 3 years?	Performance in the last 3 years	O	0-6	Significantly improved Moderately improved Slightly improved No change Declined Missing	5 3 6 4 2 0
8	Technology adoption has the potential to improve my brokers' performance	Potential for improvement	O	0-5	Strongly disagree Disagree Neutral Agree Strongly agree Missing	5 4 2 1 3 0
SECTION C : TECHNOLOGY ADOPTION						
9	For your broker technology adoption is an;	Technology is an;	N	0-5	Opportunity Need Challenges Ambiguous Threat	3 2 1 5 4

Var# (Q#)	Variable Description / Label (Question)	Variable Name	Measurement Scale/Level (N, O, I, R)	RESPONSE FORMAT		Variable Code
				Value	Value Label	
10	What is the appetite for technology adoption in your broker	Appetite for technology adoption	O	0-5	Very Low	5
					Low	2
					Medium	3
					High	1
					Very High	4
11	My broker has an open budget for technology adoption	Budget	O	0-5	Strongly disagree	5
					Disagree	4
					Neutral	2
					Agree	1
					Strongly agree	3
					Missing	0
12	Technology adoption is a priority at my organization	Prioritizatio n	O	0-5	Strongly disagree	5
					Disagree	4
					Neutral	2
					Agree	1
					Strongly agree	3
					Missing	0
13	To what extent has your adoption broker technology?	Level of technology adoption	O	0-4	Not at all	4
					Minimal adoption	2
					Moderate adoption	3
					Extensive adoption	1
					Missing	0
14	How do you rate your broker's digital transformation?	Digital transformat ion	O	0-5	Poor	5
					Below average	3
					Average	2
					Above average	1
					Excellent	4
					Missing	0

Var# (Q#)	Variable Description / Label (Question)	Variable Name	Measurement Scale/Level (N, O, I, R)	RESPONSE FORMAT		Variable Code
				Value	Value Label	
15	I am satisfied with my broker's current technology adoption pace	Technology adoption pace	O	0-5	Strongly disagree Disagree Neutral Agree Strongly agree Missing	5 4 2 1 3 0
16	How important is the implementation of ICT systems to your company?	Importance of IT systems	O	0-4	Very important Important Not really important Not important Missing	4 1 3 2 0
SECTION D: TECHNOLOGY READINESS						
17	I am confident with my broker's preparedness for future digital waves	Preparedness for future digital waves	O	0-5	Strongly disagree Disagree Neutral Agree Strongly agree Missing	5 4 2 1 3 0
18	My broker is more technologically prepared compared to our competitors	Preparedness of broker versus competitor	O	0-5	Strongly disagree Disagree Neutral Agree Strongly agree Missing	5 4 2 1 3 0
19	My broker's technological resources are sufficient for successful IT adoption	Sufficiency of resources for	O	0-5	Strongly disagree Disagree Neutral	5 4 2

Var# (Q#)	Variable Description / Label (Question)	Variable Name	Measurement Scale/Level (N, O, I, R)	RESPONSE FORMAT		Variable Code
				Value	Value Label	
		successful IT adoption			Agree	1
					Strongly agree	3
					Missing	0
20	My Broker's IT infrastructure including servers, databases, security systems, or cloud computing resources is sufficient for successful IT adoption.	Sufficiency of IT infrastructure	O	0-5	Strongly disagree	5
					Disagree	4
					Neutral	2
					Agree	1
					Strongly agree	3
					Missing	0
21	My Broker's IT infrastructure has the potential to accommodate future growth or technological advancements.	Accommodation of technological advancements	O	0-5	Strongly disagree	5
					Disagree	4
					Neutral	2
					Agree	1
					Strongly agree	3
					Missing	0
22	Our IT budget is sufficient for successful IT adoption.	Budget	O	0-5	Strongly disagree	5
					Disagree	4
					Neutral	2
					Agree	1
					Strongly agree	3
					Missing	0
23	Are there any current initiatives to enhance and optimize your company's IT infrastructure?	Enhancing and optimizing IT infrastructure	O	0-3	Yes	3
					Somewhat	2
					No	1
					Missing	0
SECTION E : INTERNAL EXPERTISE						

Var# (Q#)	Variable Description / Label (Question)	Variable Name	Measurement Scale/Level (N, O, I, R)	RESPONSE FORMAT		Variable Code
				Value	Value Label	
24	How would you rate your overall employee IT knowledge?	Employee IT knowledge	O	0-5	Very low	1
					Low	2
					Moderate	3
					High	4
					Very high	5
					Missing	0
25	How confident are you in your IT knowledge and skills in your Broker?	Confidence with IT knowledge		0-5	Very confident	5
					Confident	4
					Not really confident	3
					Not confident	2
					Missing	0
26	Please rate your broker's IT expertise in assisting in adopting new technology.	IT expertise		0-5	Very low	1
					Low	2
					Moderate	3
					High	4
					Very high	5
					Missing	0
27	I am satisfied with the support or guidance available when implementing IT solutions within my organization.	Support or guidance		0-5	Strongly disagree	5
					Disagree	4
					Neutral	2
					Agree	1
					Strongly agree	3
					Missing	0
28	How do you rate your organization's technical competence?	Technical competence		0-5	Very low	1
					Low	2
					Moderate	3
					High	4
					Very high	5

Var# (Q#)	Variable Description / Label (Question)	Variable Name	Measurement Scale/Level (N, O, I, R)	RESPONSE FORMAT		Variable Code
				Value	Value Label	
					Missing	0
29	How effectively does your organization stay updated with emerging IT trends and implement relevant technologies?	Staying updated with trends	O	0-5	Very effectively Somewhat effectively Moderately effectively Not very effectively Not at all effectively Missing	5 4 3 2 1 0
30	What are the benefits of IT adoption for brokers?	Benefits of IT adoption	N	0-4	Competitive advantage Cost savings Improved efficiency Expanded market reach Missing	1 2 3 4 0