



**AN INFORMATION TECHNOLOGY GOVERNANCE FRAMEWORK FOR WOMEN-
OWNED SMALL TO MEDIUM ENTERPRISES IN CAPE TOWN SOUTH AFRICA**

by

MADANIYAH MOHAMED

STUDENT NUMBER: 215057287

Thesis Submitted in partial fulfilment of the requirement for the degree

Master of Information and Communication Technology

in the

Faculty of Informatics and Design

at the

Cape Peninsula University Of Technology

Supervisor: Dr Errol Francke

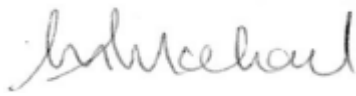
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ABSTRACT

This thesis aims to explore an Information Technology Governance (ITG) framework for women-owned Small to Medium-Sized Enterprises (SMEs) in Cape Town South Africa. The role of small to medium-sized businesses, especially those owned by women, is vital in fostering economic growth and generating employment opportunities. However, the success rate among women-owned SMEs in South Africa has been low, partly due to the underutilization and improper implementation of Information Technology (IT).

The research commences by providing an overview of the importance of women's engagement in entrepreneurial activities and its impact on global economic empowerment of women. It highlights the importance of IT skills for the sustainability and competitiveness of women-owned SMEs in the highly competitive business environment. The study emphasizes the increasing interest in IT governance to manage IT investments and adapt to constant changes in technology.

The research problem is identified, as the low adoption and utilization of IT by women-owned SMEs in South Africa hinders their success. The lack of IT resources and specialized knowledge in IT governance further exacerbates the issue. The study proposes the development of a cost-effective and easy-to-implement ITG framework to address these challenges and increase the success rate of women-owned SMEs.

The main research objective is to explore an ITG framework for women-owned SMEs, while secondary objectives include identifying the factors influencing the implementation of IT governance in such businesses and determining the necessary structures for a successful ITG framework. The research questions delve into understanding the factors influencing and structures essential for the implementation of an ITG framework.

The literature review provides definitions of SMEs, highlights the contribution of women-owned SMEs to the South African economy, and emphasizes the need for women's economic empowerment. It discusses the slow adoption of IT by women-owned SMEs, the role of corporate governance in SMEs, and the importance of effective IT governance. In addition, the review discusses the applicability of IT governance's structural, procedural, and relational mechanisms to SMEs.

The theoretical framework incorporates the Individual Difference Theory of Gender and IT (IDTGIT) and Contingency Theory to provide a thorough understanding of gender differences in IT and to address the specific needs of women-owned SMEs.

By developing an ITG framework tailored to women-owned SMEs, this research aims to contribute to the economic empowerment of women and the overall growth of the South African economy. The findings provide valuable insights for policymakers, business owners, and IT professionals seeking to enhance IT governance practices in women-owned SMEs, ultimately leading to increased success and competitiveness.

ACKNOWLEDGEMENTS

Thanks:

- The Almighty for his grace and mercy, which made everything possible by granting me the strength and guidance to fulfil this extraordinary journey.
- My gratitude and appreciation to my research supervisor, Doctor Errol Francke. This achievement would not have been possible without your continuous support, guidance, advice, motivation, and encouragement. You have been patient with me throughout this journey.
- My husband, Zehaad for your love, inspiration, continued support, and encouragement.
- My sons Humaam and Gammaad and daughter Thaakierah for your love and understanding.
- Finally, to myself, for persevering and accomplishing what I set out to do, and for pursuing my heart's desires. This is just the beginning of greater things to come.

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1 CHAPTER ONE INTRODUCTION

1.1 Introduction

Small and medium-sized businesses, especially those owned by women, play a crucial role in stimulating economic growth and creating job opportunities through their involvement in entrepreneurial activities and ownership. This is crucial for long-term economic growth (Rungani & Potgieter, 2018). The economic empowerment of women has emerged as a prominent global strategy to reduce poverty and address gender-based inequality worldwide (UNW, 2021). According to the IFC (2020), SMEs represent about 90% of businesses and more than 50% of employment worldwide. Furthermore, the World Bank reports that these businesses contribute significantly to global GDP, accounting for around 35-50% of it.

The success of small businesses hinges on a variety of essential skills, and their absence could lead to business failure. One of these crucial skills is Information Technology (IT) skills. Given the highly competitive operating environment, IT skills are of utmost importance for the sustainability of women-owned Small and Medium Enterprises (SMEs) (Da Silva et al., 2020). From expanding market reach to improving operational efficiency and fostering innovation, IT skills play a crucial role in levelling the playing field and providing women entrepreneurs with the tools they need to thrive in the digital age (Rungani and Potgieter, 2018). Therefore, the extensive use of IT in businesses, coupled with the constant changes in IT, has led to an increasing interest in IT governance (Ngqondi and Mauwa, 2020).

IT governance is put in place to manage IT investments and ensure that IT adopted in SMEs is prepared for any changes without losing focus on what is necessary for the business. When encouraged within women-owned SMEs, IT governance could, in turn, lead to positive social and economic transformations (Westland, 2019).

This study concentrates on women-owned SMEs in general, rather than exclusively focusing on women-owned IT SMEs. It explores the position of women-owned SMEs in Cape Town South Africa and strategies that can be employed to create gender-inclusive ITG among women-owned businesses. Drawing on social feminist theory (IDGIT) and IT governance theory (Contingency Theory), this study endeavours to develop an ITG framework for women-owned SMEs in South Africa. This framework could assist in increasing their success rate and, in turn, contribute to the strengthening of the country's economy.

1.2 Background to research

The South African government has recognized SMEs, especially women-owned SMEs, as one of the key contributors to the country's economic growth (Cilliers and Strydom, 2016; Wiid and Cant, 2021). According to data from World Economic Forum, women-owned SMEs in Africa represent 58% of self-employment and contribute approximately 13% to Africa's GDP (Rungani and Potgieter 2018). Lumley (2023), reports that UN reported that women owned SMEs are responsible for 70% of informal cross-border trading in Africa.

According to Sinden (2017), despite progress in gender equality in South Africa, gender inequality persists. Unfortunately, women and men are not afforded the same opportunities when it comes to economic activities, IT, and IT governance. Even when women are afforded the same opportunities, they do not receive the same acknowledgement as men (Sinden, 2017). Women-owned SMEs are inherently hampered due to the challenges they face, such as limited access to finance, insufficient skills, and minimal utilization of Information Technology, mainly due to affordability issues (Makola, 2022). Radebe & Smith (2023) stated that in the Knowledge Assets and Financial Access category, South Africa secured the 55th position, determined by various contributing factors. Notably, women's access to finance experienced a decline of four places, landing at 40th during this period. Meanwhile, government support for small and medium enterprises (SMEs) remained unchanged at 54th. Additionally, there was a noteworthy decrease in women's financial inclusion, with the ranking dropping by five places to 36th. The country's overall support for entrepreneurial conditions was positioned at 37th (Radebe & Smith, 2023).

Da Silva et al. (2019) state that in SMEs, business owners are compelled to adopt IT in their businesses, as digital technologies have become key enablers of small business performance. Thus, adopting IT in business is no longer optional and has become a functional obligation, especially in women-owned SMEs, as these SMEs contribute to the long-term economic growth of the country (Da Silva et al., 2019).

ITG enables SMEs the opportunity to create and sustain value from IT in their business (Mivehchi, 2019). According to Westland (2019), IT systems are constantly evolving, and the function of ITG can ensure that the IT department is well-prepared for what comes next, without losing focus on what is necessary for the business. To govern IT, a more formal structure needs to be put in place to manage IT (Westland, 2019). Thus, the use of a framework can lead to a higher level of IT governance (Bergeron et al., 2017).

The initial aspect of a governance framework encompasses IT governance structures, which are accountable for making IT decisions. Therefore, it is important that women, as owners of businesses, are involved in all IT decisions, especially when it comes to the development of new technologies, and fully participate in their growth and impact.

1.3 Research problem

Despite the adoption of IT, the success rate among women-owned SMEs in South Africa has been low (Irene, 2017). A potential contributing factor is that women-owned SMEs are not utilizing IT properly and to their full potential (OECD, 2017). Instead, they rely on production activities and reducing budgets, rather than focusing on strategic IT and business alignment (Fosu, 2018). As IT is central to all businesses currently, without proper governance and implementation, women-owned businesses could find it increasingly difficult to succeed.

In line with UNW's report in 2021, women-owned SMEs typically lack boards of directors, have limited management structures, and face a shortage of IT specialists to implement IT governance. Consequently, due to the scarcity of resources, they seek a cost-effective and straightforward IT governance framework (UNW, 2021).

Research is needed to explore the development of an Information Technology Governance (ITG) framework that could be adopted in women-owned SMEs in South Africa and contribute to increasing their success rate. Women-owned businesses are crucial to the country's economy.

1.4 Aim

The study aims to explore the development of an ITG framework that could potentially assist women-owned SMEs in South Africa.

1.5 Research questions and objectives

One main (MRQ) and two secondary (SRQ1-SRQ2) research questions guide the study. These research questions map to one main (MRO) and two secondary (SRO1-SRO2) research objectives as outlined in Table 1-1 below.

Table 1-1 Research Questions and Corresponding Research Objectives

Research Questions	Research Objectives
MRQ: How can an ITG framework be developed that could potentially assist women-owned SMEs in South Africa?	MRO: To explore the development of an ITG framework that could potentially assist women-owned SMEs in South Africa.
SRQ1: What are the factors that influence the implementation of an IT governance framework in women-owned SMEs in South Africa?	SRO1: To investigate the factors influencing the implementation of an IT governance framework in women-owned SMEs in South Africa.
SRQ2: What primary structures need to be in place to ensure the successful development of an IT governance framework in women-owned SMEs in South Africa?	SRO2: To determine which primary structures, need to be in place to ensure the successful development of an IT governance framework in women-owned SMEs.

1.6 Literature review

Definition of SMEs

According to Zulu (2019, p. 110-111), the definition of SMEs is as follows: “A separate and distinct business entity, together with its branches or subsidiaries, if any, including cooperative enterprises, managed by one owner or more, predominantly carried on in any sector or subsector of the economy mentioned in column 1 of the Schedule, and classified as a micro, a small, or a medium enterprise by satisfying the criteria mentioned in columns 3 and 4 of the Schedule” (Zulu, 2019).

Women-owned SMEs in South Africa

IFC (2020) reports that in South Africa, SMEs, particularly women-owned SMEs, contribute to the growth of the economy and the creation of jobs. Thus, women's economic empowerment has become an important strategy for the government's alleviation of poverty and gender-based inequality (IFC, 2020). In addition to its economic contributions to the country, women-owned SMEs also address the country's social and political concerns (Makwara, 2019).

According to Irene (2017), South Africa's rate of new and established businesses is the lowest globally and can be notably improved by fostering women's entrepreneurship (Irene, 2017). The government has therefore dedicated efforts towards the empowerment of women, providing grants and funds through the “Industrial Development Corporation,” and formulating

the “Department of Trade and Industry’s structure on Gender and Women’s Economic Empowerment” (OECD, 2018). The objective of the support framework is to facilitate economic opportunities and equalization of income and wealth, with an emphasis on supporting the advancement of women in all businesses (Government Gazette, 2019).

Information Technology and women-owned SMEs

Women-owned SMEs in South Africa have been slow to adopt technology, and this can be attributed to a lack of infrastructure and skills, as well as the high costs of technologies (Chimucheka, Dodd, and Chinyamurindi, 2018). To remain competitive and increase their efficiency and effectiveness, they need to take advantage of advances in IT and make more investments in IT.

SMEs led by owner-managers who lack basic IT and ITG knowledge may miss out on the potential impact IT could have on their business. Hence, securing top management support becomes crucial for the introduction and utilization of IT in the business (Alam et al., 2022).

Corporate Governance and women-owned SMEs

According to Kondlo (2016), the objective of corporate governance is to ensure that stakeholders act with integrity and in the interest of the business. Corporate governance allows for transparency and accountability among stakeholders (Kondlo, 2016).

According to Patmore and Vandayar (2020), women in South Africa may start a business due to their belief in a certain product or service and might not possess much experience and business knowledge. To these businesses, governance seems more of a compliance burden and is more suited to larger organizations with multiple shareholders (Patmore & Vandayar, 2020).

SMEs, however, do not have boards of directors, and the responsibility falls on the owner of the business (IFC, 2019). Hove-Sibanda et al. (2017) state that women business owners usually direct, manage, and perform many other duties, giving them full control of the business, and their decisions represent the decisions of the company. Even though they do consider adopting corporate governance, the thought of the significant costs and protocols that come with it would deter them from pursuing a formal governance structure (Hove-Sibanda et al., 2017).

Bosch, Van der Linde, and Barit (2020) found that the scarcity of female executive directors points to an insufficient representation of women in senior management roles within South African businesses. The key to unlocking the true value of a business is corporate governance, especially when it comes to women's representation on the board (Bosch, Van der Linde, and Barit, 2020).

IT Governance and women-owned SMEs

IT governance enables an organization to align business and IT strategy and ensures effective and efficient use of IT (Lindros, 2017). IT governance forms an essential part of corporate governance and seeks to ensure that any IT investments support the achievement of the organization's goals (Da Silva et al., 2019).

In today's competitive environment, it is important that women-owned SMEs not only understand how to use IT but also know how to govern IT (Aasi, 2018). IT governance is put in place to manage IT investments and to make sure that IT adopted in SMEs is prepared for any changes, without losing focus on what is necessary for the business. When adopted within women-owned SMEs, it could, in turn, lead to positive social and economic transformations (Westland, 2019).

In line with UNW's report in 2021, women-owned SMEs typically lack boards of directors, have limited management structures, and face a shortage of IT specialists to implement IT governance. Consequently, due to the scarcity of resources, they seek a cost-effective and straightforward IT governance framework (UNW, 2021).

Effective IT Governance:

The basis for functional IT governance is implementing mechanisms relating to the structure, procedure, and relational aspects of the business (Da Silva et al., 2020).

- *IT Governance structural mechanisms*

Da Silva et al. (2020) state that IT structural governance encompasses the organizational structure regarding the authority of decision-making when it comes to IT. However, in SMEs with environments that have little financial and human resources, the forming of committees and councils seems to be unrealistic (Da Silva et al., 2020). Nevertheless, one of the requirements for effective IT governance is a clear definition of responsibilities when it comes to IT (Lunardi et al., 2017).

According to Levstek, Pucihar & Hovelja (2022), an ITG framework for SMEs would have to provide for businesses without boards of directors, as they have a more centralized structure, and thus could be true in the context of women-owned SMEs. SMEs with owners who are more knowledgeable when it comes to IT and governance thereof are more likely to adopt IT (Levstek, Pucihar & Hovelja, 2022).

- *IT Governance procedural mechanisms*

The procedural aspect of IT governance involves monitoring and controlling and includes the tools and techniques that align IT with the business model (Bergeron et al., 2017). There are readymade frameworks that have already been tested and proven effective, such as COBIT and ITIL, which can be adopted and implemented in SMEs. Silva and Araújo (2016) suggest that SMEs prioritize operational aspects, leading them to employ monitoring and controlling methods that are primarily geared towards operations. After establishing core IT management and monitoring processes, it becomes feasible to implement supplementary procedural mechanisms to attain elevated levels of IT maturity (Da Silva et al., 2019).

- *IT Governance relational mechanisms*

Given the current existence of IT governance relational mechanisms, such as communication among key members and collaborative efforts between IT and non-IT staff, there is no immediate need for their implementation (Bergeron et al., 2017). The purpose of communication is to share IT information between organizational management and IT; this is business operations (Wu, Straub, Liang, 2015). Small companies, characterized by frequent strategy changes, pose challenges for their IT staff (Silva and Araújo, 2016). Consequently, a more structured knowledge transfer process becomes essential, wherein knowledge sharing serves as a mechanism for fostering mutual understanding between IT and the business (Lunardi et al., 2017).

1.7 Theoretical framework

Theories associated with corporate governance and information technology governance, in general, as well as frameworks commonly referred to in the field of CG and ITG, have, for the most part, been developed for larger enterprises (IFC, 2020).

Figure 1-1 below is a conceptual diagram comprised of the path taken to identify theories that are suited to women-owned SMEs. A combination of alternative theories, such as IDTIG and Contingency Theory, was identified and applied to this research. the conceptual framework

begins with the overarching topic of Small and Medium Enterprises (SMEs). We then narrow down the focus to Women SMEs and identify feminist theories, ultimately selecting cyberfeminism as it aligns with the information technology context of the study. Under cyberfeminism, we specifically choose the Individual Differences Theory of gender in information technology.

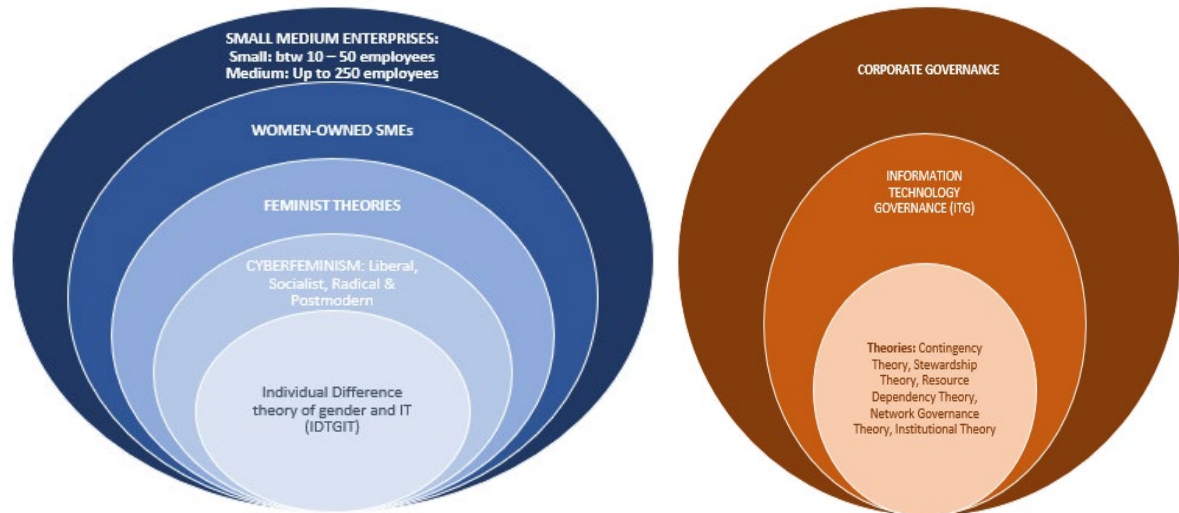


Figure 1-1 Conceptual framework based on relevant theories (researcher's contribution)

IDTGIT (Individual Difference theory of gender and IT)

Hino and Cunha (2019) highlight that gender research focuses on generating knowledge through women's lived experiences. A method to achieve this involves studying the within-gender distinctions among female IT executives (Hino and Cunha, 2019). By utilizing IDTGIT, the researcher can collect individual feedback from female IT executives and managers, enabling the identification of reasons behind the underrepresentation of female IT executives in South African businesses, as critical decisions are made in these settings.

According to Meela et al. (2018), there are three constructs of IDTGIT:

1. Individual identity construct: Analyses the role of female IT executives.
2. Individual influences construct: Studies the characteristics and educational background of female IT executives, and the shortage of mentors for female IT professionals pursuing leadership roles in IT.
3. Environmental influence construct: The participation of women in IT is mostly influenced by cultural factors. Therefore, the environmental influence construct was

adapted to explore the cultural impact on female IT professionals setting their sights on IT executive positions (Meela et al., 2018).

Contingency theory

Contingency Theory implies that the owner's capacity to lead is contingent on situational factors, which include the owner's style preference, capabilities, and behaviour. As asserted by Bergeron et al. (2017), the choice of governance mechanism depends on differing factors, including the organization's size, the manager's profile, technological inclination, and the company's relationship with suppliers, as well as their influence on organizational decisions. It is crucial to acknowledge that there is no one-size-fits-all structure for all companies, and the most effective organizational approach is one that tailors its structure to accommodate the diverse contingency factors (Bergeron et al., 2017).

The following conceptual diagram in Figure 1-2 below was developed from the literature review and theories that could support the survey instrument of this research. The starting point was the broader concept of Corporate Governance. This is further refined to Information Technology Governance, and relevant theories are explored. Contingency theory is chosen to align with the specific objectives and context of the thesis.

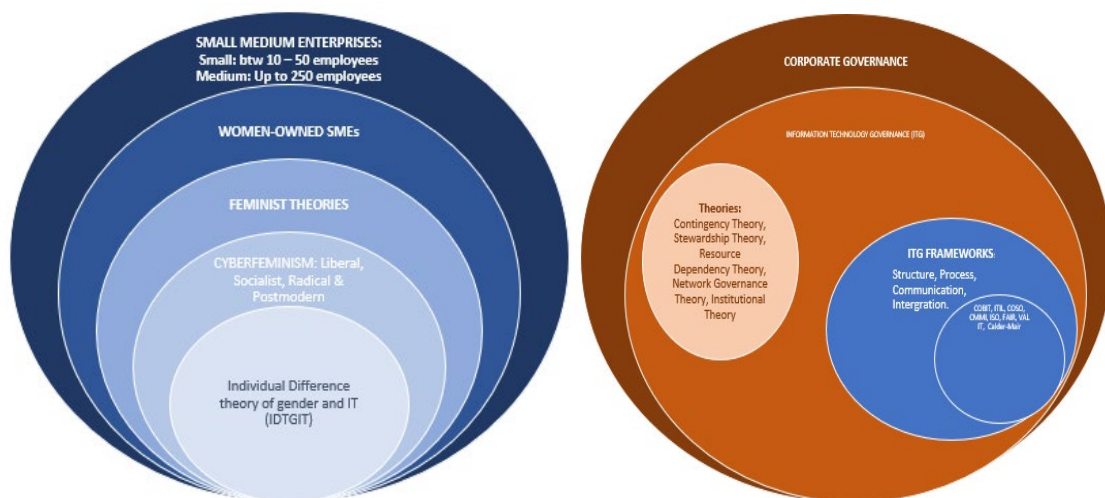


Figure 1-2 Conceptual Diagram developed from the literature that could support the survey instrument (researcher's contribution)

1.8 Design and methodology

This section discusses the research design and methodology that was applied in this research, including the approaches, methods, designs, data collection, and analysis techniques.

Research approach

Based on the objective of this study, which is to explore the development of an ITG framework that could potentially assist women-owned SMEs in South Africa, the inductive approach was adopted. The inductive approach is more suited to qualitative research, whereas quantitative research is more likely to comprise a deductive approach. According to Du Plooy-Cilliers, Davis, & Bezuidenhout (2014), inductive reasoning is "The logical model in which general principles are developed from specific observations." It is suitable for settings where not much information is known about a phenomenon being studied and allows the researcher to identify patterns that might emerge, which informs the understanding of factors relating to the research subject. Therefore, an inductive research approach was adopted for this study based on the need to infer from the findings so that a holistic ITG framework can be developed that could potentially assist women-owned SMEs in South Africa. The aim is to discover new theories developed from data. An inductive approach is appropriate, mostly because the outcome can be generalized as it utilizes the basis of a sample set to draw conclusions about a whole population.

Research methods

This is a qualitative study. Qualitative research is usually associated with interpretive and critical paradigms and is mostly concerned with describing meaning instead of statistical reasoning (Saunders et al., 2016). Qualitative methods focus on gaining more knowledge and being able to interpret the phenomena being studied by learning from the experiences and history of respondents. Husbands et al. (2017) state that the qualitative method can be used to develop artefacts such as models or frameworks from the findings of the study.

Considering the study's objective, which involves exploring the development of an ITG framework to potentially support women-owned SMEs in Cape Town South Africa, it adopts a qualitative approach. Qualitative methods are well-suited for understanding diverse viewpoints and opinions of individuals, and they prove effective in identifying intangible factors like social norms, socioeconomic status, and gender roles that might not be immediately evident (Taylor et al., 2015).

Research design

As per Sovacool et al. (2018), the research design refers to the researcher's blueprint, encompassing the plan, strategy, and structure guiding the collection of information from

respondents and the subsequent analysis of the gathered data. There are three design types commonly adopted in qualitative research, namely descriptive, explanatory, and exploratory.

In this study, a qualitative approach with an exploratory design was chosen, aiming to delve into the development of an ITG framework for women-owned SMEs in South Africa, given the scarcity of theoretical models in this domain.

Quintão, Andrade, and Almeida (2020) cited Yin (2017) and identified various commonly utilized research strategies, including case studies, surveys, ethnography, grounded theory, archival research, and experiments. The primary reason for adopting the case study approach is its ability to facilitate an investigation of a phenomenon. To explore the development of an IT governance framework for women-owned SMEs in Cape Town, South Africa, a multiple-case design was employed. This approach incorporates the utilization of various sources of evidence to examine a specific subject matter within its real-life context. This strategy promotes the need to investigate the topic from diverse viewpoints to provide meaningful information about the research phenomenon (Quintão, Andrade, and Almeida, 2020, cited in Yin, 2017).

The primary source of qualitative data collection occurs via questionnaires to resolve the research questions. The sampling technique used is non-probability sampling, which is suited to qualitative research studies, as it allows the use of various techniques for selecting samples established from a subjective perspective. The reason behind selecting non-probability sampling is that the findings do not have to be generalized to the larger population (Du Plooy-Cilliers, Davis, and Bezuidenhout, 2014). A purposive method of non-probability sampling was employed, with the focus on selecting individuals and organizations best suited to providing information about the primary structures that need to be in place to ensure the successful development of an IT governance framework in women-owned SMEs and to explore the factors influencing the implementation of an IT governance framework in women-owned SMEs in South Africa. Looking at the population size being studied and the research question, it can be determined which characteristics within the sample are relevant to the study (Du Plooy-Cilliers, Davis, and Bezuidenhout, 2014). Data was collected from respondents until the point of saturation was reached. The study's sample comprised SMEs owned by women, located in Cape Town, South Africa.

Data Collection

This section discusses the methodology used in a qualitative study, specifically the collection of data through questionnaires. Qualitative research aims to understand and interpret people's

perspectives and experiences, and questionnaires can be a valuable tool in this process (Aspers & Corte, 2019).

As per Aspers and Corte (2019), questionnaires prove advantageous in qualitative research as they offer a systematic method for collecting information from respondents. They allow researchers to gather a wide range of perspectives and experiences in a structured manner (Aspers & Corte, 2019). For this study, the questionnaire was specifically tailored to gather detailed qualitative data from small and medium enterprises (SMEs) owned by women.

However, the section also highlights a limitation encountered during the study. The researcher encountered hesitancy among certain potential respondents when it came to participating in interviews. To overcome this challenge, the researcher opted to administer questionnaires among respondents. Questionnaires offered respondents the flexibility to conveniently achieve completion. This strategy proved to be more appealing to those who were reluctant to participate in interviews.

By utilizing questionnaires, the researcher aimed to gather rich and in-depth qualitative data from the target group of SMEs owned by women, despite the initial reluctance to participate directly in interviews.

Data analysis

During qualitative data analysis (QDA) the examination of data snippets leads to the identification of repeating themes and patterns, endeavouring to uncover the majority opinions, views, and knowledge from the respondent sample (Frieze, 2014). While thematic analysis allows for the exploration of information, it carries the risk of overlooking finer details. This method is subjective and heavily relies on the researcher's judgment; thus, caution must be exercised when interpreting the data. This research includes an inductive approach, which allows the information to determine themes.

The research process included the uploading of collected data into a database together with electronic filing and labelling in readiness for further analysed. Data analysis was facilitated using software tools like Microsoft Word and Excel and a qualitative data analysis (QDA) tool ATLAS.ti (Frieze, 2014) for the development of the codebook and illustrative visualization of data via network diagrams.

1.9 Ethical considerations

Ethical considerations play a vital role in research, ensuring that the study is conducted responsibly and adheres to moral principles. The section emphasizes the importance of carefully considering the potential consequences of research decisions. Maintaining integrity in research requires researchers to be mindful of the ethical implications of their actions throughout the study. Researchers should be mindful of the ethical implications of their actions to ensure that the study is conducted with integrity. In this study, the researcher acknowledges the significance of ethical considerations and affirms that the research was conducted in accordance with accepted ethical standards for researchers.

To guarantee ethical compliance, the study obtained ethical clearance from the Cape Peninsula University of Technology's Faculty of Informatics and Design. Ethical clearance serves as an approval mechanism, ensuring that the research adheres to the essential ethical requirements and guidelines.

Regarding respondent consent, before engaging in the study, respondents were obligated to complete and sign a consent form. This crucial step ensured that respondents received appropriate information about the study's nature, purpose, and expected involvement. By signing the consent form, respondents confirmed their voluntary participation and understanding of the study's objectives.

Furthermore, respondents were provided with information about their rights and the voluntary nature of their involvement. They were reassured that they had the freedom to withdraw from the study at any point and to decline to respond to questions without experiencing any adverse consequences.

In conclusion, this section reflects the researcher's strong dedication to conducting the study ethically, evident through the attainment of ethical clearance, adherence to informed consent protocols, and utmost respect for the rights and autonomy of the research respondents.

1.10 Significance of study

This section highlights two main aspects: gender inequalities in business decision-making and the potential benefits of implementing an IT governance framework for women-owned small and medium enterprises (SMEs).

Firstly, the study aims to shed light on the gender inequalities that persist in the business realm, particularly in decision-making processes. By conducting this study, the researcher intends to bring attention to these inequalities, potentially raising awareness and fostering dialogue around the issue. This could contribute to efforts aimed at promoting gender equality and addressing the barriers faced by women in business.

Secondly, the study focuses on how the implementation of an IT governance framework can specifically benefit women-owned SMEs. IT governance refers to the framework of policies, processes, and structures that guide and control IT decisions and activities within an organization. By examining the potential impact of such a framework, the study aims to identify how women-owned SMEs can leverage IT governance to their advantage. This could include improving decision-making processes, enhancing operational efficiency, increasing competitiveness, or addressing specific challenges faced by these enterprises.

Overall, the significance of this study lies in its potential to contribute to addressing gender inequalities in business and providing insights into the benefits of implementing an IT governance framework for women-owned SMEs. By highlighting these issues and potential solutions, the study may help inform policy discussions, business strategies, and initiatives aimed at promoting gender equality and supporting the growth and success of women entrepreneurs.

1.11 Contribution of study

This section discusses the contribution of the study in three different aspects: theoretical, methodological, and practical.

Theoretical contribution

The study draws upon a combination of theories, including IDTIG and Contingency Theory. The theoretical contribution of the study lies in expanding the body of knowledge in IT governance. By applying these theories to the context of women-owned SMEs, the study aims to generate new knowledge and understanding regarding the implementation of IT governance in this specific context. This contribution helps to advance theoretical perspectives and insights related to IT governance in the realm of women entrepreneurship.

Methodological contribution

This contribution can through the reasoning of empirical results expand on existing theories. The research explores and bring to the fore all the elements that are contributing to the inequality women experience in the business sector of South Africa. Ultimately, the methodological contribution could be to reduce the research problem through the insightful use of the proposed research method.

Practical contribution

The study's practical contribution revolves around crafting a specialized IT governance framework designed explicitly for women-owned SMEs in Cape Town South Africa. As SMEs play a vital role in the country's economy, this framework has the potential to assist and support these businesses. By providing a practical tool for implementing effective IT governance in women-owned SMEs, the study aims to contribute to their growth, success, and overall economic impact.

Overall, the study's contribution lies in advancing theoretical perspectives on IT governance in the context of women-owned SMEs, expanding knowledge through empirical research, and providing a practical framework that can benefit women entrepreneurs in South Africa's business sector.

1.12 Conclusion

This chapter serves as an introduction to the study and provides a general summary of the research background and research problem. The aim, objectives, research questions and sub-questions are logically presented. A conceptual diagram outlines the path taken to identify theories that are suited to women-owned SMEs. A combination of alternative theories such as IDTIG and Contingency Theory was identified and applied to this research.

Furthermore, this chapter discusses the research design and methodology. Due to the necessity to infer from the findings, the study embraced an inductive approach. The study opted for qualitative methods to comprehend diverse viewpoints and opinions of individuals and to uncover intangible factors, such as social norms, socioeconomic status, and gender roles, which might not be immediately evident (Taylor et al., 2015). The approach was utilized as it allows the researcher to explore the factors influencing the development of an ITG framework in women-owned SMEs in South Africa. Data collected by way of questionnaires and thematic analysis facilitates the analysis of collected information. Data was examined, and themes which appeared repeatedly were identified trying to find out the majority opinions, views, and knowledge of people from the set of data. Ethical considerations concerning

participation in the study were highlighted and finally, the contributions of the study were systematically presented.

1.13 Dissertation Structure

Table 1-2 A Brief Outline of the Dissertation Chapters

Chapter 1 Introduction	This chapter introduces the dissertation providing an outline of the background to the research, highlighting the research problem, sharing the aim of the study, and setting out the research questions and objectives that guide the study. It presents a brief literature review followed by a design and methodology section. The chapter considers ethical issues, refers to the significance of the study and suggests the contributions made by the study.
Chapter 2 Literature Review	The literature review chapter defines the term SME followed by a brief overview of women-owned SMEs in South Africa. It then explores women-owned SMEs from two perspectives – information technology and corporate governance. The chapter closes by addressing IT governance and women-owned SMEs and their effectiveness.
Chapter 3 Research Design and Methodology	Chapter 3 discusses research design – philosophy, approach, strategy, choice and time horizon. Methodological considerations include research context, methods, the population that underpins the study and the chosen sampling method. It additionally addresses ethical aspects associated with the study.
Chapter 4 Research Results	The results of the study are reported in Chapter 4. The chapter includes an analysis of data collected by questionnaire instruments leading to the generation and categorization of themes. A summary describes themes and categories.
Chapter 5 Presentation and Interpretation of Findings	Chapter 5 presents and interprets the findings of the study. Reporting of the findings is structured around the two secondary research questions. For each interpreted finding, the chapter discusses associated implications and recommendations.
Chapter 6 Conclusion	The final chapter closes the study. It first revisits the secondary research questions, leading to the answering of the main research question. Theoretical, methodological and practical contributions are then proposed. Finally, limitations and future research opportunities are presented.

2 CHAPTER TWO LITERATURE REVIEW

2.1 Introduction

The literature review is a technique used to obtain an understanding of the phenomenon being studied and to identify gaps, which assist researchers in determining where the study can be conducted (Neupane, 2020).

This chapter presents the literature review related to this study. It supports the exploration of the development of an ITG framework, potentially assisting women-owned SMEs in South Africa. This chapter comprises six sections, namely:

- Definition of SMEs;
- Women-owned SMEs in South Africa;
- Information technology and women-owned SMEs;
- Corporate governance in women-owned SMEs;
- IT Governance and women-owned SMEs; and
- Effective IT governance.

2.2 Definition of SMEs

This section provides an overview and clarification of what constitutes an SME. Section 2.2 is important for understanding the specific context of the study. There are various definitions of SMEs, but generally, they are categorized as registered companies with less than 250 employees (IFC, 2019). Other definitions may include revenue thresholds and might differ by country and industry.

According to Zulu (2019), the definition of SMEs is as follows: "A separate and distinct business entity, together with its branches or subsidiaries, if any, including cooperative enterprises, managed by one owner or more predominantly carried on in any sector or subsector of the economy mentioned in column 1 of the Schedule and classified as a micro, a small, or a medium enterprise by satisfying the criteria mentioned in columns 3 and 4 of the Schedule" (Zulu, 2019). The schedule is included below as Figure 2-1.

For consistency, the definition based on the number of employees is used, as it places most businesses associated with the study in the SMEs category.

SCHEDULE 1*The new National Small Enterprise Act thresholds for defining enterprise size classes by sector, using two proxies*

Column 1	Column 2	Column 3	Column 4
Sectors or sub-sectors in accordance with the Standard Industrial Classification	Size or class of enterprise	Total full-time equivalent of paid employees	Total annual turnover
Agriculture	Medium	51 - 250	≤ 35,0 million
	Small	11- 50	≤ 17,0 million
	Micro	0 - 10	≤ 7,0 million
Mining and Quarrying	Medium	51 - 250	≤ 210,0 million
	Small	11- 50	≤ 50,0 million
	Micro	0 - 10	≤ 15,0 million
Manufacturing	Medium	51 - 250	≤ 170,0 million
	Small	11- 50	≤ 50,0 million
	Micro	0 - 10	≤ 10,0 million
Electricity, Gas and Water	Medium	51 - 250	≤ 180,0 million
	Small	11- 50	≤ 60,0 million
	Micro	0- 10	≤ 10,0 million
Construction	Medium	51 - 250	≤ 170,0 million
	Small	11- 50	≤ 75,0 million
	Micro	0- 10	≤ 10,0 million
Retail, motor trade and repair services.	Medium	51 - 250	≤ 80,0 million
	Small	11- 50	≤ 25,0 million
	Micro	0 - 10	≤ 7,5 million
Wholesale	Medium	51 - 250	≤ 220,0 million
	Small	11- 50	≤ 80,0 million
	Micro	0 - 10	≤ 20,0 million
Catering, Accommodation and other Trade	Medium	51 - 250	≤ 40,0 million
	Small	11- 50	≤ 15,0 million
	Micro	0 - 10	≤ 5,0 million
Transport, Storage and Communications	Medium	51 - 250	≤ 140,0 million
	Small	11- 50	≤ 45,0 million
	Micro	0 - 10	≤ 7,5 million
Finance and Business Services	Medium	51 - 250	≤ 85,0 million
	Small	11- 50	≤ 35,0 million
	Micro	0- 10	≤ 7,5 million
Community, Social and Personal Services	Medium	51 - 250	≤ 70,0 million
	Small	11- 50	≤ 22,0 million
	Micro	0 - 10	≤ 5,0 million



Lindiwe D Zulu, MP
Minister of Small Business Development

Date: 27/02/2019

2

Initial 

Figure 2-1 Schedule 1 – National Small Enterprise Act thresholds for defining enterprise size classes by sector.

2.3 Women-owned SMEs in South Africa

This section concentrates on the characteristics, challenges, and significance of women-owned SMEs in the South African context, shedding light on the specific context in which the study is situated.

According to the IFC (2020), SMEs, especially women-owned SMEs, play a significant role in contributing to the growth of South Africa's economy and job creation. As a result, women's economic empowerment has become a crucial strategy for the government's efforts to alleviate poverty and gender inequality (IFC, 2020). Additionally, women-owned SMEs address social and political concerns in the country (Makwara, 2019).

Previous research, as reported by Irene (2017), has labelled women entrepreneurs as "necessity" entrepreneurs and men as "opportunity" entrepreneurs. As necessity entrepreneurs, women may possess a limited understanding of business operations and management, as well as fewer skills and competencies (Irene, 2017). Orser et al. (2019) highlight that the success of women-owned SMEs largely depends on the owner's capabilities. Therefore, it is crucial to develop competencies among women entrepreneurs to provide them with a sustainable competitive advantage. One way of achieving this is through government-driven programs. Moreover, the low sustainability of women-owned businesses may also be linked to procedural challenges and cultural biases, such as limited access to productive resources and information technology (Orser et al., 2019).

The Global Entrepreneurship report for South Africa, as cited by Irene (2017), emphasizes that the country's economic development can be significantly improved by encouraging self-employment among women and implementing intervention programs to increase their involvement in business. To address this, the government has dedicated efforts to empower women through initiatives like grants and funds from the "Industrial Development Corporation" and the "Department of Trade and Industry's structure on Gender and Women's Economic Empowerment" (OECD, 2018). The objective of this support framework is to create economic opportunities, equalize income and wealth, and promote the advancement of women in all business sectors (Government Gazette, 2019). Additionally, the government has established the "Technology for Women" initiative to help women apply technology-based business solutions to enhance their businesses.

2.4 Information technology and women-owned SMEs

Romanyuk et al. (2022), describes information technology as the use of technology to solve business or organizational problems. SMEs in South Africa have been sluggish in adopting technology, particularly women-owned SMEs, and this can be ascribed to a scarcity of infrastructure and skills, along with the elevated expenses associated with technologies (Chimucheka, Dodd, and Chinyamurindi, 2018). SMEs in South Africa have been slow to adopt technology even slower when it comes to women-owned SMEs, and this can be attributed to a lack of infrastructure and skills as well as the high costs of technologies (Chimucheka, Dodd, and Chinyamurindi, 2018). For SMEs to remain competitive and increase their efficiency and effectiveness, they need to take advantage of the advances in IT and make more investments in IT.

Afolayan (2020) states that “the technological context of a business has a high impact on SMEs adoption of ICT. Compatibility, and relative advantage are found to be significant in determining ICT adoption and impact”. SMEs may not find it necessary to invest in ICT unless they can benefit from the implementation and the opportunities that it brings to the company (Afolayan, 2020).

Small and Medium Enterprises (SMEs) appear to lack specialized IT expertise and technical skills, and their ability to adopt new business practices based on IT relies solely on the support they can access (Good Things Foundation, 2019). Alam et al. (2022) state that SMEs led by owner-managers who lack basic IT knowledge may lose out on the potential impact IT could have on their business, therefore, executive leadership backing is crucial for the implementation and utilization of IT in business (Alam et al., 2022).

“Where owner-managers and senior managers are more involved, businesses seem to be benefitting more from ICT use as their involvement often translates to better understanding of the need for continued support, training and skills development, ensuring that all ICT purchased are linked to business objectives or needs” (Alam et al., 2022).

2.5 Corporate governance and women-owned SMEs

Section 2.3 examines the existing literature on corporate governance practices within women-owned SMEs, exploring how governance mechanisms and practices are implemented and how they can influence the performance of these enterprises.

Kondlo (2016) defines "governance as a system in which businesses are directed and controlled." The purpose of governance is to ensure that stakeholders act with integrity, keeping the interest of the business in mind. Hence, the responsibility for practising corporate governance lies with the board of directors to deter any misuse of the director's authority. Corporate governance promotes transparency and accountability among stakeholders (Kondlo, 2016).

According to Patmore and Vandayar (2020), women in South Africa may start a business based on their belief in a certain product or service and may not possess much experience and business knowledge. For these businesses, governance might appear more as a compliance burden and seems more suited to larger organizations with multiple shareholders (Patmore & Vandayar, 2020). Willan et al. (2016) states, "Organizations, whether big or small, face similar challenges when it comes to the application of corporate governance and compete in an environment where good governance is essential for the performance and long-term sustainability of a company" (Willan et al., 2016).

SMEs, however, do not have boards of directors, and the responsibility falls on the owner of the business (IFC, 2019). Hove-Sibanda et al. (2017) state that women business owners usually direct, manage, and perform other duties, giving them full control of the business, and their decisions represent the company's decisions. For these owners, governance is seen as a threat, as they would have to report mistakes as well as achievements to a board. Even though they consider adopting corporate governance, the thought of the significant costs and protocols that come with it would deter them from pursuing a formal governance structure (Hove-Sibanda et al., 2017).

South Africa's government has made efforts to encourage corporate governance in SMEs, guided by the King Report III in 2009, and the King Report IV in 2016 (Hove-Sibanda et al., 2017). King IV, building on King III, represents the most recent development in South Africa's corporate governance best practices and was a positive step forward as it is principle and outcome-based, considering the realities of today's business world, especially SMEs (Van Rensburg, 2016). The benefit of King IV is that it allows each SME to consider its size and complexity while implementing or adopting practices to achieve desired outcomes (Kondlo, 2016). According to Van Rensburg (2016), this scalability implies that an SME can adapt its governance processes as the company expands and hires more employees.

Regarding power and responsibility on the board, the King IV report recommends that it should comprise "executive directors, who are directly involved in the running of the business, and

non-executive directors who are appointed by shareholders in an oversight capacity, as well as independent directors who have no interest, position, or association with the business." According to Bosch et al. (2020), the King IV Report suggests that "at least 25% of the board should be non-executive members, most of whom should be independent, and statistics show that over 80% of women directors are non-executive directors. Therefore, the absence of women executive directors suggests an insufficient representation of female senior managers in South African businesses. The key to unlocking the true value of a business is corporate governance, especially concerning women's representation on the board (Bosch, Van der Linde, and Barit, 2020). Due to South Africa's history of discrimination, most board members are not equipped with the necessary skills required, and they acquire them while serving on the board (Mans-Kemp & Viviers, 2015).

With new technologies and the growing need for businesses to adopt different technologies, the implementation of IT governance has become essential. Senior management has to establish appropriate IT governance frameworks to provide value to the business (Da Silva et al., 2019).

2.6 IT governance and women-owned SMEs

This section explores the literature on IT governance, specifically in the context of women-owned SMEs, examining how IT governance practices can impact the performance, growth, and competitiveness of these enterprises.

IT governance enables an organization to align business and IT strategy and ensures effective and efficient use of IT (Lindros, 2017). According to Da Silva et al. (2019), corporate governance significantly influences the advancement of IT governance within a business. IT governance is an integral component of corporate governance and aims to ensure that all IT investments are in line with the organization's goals (Da Silva et al., 2019). It is the responsibility of senior management and cannot be left solely to the IT staff, as it defines the processes that guarantee the support of organizational strategies (Bergeron et al., 2017). Organizations that follow a formal framework need to consider stakeholders, staff members and the processes they should adhere to (Da Silva et al., 2019).

Women-owned SMEs and SMEs in general do not depend on strategic IT and business alignment but focus more on production activities and reducing budgets, which usually do not include IT in their development plan. In today's competitive environment, it is important that women-owned SMEs not only understand how to use IT but also know how to govern IT (Aasi, 2018). IT governance is put in place to manage IT investments and ensure that IT adopted in

SMEs is prepared for any changes without losing focus on what is necessary for the business, and when adopted within women-owned SMEs, it could lead to positive social and economic transformations (Westland, 2019).

Furthermore, it is essential to bear in mind that women-owned SMEs face significant budget limitations. As IT has become mandatory, alongside meeting minimum governmental requirements, evaluating the tangible benefits of allocating resources appropriately becomes crucial (Aasi, 2018). Hence, in an environment with limited investment capacity, such as that of women-owned SMEs, the correct implementation and effective utilization of IT resources, aligned with organizational needs, become vital for the success of IT investments. Consequently, the establishment of IT governance becomes imperative for a business (Mgunda, 2019).

As mentioned above by Irene (2017), the governing body needs to manage the implementation of IT strategy, which includes core activities such as IT management structure, strategic IT vision, and the establishment and implementation of the business's IT investment. The IT vision of the business serves as the foundation for recording IT governance decisions needed to enable the creation of an IT strategy that aligns with the business strategy. IT investment and subsequent decision-making form the principal control mechanism to ensure that IT initiatives adhere to the enterprise's strategic IT principles (Irene, 2017).

As per Levstek, Pucihar, and Hovelja (2022), standardized frameworks like COBIT, ITIL, and CMMI are typically universal, not in alignment with Contingency Theory, and mostly tailored for large enterprises, making them complex and expensive for SMEs to implement effectively. Consequently, there arises a requirement for a more efficient contingency-based framework that is user-friendly and adjustable to meet the specific needs of businesses (Levstek, Pucihar, & Hovelja, 2022).

As per UNW (2021), women-owned SMEs lack boards of directors and have restricted management structures, leading to a scarcity of IT specialists for IT governance implementation. Consequently, due to resource constraints, they necessitate an IT governance framework that is budget-friendly and straightforward to adopt (UNW, 2021).

2.7 Effective IT governance

This section delves deeper into the literature on effective IT governance practices and frameworks. It seeks to identify and comprehend the crucial components and factors that contribute to the success of IT governance endeavours overall.

Da Silva et al. (2020) suggest the basis for functional IT governance involves a three-fold approach involving the implementation of mechanisms relating to structure (2.7.1), procedure (2.7.2), and relational aspects of the business that align with the mission, strategy, and values of the business (2.7.3).

2.7.1 IT Governance structure mechanisms

IT governance structural mechanisms enable IT to promote transparency regarding business values, well-defined competencies, and responsibilities, while effectively managing risks and addressing business needs (Levstek, Pucihar, & Hovelja, 2022).

Da Silva et al. (2020) state that IT structural governance encompasses organisational structure regarding the authority of decision-making when it comes to IT. However, in women-owned SMEs with environments that have little financial and human resources, the forming of committees and councils seems to be unrealistic. The establishment of these structural governance mechanisms can be initiated as soon as the organization commits to supporting them, both in terms of financial and structural backing (Da Silva et al., 2020).

One of the requirements for effective IT governance is a clear definition of responsibilities when it comes to IT (Lunardi et al., 2017). The structural aspect of IT governance highlights control and coordination and employing a framework to select and prioritize IT projects can yield numerous advantages (Bergeron et al., 2017). Therefore, the initial dimension of a governance framework would comprise IT governance structures, which consist of the entities accountable for IT decisions. At this point, the appointment of qualified women in those positions is one way of combating the scourge of inequality based on gender in the workplace, especially when it comes to IT positions as in today's working environment, men tend to fill most of the IT positions (Afoloyan, 2017).

According to Levstek, Pucihar & Hovelja (2022), an ITG framework for SMEs, would have to provide for a business without boards of directors, as they have a more centralised structure and thus could be true in the contest of women-owned SMEs. SMEs with owners who are more knowledgeable when it comes to IT and governance thereof are more likely to adopt IT (Levstek, Pucihar & Hovelja, 2022).

2.7.2 IT Governance procedural mechanisms

The procedural aspect of IT governance involves monitoring and controlling and includes the tools and techniques that align IT with the business model (Bergeron et al., 2017). Procedural

IT governance mechanisms have been identified, such as strategic planning of information systems, IT indicators, and the use of accepted frameworks such as COBIT and ITIL, which can be adopted and implemented in SMEs. These recognized frameworks have been utilized and validated in a diverse range of settings, with abundant available documentation and demonstrated efficacy. Nonetheless, it is a reality that their implementation is not straightforward, which frequently results in their disuse or abandonment (Silva, Araújo, & Dornelas, 2018).

SMEs place a higher emphasis on operational aspects; hence, they employ monitoring and controlling methods that are more operation-centric. This will, in turn, give them a better view of the value that IT brings to the organization. Once fundamental IT management and monitoring processes are established, supplementary procedural mechanisms can be implemented to attain advanced levels of IT performance (Da Silva et al., 2019). According to Da Silva, Dornelas, Da Silveira & Lucena (2019), in the context of SMEs, the procedural dimension of IT governance comprises two fundamental elements. The first element is process monitoring and IT management, while the second element involves the utilization of performance metrics.

2.7.3 Governance relational mechanisms

The relational mechanisms of IT governance include the participation of the IT area in the business (Wu, Straub, & Liang, 2015). IT governance relational mechanisms, such as communication between key members and shared work between IT and non-IT staff, already exist; therefore, they may not need to be implemented (Bergeron et al., 2017). The purpose of communication is to share IT information between organizational management and IT, fostering a collective understanding of business operations (Wu, Straub, Liang, 2015).

Small companies tend to change strategies more frequently, making it a challenging process for the IT staff (Silva and Araújo, 2016); thus, a more formal transfer of knowledge is required, and knowledge sharing can be a mechanism used for IT to understand the business and vice versa (Lunardi et al., 2017).

According to Da Silva, Dornelas, Da Silveira & Lucena (2019), The goal of an SME is to gain a deeper understanding of everyday IT, encompassing the technologies in use, current trends, and for IT to comprehend how technology enhances organizational processes and identifies areas for improvement. The three fundamental elements for the relational aspect of IT governance in SMEs consist of IT leadership, shared learning, and communication between the organization and IT. Effective communication and training foster trust between the parties,

facilitating the exchange of visions and the establishment of common goals between the organization and IT. (Da Silva, Dornelas, Da Silveira & Lucena, 2019).

As established, successful IT governance is achieved through a fusion of structural, procedural, and relational mechanisms, and it is contingent on company size, among other variables (Bergeron et al., 2017). With regards to SMEs, relational mechanisms already exist, which makes the implementation simpler (Ukko, Saunila, & Rantala, 2020). In the study of Da Silva et al. (2019), it is stated that a starting point in a proposed framework is defining roles and responsibilities, thus appointing a professional in charge of IT, who can direct the business efforts made in technology. In the context of SMEs, relational IT governance mechanisms are present because the context is composed of close relationships, shared mutual goals, and the confidence that the actions taken by both parties are always aimed at improving the organization (Mulyana, Rusu & Perjons, 2021).

2.8 Conclusion

The literature review encompasses all key aspects of this study. The topics most relevant to the key areas of this study are Information Technology Governance and women-owned SMEs. The review is conducted in an organized manner, which enables a logical flow, helping to identify gaps in the phenomenon being studied. The following chapter offers an all-encompassing comprehension of the research methodology employed in this study.

3 CHAPTER THREE RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The introduction outlines the research design and methodology utilized in this study, in line with the research questions and objectives included in Table 1-1 in Chapter 1, Section 1.5. Research methodology pertains to the systematic approach adopted to address a research problem (Patel & Patel, 2019). It encompasses diverse approaches, strategies, and methods implemented during the research process. Sections within this chapter include the research design (3.2), methodology (3.3), and ethics (3.4). The methodological section elaborates on the collection and analysis of primary data.

This exploratory research aims to investigate the development of an IT governance (ITG) framework in women-owned small and medium enterprises (SMEs) specifically in South Africa. Theoretical models related to this domain are currently limited, prompting the need for exploration. Additionally, the author plans to identify the primary structures required for the successful development of an IT governance framework, as well as factors that might influence its implementation within women-owned SMEs in South Africa. By examining this research area, the author intends to establish a foundation for future studies in this field.

Research questions and objectives outlined in Chapter 1 (Table 1-1) are conveniently repeated here as Table 3-1 for reference purposes. They delineate the design and methodology adopted for the study.

Table 3-1 Research Questions and Corresponding Research Objectives

Research Questions	Research Objectives
MRQ: How can an ITG framework be developed that could potentially assist women-owned SMEs in South Africa?	MRO: To explore the development of an ITG framework that could potentially assist women-owned SMEs in South Africa.
SRQ1: What are the factors that influence the implementation of an IT governance framework in women-owned SMEs in South Africa?	SRO1: To investigate the factors influencing the implementation of an IT governance framework in women-owned SMEs in South Africa.
SRQ2: What primary structures need to be in place to ensure the successful development of an IT governance framework in women-owned SMEs in South Africa?	SRO2: To determine which primary structures, need to be in place to ensure the successful development of an IT governance framework in women-owned SMEs.

3.2 Research design

The research design encompasses the plan, strategy, and structure followed by the researcher in collecting information from respondents and analysing the gathered data (Sovacool et al., 2018). Its primary objective, as stated by Asenahabi (2019), is to convert a problem into analysable data, thereby obtaining accurate answers to research questions at minimal cost. The research design determines the required types of analysis to achieve the desired results. It outlines the data types needed, the procedures for data collection and analysis, and how the data addresses the research questions (Asenahabi, 2019). The Research Onion (Saunders and Lewis, 2012) models the research design of the study depicted below as Figure 3-1.

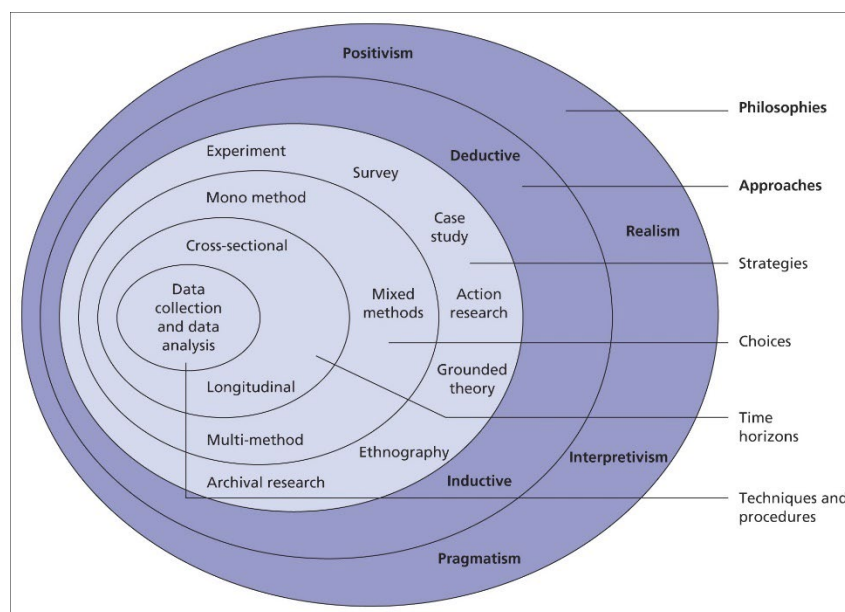


Figure 3-1 Research Onion (Saunders and Lewis, 2012)

3.2.1 Research Philosophy

The research approach acts as a pivotal framework that directs the choice of data collection, analysis, and interpretation methods in accordance with the research problem. In this study, the aim is to develop an IT governance (ITG) framework for women-owned small and medium enterprises (SMEs) in South Africa. An interpretivist philosophy facilitates exploration and understanding of this phenomenon. Therefore, it underpins the study enabling investigation of the subjective experiences and interpretations of respondents. In this study, an interpretivist approach is adopted to explore the development of an ITG framework for women-owned SMEs in South Africa. The interpretivist perspective recognizes that reality is socially constructed and emphasizes understanding human experiences, meanings, and interpretations within specific

contexts. By adopting this approach, the study aims to gain insights into the subjective experiences and interpretations of respondents regarding the ITG framework's development.

3.2.2 Approach to data collection and data analysis

The research approach encompasses two primary categories: the approach to data collection and the approach to data analysis. Data analysis methods commonly used are the inductive approach and the deductive approach.

The deductive approach is suitable for quantitative data analysis and involves testing existing theories by applying them to the collected data. It assumes that if an answer is verified to be true, then it is accepted as true without any additional deliberation or examination (Mitchell, 2018).

Conversely, the inductive approach is utilized for qualitative data analysis, allowing researchers to develop new theories based on the data collected. Borgstede and Scholz (2021), emphasizes that the inductive approach is often referred to as the bottom-up approach, as it involves deriving theories from the data. The inductive approach focuses on a thorough understanding of the research problem and is suitable when limited information is available about the phenomenon under study. It is known for providing new knowledge and insights into research questions (Borgstede and Scholz 2021).

Considering the aim of exploring the development of an ITG framework for women-owned SMEs in South Africa, the inductive approach is chosen as the research approach. This decision enables an understanding of the phenomenon under study. Additionally, the inductive approach allows for the generalization of study outcomes and drawing conclusions about the larger population based on premises established through a sample set.

In summary, the research approach employed in this thesis is characterized by an inductive approach, facilitating an in-depth exploration, and understanding of the development of an ITG framework for women-owned SMEs in South Africa. By adopting this approach, the researcher can generate new knowledge, gain insights, and draw conclusions that have wider applicability to the target population.

3.2.3 Research strategy

In Figure 3-2 below, a summarized representation of the research strategy is presented, providing a concise overview of design types further elaborated in the subsequent sub-sections.

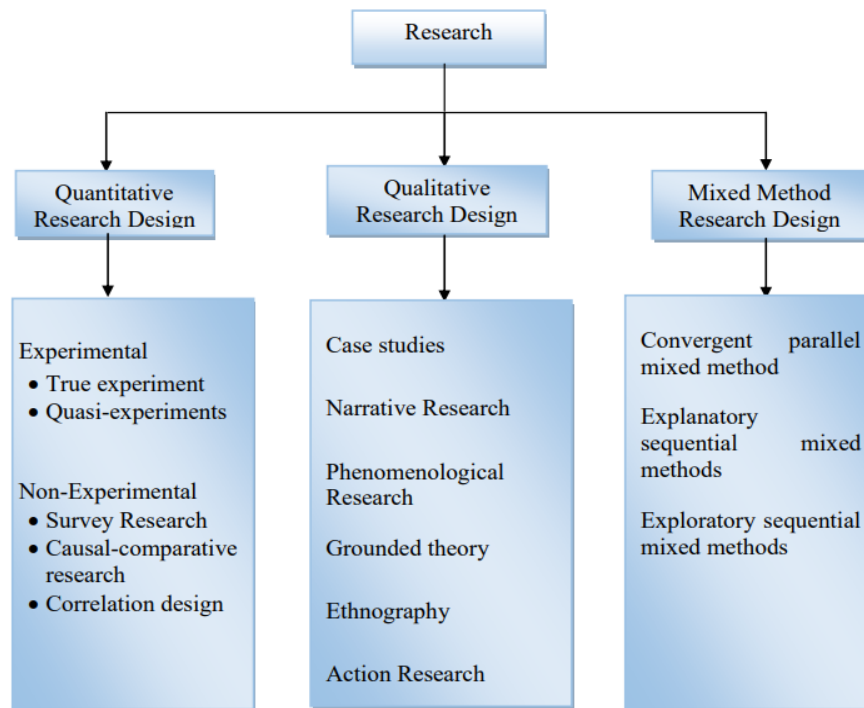


Figure 3-2 Summarized form of research design types (Asenahabi, 2019)

There are three design types commonly adopted in qualitative research, namely descriptive, explanatory, and exploratory. Since each design pursues a distinct objective, the categorization is established on the study area's goal (Boru, 2018).

- *Descriptive research design*

According to Aggarwal & Ranganathan (2019), the descriptive research design aims to offer a detailed depiction of a specific research topic or phenomenon of interest. It is suitable when the objective is to observe, document, and analyse the characteristics, behaviours, or phenomena within a particular population or context, without manipulating variables or establishing causal relationships. Descriptive research methods are employed to outline the characteristics of the variables under investigation. With this methodology, addressing "what" questions concerning the study issue rather than "why" inquiries are prioritized (Aggarwal & Ranganathan, 2019).

- *Explanatory research design*

Explanatory research design, as described by George and Merkus (2023), focuses on investigating the causes of a phenomenon based on the available limited information. This form of research facilitates a deeper comprehension of a subject, the identification of the causality or reasons behind a specific phenomenon, and the capability to make future predictions. It employs a "cause and effect" approach, aiming to uncover previously unrecognized patterns and trends within existing data. By addressing the "why" and "how" questions, explanatory research enhances comprehension of unsolved topics and provides clarity for future research endeavours related to the subject matter (George & Merkus, 2023).

- *Exploratory research design*

George and Merkus (2023) define exploratory research design as a methodological strategy that examines research questions that have not been extensively explored before. Typically, exploratory research has a qualitative focus, although studies with a large sample size that adopt an exploratory approach can also employ quantitative methods. This form of research, commonly known as interpretive research or grounded theory, is distinguished by its adaptable and exploratory nature. Exploratory research is commonly conducted when investigating a problem for the first time or when data collection is challenging for various reasons. It is particularly useful when studying broad concepts or specific subjects for which there is a lack of prior information or established paradigms (George & Merkus, 2023).

This questionnaire-based survey research strategy adopts a qualitative approach with an exploratory design, as the author aims to delve into the development of an IT governance (ITG) framework in women-owned SMEs in South Africa, an area where theoretical models are limited. Moreover, the author intends to explore the essential structures necessary for successful IT governance framework development and examine the factors that may influence its implementation within women-owned SMEs in Cape Town, South Africa. By conducting a detailed exploration of this research domain, the author seeks to lay the groundwork for future investigations in this area.

3.2.4 Choice and time horizon

The study is characterised by a mono-method choice where cross-sectional data is collected via a questionnaire instrument consisting of open-ended items.

3.3 Research Methodology

This section revisits the context of the study before outlining various methodological aspects, including methods, population and sampling data collection and analysis.

3.3.1 *The context of the study*

The context of this study focuses on data collected from women-owned SMEs located in Cape Town, South Africa. To ensure consistency in the research, the classification of SMEs based on the number of employees was adopted, as it represents most businesses in this category.

Ethical clearance was obtained from the Cape Peninsula University of Technology (CPUT) to collect data and gain a deeper understanding of the factors influencing the adoption of IT governance in women-owned SMEs. The respondents included women who were either full or partial owners of their businesses. Thirteen respondents in total took part in the study, and questionnaires comprising open-ended items were utilized to gather data. The goal aimed to reach a point of saturation signifying the stage at which all respondents would provide the same information to the researcher (Saunders et al., 2016). This indicates further participation would not provide new insights or perspectives.

By focusing on women-owned SMEs in Cape Town, this study aims to provide valuable insights into the adoption of IT governance in this specific context. Chapter Four reveals the results derived from the data collected, providing a detailed examination of the factors influencing the adoption of IT governance in women-owned SMEs in Cape Town, South Africa.

3.3.2 *Research methods*

Research methods are generally categorized as qualitative and quantitative. Both these methods possess distinguishable properties and data collection methods. The researcher has the option to use either one of the two methods, or they can apply both methods which is known as the mixed method and is generally used when a single method cannot provide adequate answers to the research objectives (Venkatesh et al., 2013).

The quantitative method is primarily concerned with numbers and follows an objective nature, where there can only be one truth, even when different researchers have conducted the same study (Bhandari, 2020). According to Apuke et al. (2014), when employing a quantitative method, a researcher can describe the phenomenon being studied by linking the theory to the

phenomenon. Furthermore, Streefkerk (2019) asserts that the quantitative method is used to assist the researcher in testing theories.

On the other hand, qualitative research is associated with interpretive and critical paradigms and focuses on describing meaning rather than statistical reasoning (Saunders et al., 2016). Qualitative methods aim to gain more knowledge and interpret the phenomena being studied by learning from the experiences and history of respondents. It is therefore subjective in nature, acknowledging multiple realities (Iyamu, 2019). Husbands et al. (2017) state that the qualitative method can be used to develop artefacts such as models or frameworks from the findings of the study.

An interview strategy proved to be challenging due to respondent reluctance to commit time to the process. Busy schedules precluded the availability of respondents to participate in face-to-face data collection via interviews. Hence an alternative data collection plan evolved as a solution. The researcher converted interview questions into custom-designed questionnaires comprising twelve open-ended items in readiness for digitally administering the instrument among sample respondents. This choice is primarily due to the qualitative method's ability to understand the different views and opinions of individuals and its effectiveness in identifying intangible factors that are not readily apparent, such as social norms, socioeconomic status, and gender roles (Taylor et al., 2015). Qualitative methods allow respondents to express their circumstances according to their understanding (Mohajan, 2018). Questionnaires are widely utilized in social science research, especially when structured data related to beliefs and experiences need to be collected (Kumar, 2022).

Initially, an ethical consent form (Appendices B1 and B2) was distributed via email to respondents who had agreed to participate in data collection. Thereafter, the researcher emailed the questionnaire instrument (Table 3-2, Appendices C1 and C2) comprising open-ended items that explored perceptions and opinions (Creswell, 2014) to thirteen respondents.

The questionnaire approach to data collection provided a convenient and flexible means of gathering data, collecting relevant data that directly addressed the research questions and assisted in the development of a theoretical framework for implementing IT governance in women-owned SMEs in South Africa. By utilizing a questionnaire-based design, the study aimed to gather specific information and insights from the respondents regarding their experiences and perspectives on IT governance in women-owned SMEs. The structured nature of the questionnaire allowed for standardized data collection, facilitating a systematic analysis and comparison of responses.

Table 3-2 below sets out the structure of the questionnaire instrument.

Table 3-2 Format of Questionnaires

Question	Purpose
Q1. What are your current responsibilities in the company?	To identify the most common position women occupy in a business.
Q2. What tertiary qualification do you possess?	- To identify the level of competencies and the owners' values when it comes to business. - These two aspects could potentially influence the adoption of IT governance in the business. Education plays a vital role in fostering the development of critical thinking and problem-solving abilities, both of which are fundamental to running a successful business. - These skills enable entrepreneurs to effectively tackle challenges, make well-informed decisions, and drive innovation to maintain a competitive edge.
Q3. What is your understanding of the term information technology governance (ITG)?	To test the level of knowledge respondents, have on IT governance and if they have had any exposure to IT governance.
Q4. Studies show that women who own their own businesses, often encounter barriers concerning the position they hold in their business and when it comes to decision-making. What is your view on this as a woman owner?	To gather information from respondents as to their experiences as women owners or women in executive or management positions, especially if they are not the sole owners of the business.
Q5. Are you currently using any sort of information technology in the business?	To determine the type of information systems currently being used.
Q6. Do the current information technology solutions support what your business does best?	To determine whether the current IT systems support the business needs and get their opinion on what IT solutions could further enhance their business.
Q7. Is there any formal business strategy in place for your company?	To ascertain the outcome of the proposed framework is strategic IT and business strategy, therefore, we need to determine whether there are business strategies in place.
Q8. In your opinion, would implementing a more formal information technology structure benefit your business?	To gather information from respondents and derive from that data what their opinions are about formal structures (ITG structures) being implemented.
Q9. What are the decision-making procedures for suggesting, assessing, sanctioning, and ranking IT investments?	To establish whether there are processes in place when it comes to IT investments.
Q10. How are the outcomes of these procedures monitored and conveyed to different stakeholders?	To identify whether these businesses have any structures in place when it comes to accountability.
Q11. Have you considered including the role of information technology in your growth strategy for your business? Please elaborate.	To determine whether according to the owner, IT is crucial to the business and whether they would go to the extent of including it in their growth strategy.
Q12. Now that we have come to the end of my set of questions, is there anything further that you would like to comment on that could potentially contribute to my research? Specifically, when it comes to women in business and ITG.	To determine whether any additional aspects could potentially contribute to my research.

To ensure the validity and comprehensibility of the questionnaire, a trial run was performed with a small group of respondents who were like the target population. The trial test helped in identifying potential issues with the questionnaire design, such as confusing or ambiguous questions, and necessary revisions were made based on the feedback received.

The collected data contributed to the development of a theoretical framework guiding the implementation of IT governance practices in the context of women-owned SMEs in South Africa.

3.3.3 *Population and sampling*

Given the challenges of collecting data from the entire population, researchers commonly rely on selecting a sample to answer their research questions. Sampling techniques are broadly classified into two categories: probability (random) and non-probability (non-random) (Taherdoost, 2016).

Probability sampling, as described by Taherdoost (2016), guarantees that each unit in the population has an identical likelihood of being selected in the sample. This approach encompasses various techniques such as simple random, stratified random, cluster, systematic, and multistage sampling (Taherdoost, 2016).

According to Vehovar, Toepoel, & Steinmetz (2016), non-probability sampling is suited to qualitative research studies, as it allows the use of various techniques for selecting samples established from a subjective perspective. The techniques used are quota, snowball, judgment, and convenience sampling (Vehovar, Toepoel, & Steinmetz, 2016).

This study used a purposive, non-probability sample of convenience to select organizations and individuals from a population of SMEs – fully or partly owned by women operating in Cape Town South Africa. The use of non-probability sampling is rationalized by the fact that the study's findings do not require generalization to the broader population (Du Plooy-Cilliers, Davis, & Bezuidenhout, 2014). The sample of thirteen respondents (R1-R13) comprised women who owned or partly owned SMEs in Cape Town, South Africa. The gathered data offered an understanding of the development of an IT governance framework in women-owned SMEs in South Africa, encompassing diverse perspectives and experiences. Data collection

Due to logistical constraints, most respondents were unable to have online or in-person meetings, leading to the emailing and convenient completion of questionnaire instruments. Clear instructions were provided on how to complete the questionnaire, and respondents were encouraged to take their time in providing thoughtful and detailed responses. It was emphasized that participation in the study was voluntary, and the confidentiality and anonymity of respondents would be ensured throughout the process.

3.3.4 Data analysis

Data analysis in this study involved the utilization of thematic analysis, which is a process of organizing, analysing, and interpreting non-numerical data to identify themes and patterns that can address research questions and yield findings (Ngulube, 2015). Thematic analysis was employed to analyse the information collected from questionnaires. Through this analysis, the data was carefully examined, and recurring themes were identified to determine the majority of opinions, views, and knowledge expressed by respondents in the dataset.

While thematic analysis enables the detection of major themes, there may be a risk of overlooking finer details within the data. As a subjective approach, thematic analysis relies on the researcher's judgment and interpretation. Therefore, the researcher must exercise caution when translating the data and ensure the integrity of the analysis, avoiding researcher bias.

In line with the inductive approach adopted in this research, the themes emerged from the data. The analysis process was guided by the information collected, allowing patterns and themes to surface naturally without imposing preconceived notions or predetermined categories.

The systematic nature of thematic analysis aims to achieve rigour and transparency in the analysis process, enabling an exploration of the dataset. By utilizing thematic analysis, this study sought to gain a deeper understanding of the perspectives, experiences, and knowledge shared by respondents regarding the implementation of IT governance in women-owned SMEs in Cape Town South Africa. The identified themes contributed to the development of insights, conclusions, and recommendations within the study.

Table 3-3 below represents a systematic approach to analysing data.

Table 3-3 Thematic analysis of qualitative data (Nowell, Norris & Deborah, 2017)

Identify and familiarize with data	Read the data and get familiar with the data type and content Check any mistakes in data recording or any loophole in data collection Check the overall credibility of data
Identify codes	Identify interesting elements in data Document anything that seems interesting Keep a documented trail of each step Document the main codes that you find in your data
Find themes in data	Look for themes in the data Document these themes Look for data that is relevant to each theme Keep record of each and every step
Finalize themes	Finalize your themes and their names Look for the data that can be analyzed under each theme
Review each theme	Review each theme for its credibility Check that no data is missing from being sorted in some theme Check that each theme should have a specific identity
Document analysis	Analyze the resultant themes and draw inferences Document data electronically or manually Make sure that no data that is important related to your research question is left unanalyzed.

Thematic analysis, a widely used analytical tool in the social sciences, was employed to examine the data. The responses were carefully examined and categorized to identify recurring concepts, patterns, and themes present in the data. The goal was to explore both commonalities and divergences in respondent's perspectives and experiences.

For the analysis, Braun and Clarke's (2006) six-step framework for thematic analysis was utilized. This framework is highly regarded and extensively employed in qualitative research, providing a systematic approach to analysing qualitative data and identifying themes within the dataset (Maguire & Delahunt, 2017). The six steps of the framework are as follows:

1. Familiarization with the data: This step involved immersing oneself in the collected data, including transcriptions of interviews, field notes, and other relevant materials. The aim was to gain a deep understanding of the dataset.
2. Generating initial codes: In this step, initial codes were generated by identifying and labelling interesting features or patterns in the data. These codes were descriptive and captured the essence of the content.

3. Searching for themes: The next step involved organizing the generated codes into potential themes. Themes are broader patterns or threads of meaning that emerge from the data. The process included reviewing and comparing the codes to identify connections and relationships.
4. Reviewing themes: This step focused on reviewing and refining the identified themes. The themes were checked against the coded extracts and the entire dataset to ensure they accurately represented the data. Themes could be modified, combined, or split as necessary.
5. Defining and naming themes: Once the themes were reviewed and finalized, they were clearly defined and named. This step involved developing concise and precise descriptions that captured the essence of each theme.
6. Writing the report: The final step involved reporting the findings of the thematic analysis. This included providing an overview of the research objectives, describing the analytic process, presenting the identified themes and their supporting evidence, and offering interpretations or explanations of the themes concerning the research question.

The framework provided a well-defined and practical structure for conducting thematic analysis. By applying this six-step framework, the researcher conducted a systematic analysis of qualitative data for the discovery of significant themes that enhanced the understanding of the phenomena under study.

3.4 Ethics

The ethical considerations for this research study have adhered to the university's code of ethics as a guideline. The following ethical principles have been applied throughout the study:

Privacy: Questionnaires were used solely for the purpose of this study, and access to them was limited to the researcher and supervisor. This ensured that respondents' responses remained confidential.

Confidentiality: Measures were taken to maintain the confidentiality of respondents' personal information. This included using password-protected storage devices to secure the data and prevent unauthorized access.

Anonymity: Respondents' identities were protected to ensure their anonymity. Their opinions and responses were not linked to their personal information, and pseudonyms were used to refer to individuals instead.

The Research Ethics Committee of the Faculty of Informatics and Design (FID) requested specific issues to be addressed as part of the ethics approval process for this study. These issues include:

Protection of respondents: Respondents were fully informed about the research process and its goals, and they were not subjected to any threats or compulsion. The option to voluntarily consent or decline participation was provided, and respondents were assured of the confidentiality of their information. Respondent identities and remarks would not be disclosed without their written consent. They were also given the freedom to refuse to answer any questions they were uncomfortable with and had the right to withdraw from the study at any time.

Informed consent: Before participating in the study, respondents were informed about the purpose of the research. They were required to sign an informed consent form, indicating their agreement to participate. Respondents were made aware of the aims and objectives of the study, the measures taken to protect their data, and their right to ask questions and seek clarification.

Data storage: The researcher was the only person with access to the research data, which was securely stored on a password-protected USB drive. To ensure the confidentiality of respondents' identities, the data were anonymized before storage. Personally identifiable information was kept separate and protected with a password.

The data collection process commenced only after obtaining ethical clearance from the "Faculty of Informatics and Design's Research Ethics Committee," and each respondent was required to sign the consent form before participating in the study.

By adhering to these ethical considerations, this research study upholds the principles of privacy, confidentiality, and informed consent, protecting the rights and well-being of the respondents involved.

3.5 Conclusion

In conclusion, this chapter provided an overview of the research methodology employed in this study, which aligns with the aim and objectives outlined in Chapter 1. The research approach adopted was interpretivist, allowing for an exploration and understanding of the development of an IT governance (ITG) framework for women-owned small and medium enterprises (SMEs) in South Africa.

The research design employed was qualitative with an exploratory approach, allowing for an in-depth exploration of the development of an ITG framework and the factors influencing its implementation in women-owned SMEs. Purposive non-probability sampling was used to select relevant respondents for the study.

The data collection method utilized was questionnaires, chosen due to respondents' limited availability for interviews and the need for structured data. Thematic analysis was employed to analyse the collected data, enabling the identification of recurring themes and patterns that address the research questions and provide insights into the implementation of IT governance in women-owned SMEs.

Ethical considerations were followed throughout the study, ensuring privacy, confidentiality, and anonymity of respondents. Informed consent was obtained, and measures were taken to protect respondents' personal information during data storage and analysis. The study adhered to the ethical guidelines set by the university's code of ethics and obtained clearance from the Research Ethics Committee.

By employing this research methodology, the study aims to contribute to the understanding of IT governance framework development in women-owned SMEs in South Africa, laying the groundwork for future research in this area. The research methodology chapter has provided a framework for data collection, analysis, and ethical considerations, ensuring the validity and integrity of the study.

The next chapter discusses in detail the data analysis process, which used the steps covered in this chapter, as well as the subsequent emergent findings concerning the research questions.

4 CHAPTER FOUR RESEARCH RESULTS

4.1 Introduction

The research results chapter presents the outcomes of the data collection strategy of the study which focuses on the exploration of the development of an IT governance (ITG) framework for women-owned SMEs in South Africa.

The questionnaire employed in this study intentionally included only open-ended items, allowing respondents to detail individualized responses. It consisted of multiple sections or themes, each addressing different aspects of the research topic. Through well-crafted questions, the questionnaire aimed to elicit respondents' perspectives, experiences, and interpretations related to the development of an ITG framework in women-owned SMEs.

By utilizing questionnaires and employing qualitative data analysis techniques, this study sought to gather valuable insights that would aid in the development of a theoretical framework for the implementation of IT governance in women-owned SMEs in Cape Town South Africa. The subsequent sections of this chapter present an analysis of research results in detail (Section 4.2), generating and categorising themes (Section 4.3) and reporting an analysis of the collected data (Section 4.4).

4.2 Analysis of data from questionnaires

In the analysis of data from questionnaires, an examination of the responses to identify recurring patterns, themes, and categories was conducted. These themes encapsulate significant ideas or concepts that emerged from the respondents' responses, providing valuable insights for the answering of the secondary research questions. In this way, the main research question is addressed.

Tables 4-2 to 4-13 that follow set out the feedback received from respondents (R1 – R13) to each of the twelve questionnaire items (Q1 – Q12).

Table 4-1 Q1 What are your current responsibilities in the company?

Responses	
R1	I am the owner of the company and try to be involved in all aspects of the business, but my focus and passion is the engineering consulting aspect. The other important focus of the business is finances, as I feel that this is where the business is most vulnerable to irregularities.
R2	Chief operations officer and Co-founder of the company.
R3	I am the Director of the company. My business is highly focused on delivering a quality service in custom-made matric ball and wedding dresses, ladies' ready-to-wear clothing, as well as skills development to disadvantaged teenage girls. I started the business 7 years ago as a legacy to my late mother and today I employ seamstresses, all these women being from local communities. I have 14 years of experience in the corporate environment followed by 7 years of on-the-job business experience. Being the only Director of our company, I am in charge and run the daily administrative duties, operations, and finance.
R4	Because the business is so close to my heart, I tend to oversee every aspect of it, so that I am in tune with what is happening within the business, but my main responsibility is finance.
R5	I am the founder and owner of this business and I serve as the driving force behind the administration and day-to-day operations.
R6	I am the CEO of the company and oversee the day-to-day operations of the business and am involved in setting the strategic objectives of the business.
R7	My responsibilities are to manage numerous departments within the business, ensuring that they function properly and effectively.
R8	Managing the finances is my responsibility which includes bookkeeping, accounts, and financial planning.
R9	I oversee the hiring, training, and management of employees within the business.
R10	I am currently involved in sales which is done face-to-face and online.
R11	The director, responsibilities include financial management, reporting and risk management
R12	I oversee: Business strategy and implementation Customer care, Marketing, and stakeholder engagement All departments report to me via a Continuous Improvement Manager – setting up all KPIs' for all departments. Procurement dept
R13	Being the co-owner of this company, I currently oversee several administrative duties, unlike my male counterpart who oversees projects and acquiring new business. My position requires me to oversee occupational health and safety, hiring qualified staff, and staff/personnel administration. Create company policies such as sick leave, holiday, and code of conduct policies, and public liability insurance.

Table 4-2 Q2 What tertiary qualification do you possess?

Responses	
R1	Civil engineering UCT and gained many years of experience across the spectrum of civil and structural engineering projects.
R2	Bachelor's Degree in Metallurgical and Materials Engineering at the University of Witwatersrand
R3	I attended the University of Stellenbosch Small Business Academy where I learnt proper costing, marketing, and an understanding that before you can be charitable you need to be profitable. I was determined to grow my business and attended more workshops and networking sessions to learn more about the industry and make valuable connections.
R4	UCT business management short course.
R5	UCT business management short course.
R6	My years of experience in this industry is my qualification, and I find that it is my experience that gives me the ability to identify opportunities and overcome challenges. Although there are workshops and courses that I used to attend through the years.
R7	I did a project management course through UNISA.
R8	Diploma in accounting.
R9	I have a certificate in HR which I studied at a college, but also have corporate experience as I had to do my internship before getting my qualification, where I ended up becoming permanent.
R10	Online sales and digital marketing course.
R11	University undergraduate degree and MBA
R12	Marketing and Sales Management National Diploma from CPUT Executive Leadership diploma – Business School of Lyon Logistics Diploma through University of Pretoria (did not complete degree)
R13	I only have an NSC and an electronic secretarial diploma, but as I said in question 2, I have accumulated a mountain of experience in this industry. I was lucky to have been able to be mentored in this industry by my partner who has acquired his apprenticeship and whose family have been in this industry for over 40 years.

Table 4-3 Q3 What is your understanding of the term information technology governance (ITG)?

Responses	
R1	Just by breaking ITG down, then information technology is software used for analysing and organising data. Governance would therefore be the overseeing the implementation and value these systems would bring to the business.
R2	The governance which is policies put in place to manage Information systems
R3	Being in the corporate world, I understood what governance is, but do not completely understand what ITG and where it fits in where governance is concerned.
R4	Overseeing the technology side of the company.
R5	I have very limited understanding of IT governance, and do not see the connection between IT governance and business outcomes.
R6	ITG helps maintain the security and compliance of IT systems and data while ensuring that IT investments are in line with business objectives.
R7	Governance is strict structure, which makes would make IT governance inflexible as well. I would prefer more flexibility and autonomy in IT decision-making.
R8	ITG is a more structured way of addressing IT in a company. This is something that I would advocate for as it brings diversity and inclusion when it comes to the IT governance process.
R9	I have no knowledge of IT governance.
R10	IT governance is a way to promote innovation and agility within the business and prioritises investments that support new business models, products, or services.
R11	Ensuring that all information technology in our company is licensed (where necessary) and that we are leveraging this asset in the most efficient and cost-effective way
R12	Implementing the necessary IT processes in place in a company to manage corporate governance and manage performance, risk management, measure company general and financial performance
R13	My knowledge is not very vast where IT Governance is concerned. To my knowledge managing IT is sort of governing IT. Well, my understanding is that corporate governance is more applicable to much larger companies where there are shareholders involved. ITG would therefore in my understanding be the governance of IT. From my point of view, to implement corporate governance or even ITG in a small company as mine, would not be very cost or time effective. There are too many aspects that would need to be considered, such as set of principles, policies, standards etc.

Table 4-4 Q4: Studies show that women who own their own businesses, often encounter barriers concerning the position they hold in their business and when it comes to decision-making. What is your view on this as a woman owner?

Responses	
R1	I started my own construction and consulting engineering practice due to being discouraged by the challenges I faced operating in a traditionally male dominated industry. This encouraged me to start my own construction engineering company. Working primarily with skilled disadvantaged artisans, I began by doing new builds and renovations for homeowners. Today, the company attracts big projects worth lots of money. With my own company, there are no barriers for me as I currently make all the decisions.
R2	I have worn many different hats within the company, and it's the best experience that I could have gained, as it prepared me for my role as COO. Going into this position, I had already comprehended the internal operations of the company, the prospects, and the challenges encountered by our departments and department heads. Additionally, I had collaborated directly with our male CEO and Founder for several years, gaining insight into how I could provide optimal support to both him and the company.
R3	The industry I am in, is mostly controlled by women. I am the only director of the company therefore there is no barriers that I have encountered within the business. The decision process lies with me.
R4	The people you work with should be competent and strong and who would boost the business performance. As the owner of the business, if you have a clear vision of your objectives defined and communicated to necessary management, there should not be a problem. Although what I do realise is that there is a tendency of the opposite sex who tend to second-guess my decisions.
R5	What I found is that women are usually judged more harshly than men for the same behaviours, and this leads to their ideas being dismissed.
R6	For a female, I would say that one of the significant barriers that women encounter, is work-life balance. Women experience greater pressure when managing work and family obligations, which can make it challenging to handle the duties of a leadership role. This is where I would say men have an advantage over women.
R7	In an industry where men dominate, I feel that there are still women who feel alone because of lack of women representation in the company, which restricts their opportunity for advancing in the company.
R8	In my experience, there are still small margins of stereotyping in the workplace. Women are sometimes perceived as less competent or less confident than men in leadership roles, which undermine the authority and influence.
R9	Women may need to put in more effort to demonstrate their skills and abilities since they are held to higher standards of competence and likeability than males.
R10	There are a range of challenges that I feel women in business face which makes it difficult for them to succeed. Being in sales I can see it first-hand, where customers and even people working around you, still hold on to that outdated stereo types about women's ability and leadership styles.
R11	I have not encountered this in my business.
R12	I think it its important to surround yourself with strong, capable people that are team players and will elevate the company's performance. If there are clear objectives outlined and communicated to your team heads and they managed accordingly, there is usually no problem. Your team will respect and execute the plan if they know there is a common goal and that you are open to ideas of achieving that goal. Implementing change management is also critical.
R13	Our company is a construction company owned by myself and my husband, so we are the senior level. What I can comment on is that there are very few women in the construction industry and although my co-workers respect me, it is nowhere near the same amount of respect my male counterpart gets, based on practical experience. My knowledge and opinions of this industry does not carry the same weight, and there seems to be a constant struggle trying to get my voice heard. company.

Table 4-5 Q5: Are you currently using any sort of information technology in the business?

Responses	
R1	Yes, we provide structural and civil engineering services and Project Management, and this requires us to have a more advanced IT system, especially communicating with the necessary stakeholders.
R2	Yes, our company is dependent on Information and communication technology for business operations.
R3	Yes, a very basic package
R4	Yes, we have been using for quite a while
R5	Yes, currently we are making use of communication technologies such as email, and financial management tools.
R6	Yes
R7	Currently Yes, very basic system for invoicing, emailing and point of sale.
R8	Yes, accounting package
R9	Yes
R10	Yes, use e-commerce platforms to sell our products online
R11	Office 365, Zoom, social media platforms
R12	Yes
R13	The most prevalent use of IT in our business is Office application such as computers for word processing and spreadsheets for office and contract administration.

Table 4-6 Q6 Do the current information technology solutions support what your business does best?

Responses	
R1	Yes, thus far it does, but with the constant evolving of systems especially in this industry, we are going to have to update our systems to accommodate our clients.
R2	Yes, it does
R3	Currently it is sufficient yes.
R4	Yes, it does, although, our company has grown over the past few years, I find that our systems could do with an upgrade.
R5	Yes
R6	Yes, operations seem to be streamlined which is a good thing.
R7	For the moment yes
R8	Yes, it streamlines the financial process
R9	Yes, it allows us to manage customer interactions, track leads, and improve customer satisfaction.
R10	Yes, as it connects us to a huge customer base.
R11	Yes
R12	Yes
R13	No, it does not, there are other technologies available when it comes to this industry, but economically it would not be viable for us to adopt. Thus, we currently make use of minimal technology to help with business administrative processes. Going forward we want to venture into new technologies and evolve with time.

Table 4-7 Q7: Is there any formal business strategy in place for your company?

Responses	
R1	Yes, for us the first point of departure in implementing strategy is to ensure that the company strategies are achieved at budget or below budget. Focussing on our customers form the cornerstone of business-level plans and strategies
R2	Yes, we have a very intense strategy
R3	There are no formal strategies in place. My vision though is to be the first one-stop, custom made, special occasion dress shop in my area, with my own in-house manufacturing plant and training facility. With a distinctive selling proposition of a cohesive approach to personal style services and assistance, incorporating special occasion services like beauty makeup artists, hairstylists, complimentary accessories, and spa treatments conveniently accessible in a single location. These services will occupy space within the boutique and will be outsourced to highly skilled professionals. Having our own CMT plant provides the capacity to respond swiftly and introduce new products while adapting to the fast-paced shifts in the clothing and fashion industry.
R4	No, it currently is not part of the business strategy.
R5	Yes, we have a well-rounded business strategy.
R6	Yes
R7	Yes
R8	Yes, our business strategy is to save costs to lower our prices so that we could be competitive in the market. Being a small business, we are able to cut down on costs
R9	No there is no formal strategy in place, we decide the company's strategy month to month.
R10	Our strategy entails prioritizing digital marketing and e-commerce to reach customers and compete with larger businesses and social media to build the brand and attract customers.
R11	Yes, we have an over-arching strategy as well as individual strategies for each of our service offerings.
R12	Yes
R13	No, I don't. But I do believe going forward that would be good for our business.

Table 4-8 Q8: In your opinion, would implementing a more formal information technology structure benefit your business?

Responses	
R1	Yes, it would, although there is not a formal structure per say, there is an informal structure in place, as our company requires a balance of technical and business principles, as our company is formed based on technical competencies.
R2	Yes, it would, seeing that our business depends on IT. Also, I would think that our business does have some sort of a structure but would like to understand what formal structure are needed in my business.
R3	For what my plans are in the future, I would say that it would as IT always brings efficiency to any business operations.
R4	Yes, I would think so. Reason is with all the responsibilities I have, having a structure in place would be a safe and easier option, so that I could designate responsibilities with ease of mind, knowing that there is a structure for managers to follow.
R5	We are assessing the current IT infrastructure to identify where improvement is needed and what changes need to be done. This will enable understand the impact of implementing a more formal structure and the potential benefits.
R6	I would need to evaluate how it would impact our business and whether it would disrupt our business operations.
R7	A more formal information technology will benefit any company, it is the cost that out ways the benefits
R8	Yes, it would, but would be unsure about the best approach to implementing a more formal IT structure in our business. We would have to get advice from an IT professional, so that they can provide insight and recommendations based on their expertise.
R9	A more formal IT structure can help improve efficiency, productivity in the business, however, the decision to implement such changes should be based on a thorough assessment of the potential benefits, costs, and impact on business operations.
R10	Yes, because there are many IT tools that could be used by a business that has an online sales platform. The issue is choosing the correct one for your business and that takes time and resources, which we do not have now.
R11	Yes, we require a more robust reporting platform that automates some of our current manual processes.
R12	We are in the process of implementing a formal structure
R13	I don't see how it could benefit, as implementing technology in a construction company can be very costly, especially a small and medium sized business like ours.

Table 4-9 Q9: What are the decision-making procedures for suggesting, assessing, sanctioning, and ranking IT investments?

Responses	
R1	There is an IT manager that maintains IT, but any approving is done by me. Our business requires technically competent management in order to that we maintain the balance of technology and business principals.
R2	There are unofficial members who are designated the above roles. They were carefully chosen by me according to their knowledge of IT.
R3	There are no current decision-making processes when it comes to IT investments.
R4	When it comes to IT in our company, there aren't any processes to follow, ideally if anything goes wrong, we contact a consultant who would come in and either sort out the problem or at his own accord, decide what to do to fix the immediate problem, so that business operations can carry on.
R5	There are no formal steps taken when acquiring IT, but if a need arises where implementation of technology would benefit, it would then be proposed and depending on the cost of implementing it.
R6	The proposed needs are reviewed and evaluated by a team of stakeholders that includes IT professionals, department heads, and financial analysts. They consider the feasibility, costs, and benefits.
R7	We analyse the need and would prioritise based on importance and available resources. Approving would be a cumulative effort from various stakeholders, which includes IT specialists.
R8	When the need arises, we would outsource our IT needs to a specialised service provider, who would propose a more cost-effective solution for our business.
R9	The decision to implement IT need, relies on me, and it would depend on how business could improve and if we would be see any change and ultimately from those changes see profits on our IT investments.
R10	The decision-making process involves gathering the input and feedback from multiple stakeholders to reach a final decision.
R11	We analyse the manual processes, decide if they require some automation, identify the most appropriate solutions, make the investment. Investment decisions are based on leveraging what we have first before adding additional complexity to our IT environment.
R12	We have a Continuous Improvement manager who is the Champion and has put a Steerco Committee in place that has a weekly and monthly meeting. The Managing Director is the sponsor.
R13	So, we have a company that implemented the system and maintains it. It's a small consultancy company and their fees are not too bad. Currently we are outsourcing all IT. When reviewing IT we consult with an IT company and based on their recommendations, myself and my partner will make a joint decision and that decision will be the most cost effective on, not necessarily the ideal.

Table 4-10 Q10: How are the outcomes of these procedures monitored and conveyed to different stakeholders?

Responses	
R1	Communicated by the IT manager relevant stakeholders.
R2	These are communicated and monitored by the unofficial members appointed by me.
R3	See above
R4	Like I said in question 9 there is no process, but communication is done directly to me and I will notify the relevant parties.
R5	We hold regular monthly meetings to keep key players up to date on business operations and at these meetings if required, IT performance can be discussed.
R6	Communicated through dashboards and reports.
R7	We make use of communication tools, such as emails and collaboration software.
R8	In our quarterly review sessions, we discuss how the systems are being used.
R9	We hold frequent monthly meetings to discuss all issues relating to business which includes anything related to IT.
R10	Reports are sent out
R11	We monitor usage of the systems and discuss in our quarterly review meetings.
R12	See above
R13	Ultimately, we as the owners are responsible for all major IT decisions.

Table 4-11 Q11: Have you considered including the role of information technology in your growth strategy for your business? Please elaborate.

Responses	
R1	Yes, I would. There is a massive degree of complexity when it comes to the work of civil engineers. There is intersection between technical and social systems. With that, we are required to develop communications and feedback mechanisms.
R2	There are many aspects to our growth strategy of which IT is not officially included.
R3	No, I haven't, reason being that we utilise the most basic IT and it will be an overkill to include it in the growth strategy.
R4	No, I haven't, I also know that IT in has been the same since I have been in this business. It just seems like more work and research needs to be put into the IT section of my business if any changes need to be made.
R5	I have considered it as by doing so, it could help improve repetitive tasks and allow us to focus on more important tasks which could in turn help the business to grow faster.
R6	Yes, mainly to improve communication within and outside the company. This way, productivity can be improved, and the decision-making process could be sped up.
R7	No, we haven't really thought about it, as we are utilising minimal IT. Although, there is a lot that we can benefit from IT.
R8	We have not considered it, but may do so in the future as it could assist our business in entering new markets by making it simpler to connect with clients globally and offer goods and services to clients who may not have previously had access to them
R9	Information technology implementation presents its own set of difficulties, such as significant costs and continuing maintenance and support..
R10	Yes, as IT can help provide better customer service by responding to questions and problems more quickly. Thus, an increase in consumer loyalty and repeat business may result from this.
R11	Yes, we have. To achieve our growth targets, we need to automate our reporting processes and digitise some of our Excel based analysis tools.
R12	As can be seen by the above
R13	No, we haven't, as that would be additional expenses at this point. We will though in future take small steps in the IT direction. As a woman I would like to be more proactive when it comes to IT.

Table 4-12 Q12: Now that we have come to the end of my set of questions, is there anything further that you would like to comment on that could potentially contribute to my research? Specifically, when it comes to women in business and ITG.

Responses	
R1	Information technology-savvy engineers are valuable in this industry. Therefore, as women engineers, we need to not only improve in the engineering field, but also in IT, of which both these industries are male dominated.
R2	Years ago, I met a woman who was the CEO of a company, and she brought me into my profession, inspiring me to being greater and has been my greatest inspiration, my mentor. Now, many years later, it is incredibly inspiring to see so many women in
R3	Never give up, no matter how lonely or impossible it may seem at times, wait until it's done. One very important thing you must learn about being an entrepreneur is that you have to work hard, put in the hours and always show up! Be committed to your passion and follow your dream not money.
R4	What I would like to say is that for us to consider improving on the IT side of our business would require extra resources which in turn would mean added costs. For now, the systems we are working with does the job, but I am sure there are more updated systems could further enhance our business. Sadly, I do not have the time and extra resources to venture into that.
R5	What I think is that women owned business are becoming more aware of the importance of information technology when it comes to business operations and if you can develop a basic structure that could assist us in implementing it, I for one would be interested.
R6	No feedback from respondent
R7	ITG could be a valuable tool for improving efficiency and effectiveness of the business, but as a women owned business, I have faced many challenges when it comes to accessing information technology resources.
R8	What I try to do is foster an inclusive workplace culture that values diversity and promotes equal opportunities for women in IT leadership positions.
R9	No feedback from respondent
R10	No feedback from respondent
R11	No feedback from respondent
R12	No feedback from respondent
R13	Small businesses lack accountability due to poor or no infrastructure. Women have the capability and temperament of getting things done as well as personalising business relations. As a small owner I am very keen on keeping up with technology and would welcome any IT initiatives that could take my business forward in becoming successful

4.3 Generating and categorising themes

The coding process was initiated by reviewing each of the questionnaire responses, matching it with a suitable description, and subsequently applying a theme to each description, and categorizing the themes. This coding process was applied to ensure coverage of all aspects of the responses. The systematic approach was consistently implemented for all the responses, and the coding system was adapted as needed. During the analysis of the responses, distinct themes and categories surfaced, prompting adjustments to existing ones whenever the data supported such modifications. The process led to the synthesis of a codebook comprising three high-level code groups and 39 codes (Appendix E).

4.4 Summary of descriptions, themes, and categories:

Whilst Appendices D1 – D12 tabulate detailed responses and their corresponding descriptions of themes, and categories for questionnaire items 1-13, Tables 4-13 to 4-24 map respondent feedback (R1 – R13). The tables provide summaries of descriptions and keywords (column 2), themes (column 3), and categories derived from questionnaire responses (column 4).

Table 4-13 establishes the type of ownership and responsibilities of the sample of thirteen respondents.

Table 4-13 Type of Ownership and Responsibilities

Q1	Description and keywords	Themes	Categories
R1	Sole owner Focus and passion on engineering consulting, but also responsible for finances and mitigating irregularities.	Sole owner Financial Management	Type of Ownership Sole owner (8) Co-owner (5) Responsibilities Financial Management (4) Leadership and Management (7) Operations and Administration (3) Specialized Services or Products (2) Human Resources and Employee Management (2) Sales & Marketing (2)
R2	COO Co-founder	Co-owner Leadership and Management	
R3	Director, responsible for daily administrative duties, operations, and finance. Delivering quality service in custom-made dresses, ladies' ready-to-wear clothing, and skills development for disadvantaged teenage girls	Sole owner Leadership and Management Operations and Administration Specialized Services or Products	
R4	Overseeing every aspect of the business but primarily responsible for finance.	Sole owner Financial Management	
R5	Founder and owner of the business, responsible for administration and day-to-day operations. Driving force behind the administration and day-to-day operations.	Sole owner Leadership and Management Operations and Administration	
R6	CEO of the company, overseeing day-to-day operations and setting strategic objectives.	Sole owner Leadership and Management	
R7	Responsible for managing numerous departments within the business to ensure proper and effective functioning.	Sole owner Leadership and Management	
R8	Managing finances, including bookkeeping, accounts, and financial planning.	Sole owner Financial Management	
R9	Overseeing hiring, training, and management of employees.	Co-owner Human Resources and Employee Management	

Q1	Description and keywords	Themes	Categories
R10	Sales, both face-to-face and online.	Sole owner Sales and Marketing	
R11	Director with responsibilities in financial management, reporting, and risk management. Responsibilities include financial management.	Co-owner Leadership and Management Financial Management	
R12	Overseeing business strategy, customer care, marketing, stakeholder engagement, and departmental reports. Responsible for customer care, marketing, and stakeholder engagement.	Sole owner Leadership and Management Sales and Marketing	
R13	Overseeing occupational health and safety and public liability insurance. Responsible for hiring qualified staff, staff/personnel administration, and creating company policies.	Co-owner Specialized Services or Products Human Resources and Employee Management Operations and Administration	

The purpose of Q2 set out below in Table 4-14 is, to identify the level of competencies and the owner's values when it comes to business. These two aspects could potentially influence the adoption of IT governance in the business. Education plays a vital role in fostering the development of critical thinking and problem-solving abilities, both of which are fundamental to running a successful business. These skills enable entrepreneurs to effectively tackle challenges, make well-informed decisions, and drive innovation to maintain a competitive edge.

Table 4-14 Education of Respondents

Q2	Description/ Keywords	Themes	Categories
R1	Civil engineering qualification	Degree	Education of Respondents Degrees (3) Diplomas (5) [(R8, R13, R12)] Certificate (6) Industry Experience and Workshops (1)
R2	Bachelor's degree in metallurgical and Materials Engineering	Degree	
R3	Small Business Academy and participated in workshops and networking sessions to learn about costing, marketing, and industry insights.	Certificate	
R4	Business management short course.	Certificate	
R5	Public management course.	Certificate	
R6	Experience in the industry, workshops, and courses for continuous learning.	Industry Experience and Workshops	
R7	Project management course	Certificate	
R8	Diploma in accounting.	Diploma	
R9	Certificate in HR Corporate experience gained through an internship.	Certificate	
R10	Sales and digital marketing.	Certificate	
R11	Degree and MBA	Degree	
R12	Diploma in Marketing and Sales Management. Executive Leadership diploma Diploma logistics	Diploma Diploma Diploma	
R13	Secretarial diploma Experience in the industry	Diploma	

Question Q3 (Table 4-15) aimed to test the level of knowledge respondents had on IT governance and the understanding of any experienced exposure to IT governance.

Table 4-15 Understanding of IT Governance

Q3	Description/ Keywords	Themes	Categories
R1	Understanding ITG as the implementation and value of software systems for data analysis and organization.	Demonstrating Knowledge/Understanding:	Understanding of IT Governance Demonstrating Knowledge/Understanding (5) Limited Understanding (6) No understanding (2)
R2	Describes governance as policies for managing information systems.	Demonstrating Knowledge/Understanding:	
R3	Acknowledges understanding of governance but expresses incomplete understanding of ITG and its place within governance.	Limited Understanding	
R4	Overseeing technology in the company	Limited understanding	
R5	States having a limited understanding of IT governance and do not see the connection between IT governance and business outcomes.	Limited Understanding:	
R6	Describes ITG as maintaining security, compliance, and aligning IT investments with business objectives.	Demonstrating Knowledge/Understanding:	
R7	ITG inflexible	No understanding	
R8	ITG's structured way of addressing IT	Limited Understanding:	
R9	No knowledge	No understanding	
R10	promote innovation, agility, and prioritize investments supporting new business models, products, or services.	Demonstrating Knowledge/Understanding:	
R11	States the importance of licensing information technology and leveraging assets efficiently.	Demonstrating Knowledge/Understanding:	
R12	Implementing IT processes	Limited Understanding:	
R13	Admits to limited knowledge of ITG, perceiving it as governing IT and discussing challenges and considerations related to corporate governance and small companies.	Limited Understanding:	

Women who own their own businesses, often encounter barriers with regards to the position they hold in their business and decision-making abilities. The purpose of the question addressed in Table 4-16 is to gather enough information from respondents as to their experiences as women owners or women in executive or management positions.

Table 4-16 Gender Challenges and Empowerment in Business Settings

Q4	Description/ keywords	Themes	Categories
R1	Started own construction engineering company due to challenges faced in a traditionally male-dominated industry. Currently makes all the decisions with no barriers.	Gendered Challenges in Male-Dominated Industries	Gender Challenges and Empowerment in Business Settings Gendered Challenges in Male-Dominated Industries (3) Advantages of Autonomy and Ownership (3) Stereotyping and Perception (3) Judgement and Dismissal (1) Work-Life Balance (1) Increased Expectations and Effort (1)
R2	Has gained experience in various roles within the company, preparing for the role of COO. Worked closely with the male CEO and founder, understanding how to best support him and the company.	Gendered Challenges in Male-Dominated Industries	
R3	The industry is mostly controlled by women. As the only director of the company, there are no encountered barriers, and the decision-making process lies with the respondent.	Advantages of Autonomy and Ownership	
R4	Emphasizes the importance of competent and strong individuals in the workplace. Acknowledges some tendency for the opposite sex to second-guess decisions.	Stereotyping and Perception	
R5	Observe that women are often judged more harshly, leading to the dismissal of their ideas.	Judgement and Dismissal	
R6	Highlights work-life balance as a significant barrier for women, as they face pressure in managing work and family obligations. Believes men have an advantage in this aspect.	Work-Life Balance	
R7	In a male-dominated industry, some women feel alone due to the lack of women's representation, limiting their advancement opportunities.	Gendered Challenges in Male-Dominated Industries	
R8	Notes the existence of small margins of stereotyping in the workplace. Women can be perceived as less competent or confident in leadership roles, undermining their authority and influence.	Stereotyping and Perception	

Q4	Description/ keywords	Themes	Categories
R9	Recognizes that women may need to put in more effort to demonstrate their skills and abilities, as they are held to higher standards of competence and likeability.	Increased Expectations and Effort	
R10	Observes a range of challenges faced by women in business, including outdated stereotypes about women's abilities and leadership styles.	Stereotyping and Perception	
R11	Indicates not having encountered barriers in their own business.	Advantages of Autonomy and Ownership	
R12	Highlights the importance of surrounding oneself with strong, capable team players to elevate the company's performance. Emphasizes clear objectives, communication, and openness to ideas.	Advantages of Autonomy and Ownership	
R13	In a construction company co-owned with the husband, the respondent experiences a lack of equal respect and struggles to have their voice heard in the male-dominated industry. Expresses the difficulty they would have faced climbing the corporate ladder if not in their own company.	Gendered Challenges in Male-Dominated Industries	

Q5 (Table 4-17) determined the type of information systems currently being used in specific industries.

Table 4-17 Level of IT Usage

Q5	Description	Themes	Categories
R1	Provides structural and civil engineering services and Project Management. Require a more advanced IT system.	Advanced IT Systems:	Level of IT Usage Advanced IT Systems (1) Heavy Reliance on ICT (1) Basic IT Usage (3) Long-Term IT Adoption (1) Specific IT Tools and Platforms: Specific IT Tools (4) Insufficient Information: Limited Information (3)
R2	Information and Communication Technology for its daily business operations.	Heavy Reliance on ICT	
R3	Basic IT package.	Basic IT Usage	
R4	Using information technology for a considerable period.	Long-Term IT Adoption	
R5	Communication technologies such as email and financial management tools.	Basic IT Usage	
R6	"Yes" without additional details.	Limited Information	
R7	The business has a basic IT system in place for tasks like invoicing, emailing, and point of sale.	Basic IT Usage	
R8	The business uses an accounting package for its financial management.	Specific IT Tools	
R9	"Yes" without further elaboration.	Limited Information	
R10	E-commerce platforms to sell their products online.	Specific IT Tools	
R11	Using Office 365, Zoom, and various social media platforms.	Specific IT Tools	
R12	"Yes" without additional information.	Limited Information	
R13		Specific IT Tools	

Question Q6 (Table 4-18) endeavoured to determine whether the current IT systems support the business needs. It sought respondents' opinions concerning the IT solutions that could further enhance their businesses.

Table 4-18 Perceptions, Benefits and Efficiency of Current IT Solutions

Q6	Description	Theme	Categories
R1	The current IT solutions support their business well so far. Recognize the need to update systems due to the constant evolution of technology in their industry	Recognition of Technological Advancements	Perceptions, Benefits and Efficiency of Current IT Solutions Recognition of Technological Advancements (1) Satisfaction with Current IT Solutions (2) Need for System Upgrade (2) Streamlining Business Operations (2) Specific IT Benefits (2) Limited Information (3) Insufficient IT Support (1)
R2	The current IT solutions support their business needs.	Satisfaction with Current IT Solutions	
R3	The current IT solutions are considered sufficient for their business at the moment.	Satisfaction with Current IT Solutions	
R4	Current IT solutions support their business. The company has grown, and an upgrade is needed for its systems.	Need for System Upgrade	
R5	The current IT solutions support their business, but no additional details are provided.	Limited Information	
R6	Current IT solutions streamline business operations, which is considered a positive aspect.	Streamlining Business Operations	
R7	Current IT solutions are suitable for the time being.	Need for System Upgrade	
R8	Current IT solutions streamline the financial processes within their business.	Streamlining Business Operations	
R9	Current IT solutions allow them to manage customer interactions, track leads, and improve customer satisfaction.	Specific IT Benefits	
R10	Current IT solutions are valued for connecting their business to a large customer base.	Specific IT Benefits	
R11	Current IT solutions support their business, but no additional details are provided.	Limited Information	
R12	Current IT solutions support their business, but no additional details are provided.	Limited Information	
R13	Current IT solutions do not meet their business needs adequately. Currently use minimal technology for administrative processes. Plan to venture into new technologies in the future.	Insufficient IT Support:	

Q7 analysed in Table 4-19 aimed to determine the status of existing business strategies.

Table 4-19 Business Strategy

Q7	Description	Themes	Categories
R1	Strategic focus on achieving company strategies within or below budget. Customers form the cornerstone of business-level plans and strategies	Presence of formal business strategies	Business Strategy Presence of formal business strategies (9) Absence of formal business strategies (4)
R2	Intense strategy in place.	Presence of formal business strategies	
R3	No formal strategies in place. The respondent outlines a vision for their business.	Absence of formal business strategies	
R4	No business strategy	Absence of formal business strategies	
R5	Well-rounded business strategy.	Presence of formal business strategies	
R6	"Yes" without providing additional details.	Presence of formal business strategies	
R7	"Yes" without providing additional details.	Presence of formal business strategies	
R8	Business strategy focuses on cost-saving to lower prices and enhance competitiveness in the market.	Presence of formal business strategies	
R9	No formal strategy is in place. Decisions on the company's strategy are made monthly.	Absence of formal business strategies	
R10	The strategy entails prioritizing digital marketing and e-commerce to reach customers and compete with larger businesses.	Presence of formal business strategies	
R11	Overarching strategy and there are individual strategies for each of their service offerings.	Presence of formal business strategies	
R12	"Yes" without providing additional details.	Presence of formal business strategies	
R13	No formal strategy	Absence of formal business strategies	

Q8 (Table 4-20) explored attitudes towards the potential outcome of the proposed IT governance framework is strategic.

Table 4-20 Attitude Towards ITG Structure

Q8	Description	Themes	Categories
R1	Yes, it would benefit business. Have an informal structure based on technical competencies but need fresh thinking to address adaptive challenges.	Acknowledgment of potential benefits Current Informal Structure:	Attitude Towards ITG structure Acknowledgment of potential benefits (10) Currently informal structure (1) Need for evaluation (2) Cost concerns (1) Ongoing implementation (1) Industry-specific considerations (1)
R2	Yes, it would benefit their business as it depends on IT. While they believe some sort of structure exists, they would like to understand what formal structure is needed.	Acknowledgment of potential benefits	
R3	Yes, it would benefit their business in the future, as IT brings efficiency to business operations.	Acknowledgment of potential benefits	
R4	Yes, it would benefit their business. Having a formal structure would make it easier to designate responsibilities and manage the company with peace of mind.	Acknowledgment of potential benefits	
R5	Currently assessing the IT infrastructure to understand the impact of a more formal structure and potential benefits.	Acknowledgment of potential benefits	
R6	Need to evaluate the impact on business operations before deciding.	Need for evaluation	
R7	Yes, a more formal IT structure would benefit any company. Concerned cost outweighing benefits.	Acknowledgment of potential benefits Cost concerns	
R8	Yes, it would benefit our business. Unsure about the best approach. Need to seek advice from IT professionals.	Acknowledgment of potential benefits Need for evaluation	
R9	Yes, a formal IT structure can improve efficiency and productivity. Decisions should be based on a thorough assessment of benefits, costs, and impact.	Acknowledgment of potential benefits	
R10	Yes, it would benefit business. The challenge is choosing the right IT tools due to limited time and resources.	Acknowledgment of potential benefits	
R11	Yes, we require a more robust reporting platform to automate current manual processes.	Acknowledgment of potential benefits	
R12	In the process of implementing a formal structure.	Ongoing implementation:	
R13	The respondent does not see how a formal IT structure could benefit their construction company, as implementing technology can be costly, especially for small and medium-sized businesses.	Industry-specific considerations	

Table 4-21 records information linked to Q9, establishing the extent to which structures are in place to support decision-making processes.

Table 4-21 Decision-Making Process

Q9	Description	Themes	Categories
R1	Individual decision-making	Informal decision-making process	Decision-making process Informal decision-making process (9) Formal decision-making processes (4)
R2	Unofficial decision-making group	Informal decision-making process	
R3	Absence of formal decision-making processes	Informal decision-making process	
R4	Absence of formal decision-making processes	Informal decision-making process	
R5	Absence of formal decision-making processes	Informal decision-making process	
R6	Proposal and evaluation by stakeholders Consideration of feasibility and cost:	Formal decision-making processes	
R7	Proposal and Evaluation by Stakeholders	Formal decision-making processes	
R8	Outsourcing decision-making	Informal decision-making process	
R9	Individual Decision-Making Consideration of feasibility and cost:	Informal decision-making process	
R10	Proposal and Evaluation by Stakeholders	Formal decision-making processes	
R11	Leveraging existing resources	Informal decision-making process	
R12	Involvement of committees and sponsors	Formal Decision-Making Processes	
R13	Outsourcing decision-making	Informal decision-making process	

Based on respondent perceptions, this question identified whether businesses had structures in place to accommodate IT governance accountability.

Table 4-22 IT Governance Accountability

Q10	Description	Themes	Categories
R1	The IT manager communicates results to relevant stakeholders.	IT Manager as Communication Channel	IT Governance Accountability <i>Formal Communication Channels and Reporting</i> IT Manager as a communication channel (R1) Unofficial members for Communication and monitoring (R2) Direct communication with the respondent (R4) Reporting to stakeholders (R10) <i>Informal Communication and Lack of Specific Details</i> Lack of specific details (R3, R12) <i>Meetings and Review Sessions</i> Regular meetings for updates (R5) Quarterly review sessions (R8) Frequent meetings covering Business Issues (R9) Monitoring and review meetings (R11) <i>Communication Tools and Dashboards</i> Communication through dashboards and reports (R6) Usage of communication tools (R7) <i>Owners' Responsibility for Decision-making</i> Owners' Responsibility for Major IT Decisions (R13)
R2	Unofficial members appointed by the respondent handle communication and monitoring.	Unofficial members for communication and monitoring	
R3	No specific details were provided.	Lack of Specific Details	
R4	No formal process is mentioned, but direct communication with the respondent who notifies relevant parties.	Direct Communication with the Respondent	
R5	Regular monthly meetings are used to keep key players updated on business operations, including IT performance discussions if needed.	Regular meetings for updates	
R6	Communication is achieved through dashboards and reports.	Communication through dashboards and reports	
R7	Communication is done through tools like emails and collaboration software.	Usage of communication tools	
R8	IT systems are discussed in quarterly review sessions.	Quarterly review sessions:	
R9	Frequent monthly meetings cover all business issues, including IT-related matters.	Frequent meetings covering business issues	
R10	Reports are sent out to stakeholders.	Reporting to stakeholders	
R11	Monitoring of system usage and discussions occur in quarterly review meetings.	Monitoring and review meetings	
R12	No specific details were provided.	Lack of specific details	
R13	The owners take responsibility for major IT decisions.	Owners' responsibility for major IT decisions	

Q11 (Table 4-23) determined whether, according to the owner, IT is crucial to business, and if it should be included in growth strategy.

Table 4-23 IT Role in Growth Strategy

Q11	Descriptions	Themes	Categories
R1	Yes, IT is crucial for our business growth. We are civil engineers dealing with complex technical and social systems. We need information systems to communicate with stakeholders and achieve the best results before, during, and after projects.	Yes, IT is crucial for business growth	IT Role in Growth Strategy IT as Crucial for Business Growth (1) Exclusion of IT from Growth Strategy (4) Potential of IT for Improved Productivity and Customer Service (2) IT for Improving Communication and Decision-Making (1) Consideration of IT for Expanding into New Markets (1) Challenges and Future Steps for IT Implementation (2) Reporting and Analysis: IT for Automating Reporting and Analysis (1)
R2	IT is not officially included in our growth strategy.	Exclusion of IT from Growth Strategy:	
R3	No, I haven't considered including IT in our growth strategy because we currently use basic IT, and it may be unnecessary to include it at this stage.	Exclusion of IT from Growth Strategy:	
R4	No, I haven't considered including IT in our growth strategy. IT has been consistent, and I lack the information to determine its viability for our growth strategy.	Exclusion of IT from Growth Strategy:	
R5	Yes, considering IT in our growth strategy can improve productivity by automating repetitive tasks and focusing on more important aspects.	Yes, the potential of IT for Improved Productivity and Customer Service:	
R6	Yes, we would include IT in our growth strategy to improve communication, productivity, and decision-making processes.	IT for Improving Communication and Decision-Making:	
R7	No, we haven't thought much about IT in our growth strategy as we use minimal IT, but we see potential benefits.	Exclusion of IT from Growth Strategy:	
R8	We haven't considered it yet, but IT may help us enter new markets and connect with global clients more easily.	Consideration of IT for Expanding into New Markets	
R9	IT implementation comes with difficulties and costs, so we have not considered it for our growth strategy.	Challenges and Future Steps for IT Implementation	
R10	Yes, IT can improve customer service, leading to increased customer loyalty and repeat business.	The potential of IT for Improved Productivity and Customer Service:	
R11	Yes, we have considered IT to achieve growth targets by automating reporting and digitizing analysis tools.	IT for Automating Reporting and Analysis	
R12	No specific details were provided.	No specific details	
R13	No, we haven't considered it due to additional expenses, but we plan to take small steps towards IT in the future, with a proactive approach.	Challenges and Future Steps for IT Implementation	

Q12 explored any additional aspects that could potentially contribute to the research study.

Table 4-24 Additional Aspects

Q12	Description	Themes	Categories
R1	Importance of being IT-savvy in the engineering industries. Male-dominated industry. Need for women engineers to improve their engineering skills and in IT to succeed in these fields.	Importance of IT Skills	Additional Aspects <i>Skills and Expertise in IT:</i> Importance of IT Skills (1) IT Improvement and Resource Constraints (1) Increasing Awareness of IT in Business (1) <i>Leadership and Empowerment:</i> Mentorship and Female Leadership (1) Challenges Faced by Women-Owned Businesses (1) Inclusive Workplace Culture (1) <i>Entrepreneurial Traits and Business Success:</i> Perseverance and Hard Work (1) Technology for Small Business Success (1)
R2	Shares a personal experience of being inspired by a female CEO. Mentored. Express hope for more women to take on leadership positions and become strong female role models for the younger generation.	Mentorship and Female Leadership	
R3	Importance of perseverance and hard work. Putting in the effort and hours. Remaining committed to passion and dreams rather than being solely driven by money.	Perseverance and Hard Work	
R4	Interest in improving the IT side of their business. Recognizes that updated systems could enhance their operations. Challenges of allocating extra resources and costs for improvements.	IT Improvement and Resource Constraints	
R5	Acknowledge the increasing awareness among women-owned businesses regarding the importance of IT in their operations. Interest in a basic structure to assist them in implementing IT solutions.	Increasing Awareness of IT in Business	
R6	No feedback provided	No feedback	
R7	ITG valuable tool for improving business efficiency and effectiveness. However, the challenges they face as a women-owned business are in accessing information technology resources.	Challenges Faced by Women-Owned Businesses	
R8	Fosters an inclusive workplace culture that values diversity and promotes equal opportunities for women in IT leadership positions. Committed to supporting and empowering women in the IT aspect of their business.	Inclusive Workplace Culture	
R9	No feedback provided	No feedback	

Q12	Description	Themes	Categories
R10	No feedback provided	No feedback	
R11	No feedback provided	No feedback	
R12	No feedback provided	No feedback	
R13	Recognizes the significance of technology in improving accountability and efficiency. Eagerness to embrace IT initiatives that can help take their business forward. Mention the unique capabilities and personal touch that women bring to business relations.	Technology for Small Business Success	

4.5 Conclusion

Women entrepreneurs in the sample have diverse roles and responsibilities, with the majority being sole owners actively involved in various aspects of their businesses. Their educational backgrounds vary, including formal degrees and industry experience, with education valued for fostering critical thinking and problem-solving, potentially influencing IT governance adoption.

Women business owners face diverse experiences, some encounter gender-based challenges in male-dominated industries, while others benefit from autonomy. The findings touch on issues such as judgment, work-life balance, and increased expectations for women in leadership roles. An analysis of the results of the study led to the following observations:

- Understanding of IT governance among women business owners varies, indicating a need for further education and awareness efforts in this area.
- IT adoption varies among women-owned businesses, ranging from advanced systems to basic usage, highlighting the importance of technology for supporting different aspects of their businesses.
- Many respondents recognize the potential benefits of implementing formal IT governance structures, but some express a need for evaluation, considering cost and industry-specific challenges.
- Perspectives on IT solutions differ among women business owners, with some satisfied with their current systems, while others see room for upgrades or express concerns about support.

- Some women business owners acknowledge the crucial role of IT for business growth and integration into their strategies, while others have yet to fully explore its potential or address implementation challenges.
- Women business owners employ diverse approaches to formal business strategies, with some having established strategies and others in the process of formulating or considering them. Formal business strategies are crucial for the successful development of an IT governance framework, aligning IT initiatives with overall business goals.
- Most women-owned businesses have informal decision-making processes for IT investments, involving individual authority, ad-hoc approaches, and outsourcing. However, some have established formal decision-making processes involving stakeholders and committees, indicating different levels of IT governance maturity.
- Women business owners use varied approaches to monitor and communicate IT-related results to stakeholders, demonstrating flexibility and adaptability in ensuring accountability and transparency in decision-making.

These key results shed light on the current state of IT governance among women-owned SMEs in South Africa, providing valuable insights for developing an effective IT governance framework tailored to their needs. The results underscore the importance of educational initiatives, strategies to address IT adoption diversity, and a flexible framework aligned with women business owners' varying decision-making processes and communication methods. This understanding can guide further research and support in empowering women entrepreneurs in the intersection of business and IT governance.

Chapter Four, presented the results of this study, aligning the themes and categories with the research questions. Using an inductive approach, these findings were derived from a thematic analysis of the data collected via questionnaires. The subsequent chapter provides an analysis of respondent feedback, offering a converged outlook.

5 CHAPTER FIVE PRESENTATION AND INTERPRETATION OF THE FINDINGS

This chapter presents the findings and shares interpretations of the study.

5.1 Introduction

The identification and application of a combination of alternative theories, namely Individual Difference Theory of Gender and IT (IDTGIT) and Contingency Theory, formed a foundation for the study.

IDTGIT focuses on understanding the within-gender differences among female IT executives to explore the underrepresentation of women in IT executive positions in South African businesses. It emphasizes gathering individual feedback from female IT executives and managers to identify the reasons behind this underrepresentation. According to Meela et al. (2018), there are three constructs within IDTGIT (Meela et al., 2018), namely:

- Individual identity construct which analyses the role of female IT executives;
- Individual influences construct which studies the characteristics, educational background, and shortage of mentors for female IT professionals pursuing leadership roles in IT and
- Environmental influence construct which explores the cultural impact on female IT professionals aspiring to IT executive positions.

According to Bergeron et al. (2017), the Contingency Theory suggests that an owner's capacity to lead is contingent on various situational factors, including style preference, capabilities, and behaviour. The type of governance mechanism used in an organization depends on factors such as the organization's size, the manager's profile, technological inclination, and the company's relationship with suppliers (Bergeron et al., 2017). It acknowledges that there is no universal organizational structure applicable to all companies and emphasizes adapting the structure to specific contingency factors (Childs, Turner & Berry, 2022).

In summary, by combining these theories, the research aimed to provide insights into the relationship between corporate governance, IT governance, and women-owned SMEs. The study recognizes the importance of considering individual differences, cultural influences, and situational factors to understand the underrepresentation of women in IT executive positions and develop effective governance strategies.

By incorporating the theoretical framework into the interpretation of the findings chapter, the researcher aims to establish a clear connection between the empirical data and the existing theoretical knowledge, adding depth and context to the research.

Chapter 4 presented the results of the information gathered from data collected from questionnaires. In this chapter findings are analysed and interpreted, to provide answers to the research question. The main research question is:

- **MRQ:** How can an ITG framework be developed that could potentially assist women-owned SMEs in South Africa?

The two secondary research questions are:

- **SQ1:** What are the factors that influence the implementation of an IT governance framework in women-owned SMEs in South Africa?
- **SQ2:** What primary structures need to be in place to ensure the successful development of an IT governance framework in women-owned SMEs in South Africa?

5.2 Presentation of findings

This section of the chapter focuses on presenting the findings derived from the questionnaire responses of the respondents. These findings have been obtained through a systematic analysis process. The secondary research questions serve as a framework for organizing and presenting the responses of the respondents, along with the corresponding questions in the questionnaire.

To ensure clarity and coherence, the presentation of the findings follows a structured approach. Each research sub-question is addressed, along with the corresponding questions from the questionnaire. The presentation of responses provided by the respondents leads to the elicitation of emergent findings. These findings highlight the main emergent themes or patterns extricated from the data, based on the meaning, and understanding derived from the respondents' responses.

By presenting the findings in this manner, the chapter aims to provide an understanding of the respondents' perspectives and experiences, as well as to offer insights into the broader implications and significance of the secondary research questions.

SRQ1: What are the factors that influence the implementation of an IT governance framework in women-owned SMEs in South Africa?

Q1: What are your current responsibilities in the company?

This question aimed to identify the nature of respondent business ownership. Additionally, it sought enlightenment regarding the most common position women occupied in their respective businesses.

Table 5-1 Type of Ownership and Responsibilities

Q1	Themes	Summary
R1	Sole owner Financial Management	Category – Type of ownership Sole owner (8) Co-owner (5) Category – Responsibilities Financial Management (4) Leadership and Management (7) Operations and Administration (3) Specialized Services or Products (2) Human Resources and Employee Management (2) Sales & marketing (2)
R2	Co-owner Leadership and Management	
R3	Sole owner Leadership and Management Operations and Administration Specialized Services or Products	
R4	Sole owner Financial Management	
R5	Co-owner Leadership and Management Operations and Administration	
R6	Sole owner Leadership and Management	
R7	Sole owner Leadership and Management	
R8	Sole owner Financial Management	
R9	Co-owner Human Resources and Employee Management	
R10	Sole owner Sales and Marketing	
R11	Co-owner Leadership and Management Financial Management	
R12	Sole owner Sales and Marketing Leadership and Management	
R13	Co-owner Specialized Services or Products Human Resources and Employee Management Operations and Administration	

Based on the data collected, here are the findings regarding the most common positions women occupy in a business and the distribution of sole and co-owners:

Ownership Type

Several respondents [R1, R3, R4, R5 R6, R7, R8, R10, R12] report they are *sole owners* of women-owned businesses. This indicates most women in the sample run their businesses independently and have full ownership and decision-making control over their companies. The balance [R2, R9, R11, R13] of the women-owned businesses have *co-owners*. This suggests that a smaller portion of women in the sample share ownership and decision-making responsibilities with other individuals.

Responsibilities

Five respondents [R1, R4, R8, and R11] are involved in *financial management* across the businesses. This demonstrates that multiple female entrepreneurs take on the responsibility of managing their businesses' finances, ensuring sound financial planning, and overseeing financial operations. Some respondents [R2, R3, R5, R6, and R7] fill *leadership and management roles*. This indicates that a significant number of women in the sample are actively leading and managing their businesses, setting strategic objectives, and overseeing daily operations. Two respondents [R3 and R13] are involved in *operations and administration* demonstrating that some women are directly involved in handling daily administrative duties and ensuring smooth operations within their businesses. Involvement in *specialized services or products* by two respondents [R3 and R13] indicates certain women-owned businesses offer unique or specialized services or products in the market. Involvement in *human resources and employee management* [R9 and R13] highlights that a portion of women entrepreneurs take on the responsibility of hiring, training, and managing employees within their companies. R10 and R12 are responsible for *sales and marketing*. Some women [R10 and R12] actively participate in sales efforts, in both face-to-face and online ways, and are involved in marketing strategies to promote their businesses.

Finding 1: Overall, the findings reveal that women entrepreneurs in the sample hold diverse positions and responsibilities within their businesses. The majority are sole owners, demonstrating their independent leadership in managing their companies. Additionally, women actively participate in various aspects of their businesses, including financial management, leadership, operations, specialized services/products, human resources, and sales/marketing. These findings highlight the significant roles and contributions of women in business ownership and management.

Q2: What tertiary qualification do you possess?

Table 5-2 reflects the identification of the level of competencies and the owner's values when it comes to business. These two aspects could potentially influence the adoption of IT governance in the business. Education plays a vital role in fostering the development of critical thinking and problem-solving abilities, both of which are fundamental to running a successful business. These skills enable entrepreneurs to effectively tackle challenges, make well-informed decisions, and drive innovation to maintain a competitive edge.

Table 5-2 Education of Respondents

Q2	Themes	Summary
R1	Degree	Category – Education of Respondents Degrees (3) [R1, R2, R11] Diplomas (5) [R8, R12, R13] Certificate (6) [R3, R4, R5, R7, R9, R10] Industry Experience and Workshops (1) [R6]
R2	Degree	
R3	Certificate	
R4	Certificate	
R5	Certificate	
R6	Industry Experience and Workshops	
R7	Certificate	
R8	Diploma	
R9	Certificate	
R10	Certificate	
R11	Degree	
R12	Diploma	
R13	Diploma	

Table 5-2 indicates three respondents [R1, R2 and R11] hold degrees as their highest tertiary qualification. These individuals have likely undergone more extensive and specialized education, which may indicate a higher level of competencies in their respective fields. Having a degree can also signify a commitment to academic pursuits and a willingness to invest in higher education, which could reflect positively on the owner's values when it comes to business. Some respondents [R8, R13 and R12] possess diplomas as their tertiary qualification. Diplomas typically offer a more focused and practical approach to education compared to degrees. Owners with diplomas may have acquired specific skills and knowledge that are directly applicable to their industries, which could be beneficial in a business context. While diplomas may not be as extensive as degrees, they still demonstrate a certain level of commitment to education and professional development. Certification has been achieved by six respondents [R3, R4, R5, R7, R9 and R10]. Certificates often indicate completion of short-term courses or specialized training programs. While certificates may not carry the same depth as degrees or diplomas, they can still contribute to the development of specific skills and competencies relevant to business needs. The owners with certificates may have opted for targeted training to address specific challenges or opportunities in their industries. Finally, one

respondent relies solely on industry experience and workshops [R6] rather than formal tertiary qualifications. Practical experience and continuous learning through workshops and seminars play a significant role in their professional development. These individuals may have accumulated valuable insights and skills through hands-on experiences, which can be advantageous in entrepreneurial endeavours.

Finding 2: The findings indicate that the owner's educational backgrounds, in terms of tertiary qualifications, encompass a range of experiences, from formal degrees to more focused diplomas and certificates, as well as those who emphasize industry experience. The diversity in educational backgrounds could potentially influence the level of competencies and the values these owners bring to their businesses. Regardless of the specific qualification, education seems to be valued to foster critical thinking, problem-solving abilities, and continuous improvement, all of which are essential for running successful businesses. The adoption of IT governance in the business might be influenced by the level of competencies and the owners' inclination towards investing in education and professional development.

Q3: What is your understanding of the term information technology governance (ITG)?

The purpose of this question is to ascertain the level of respondent knowledge regarding IT governance and exposure to IT governance.

Table 5-3 Understanding of IT Governance

Q3	Themes	Summary
R1	Demonstrating Knowledge/Understanding:	Category – Understanding of IT Governance Demonstrating Knowledge/Understanding (5) Limited Understanding (6) No understanding (2)
R2	Demonstrating Knowledge/Understanding:	
R3	Limited Understanding	
R4	Limited understanding	
R5	Limited Understanding:	
R6	Demonstrating Knowledge/Understanding:	
R7	No understanding	
R8	Limited Understanding:	
R9	No understanding	
R10	Demonstrating Knowledge/Understanding:	
R11	Demonstrating Knowledge/Understanding:	
R12	Limited Understanding:	
R13	Limited Understanding:	

Based on the data collected, here are the findings based on respondent's level of understanding of Information Technology Governance (ITG) among the 12 women business owners:

Demonstrating Knowledge/Understanding: R1, R2, R6, R10 and R11 demonstrate a level of knowledge and understanding of ITG. They provide descriptions and explanations related to ITG, such as the implementation and value of IT systems, policies for managing information systems, maintaining security and compliance, aligning IT investments with business objectives, and promoting innovation and agility.

Limited Understanding: R3, R4, R5, R8, R12 and R13 express a limited understanding of ITG. They indicate having a partial understanding or struggling to grasp the concept fully. Some mention a lack of connection between ITG and business outcomes or state that they have a limited understanding without further elaboration.

No Understanding: R7 & R9 explicitly state that they have no understanding of ITG. They indicate a lack of knowledge or exposure to the concept.

Finding 3: Based on these findings, it can be concluded that the level of understanding of ITG among women business owners is varied. While some demonstrate a level of knowledge and understanding, others have a limited understanding or no understanding at all. These findings

highlight the need for further education or awareness-building efforts regarding ITG within this group.

Q4: Studies show that women who own their own businesses, often encounter barriers concerning the position they hold in their business and when it comes to decision-making. What is your view on this as a woman owner?

The purpose of this question is to gather enough information from respondents as to their experiences as women owners or women in executive or management positions, whether they are owners or sole owners of the business.

Table 5-4 Gender Challenges and Empowerment in Business Settings

Q4	Themes	Summary
R1	Gendered Challenges in Male-Dominated Industries	Category – Gender Challenges and Empowerment in Business Settings Gendered Challenges in Male-Dominated Industries (3) Advantages of Autonomy and Ownership (3) Stereotyping and Perception (3) Judgement and Dismissal (1) Work-Life Balance (1) Increased Expectations and Effort (1)
R2	Gendered Challenges in Male-Dominated Industries	
R3	Advantages of Autonomy and Ownership	
R4	Stereotyping and Perception	
R5	Judgement and Dismissal	
R6	Work-Life Balance	
R7	Gendered Challenges in Male-Dominated Industries	
R8	Stereotyping and Perception	
R9	Increased Expectations and Effort	
R10	Stereotyping and Perception	
R11	Advantages of Autonomy and Ownership	
R12	Advantages of Autonomy and Ownership	
R13	Gendered Challenges in Male-Dominated Industries	

Gendered Challenges in Male-Dominated Industries: R1, R2, R7 and R13 highlighted challenges faced in traditionally male-dominated industries, including limited representation, lack of respect, and struggles to have their voices heard.

Advantages of Autonomy and Ownership: R3, R11 and R12 expressed the advantages of being in a position of ownership and having autonomy in decision-making within their businesses.

Stereotyping and Perception: R4, R8 and R10 acknowledged the existence of stereotypes and biases that can affect how women in leadership roles are perceived and undermine their authority and influence.

Judgement and Dismissal: R5 emphasized that women are often judged more harshly, and face dismissal of their ideas compared to men.

Work-Life Balance: R6 highlighted the challenge of maintaining work-life balance as a significant barrier for women in leadership positions.

Increased Expectations and Effort: R9 recognized that women may need to put in more effort to prove their skills and abilities due to higher standards of competence and likeability.

Finding 4: These findings illustrate the diverse experiences of women owners and women in executive or management positions. While some face gendered challenges in male-dominated industries and encounter stereotypes and biases, others benefit from the advantages of autonomy and ownership. The findings also touch upon issues related to judgment, work-life balance, and the increased expectations placed on women in leadership roles.

Q5: Are you currently using any sort of information technology in the business?

The purpose of this question is to determine the level of information systems currently being used in specific industries.

Table 5-5 Level of IT Usage

Q5	Themes	Summary
R1	Advanced IT Systems:	Category – Level of IT Usage Advanced IT Systems (1) Heavy Reliance on ICT (1) Basic IT Usage (3) Long-Term IT Adoption (1) Specific IT Tools (3) Insufficient Information (1) Limited Information (3)
R2	Heavy Reliance on ICT	
R3	Basic IT Usage	
R4	Long-Term IT Adoption	
R5	Basic IT Usage	
R6	Limited Information	
R7	Basic IT Usage	
R8	Specific IT Tools	
R9	Limited Information	
R10	Specific IT Tools	
R11	Specific IT Tools	
R12	Limited Information	

Level of integration: R1 recognizes the need for advanced IT systems as they provide structural and civil engineering services and Project Management. R2 emphasizes a heavy reliance on Information and Communication Technology for daily operations, indicating its critical role in their success. R3, R5 and R7 mention using basic IT packages or systems for tasks like invoicing, emailing, and point of sale, suggesting that some businesses have a more straightforward IT setup. R4 has a long-term history of IT adoption, indicating that information technology has been a consistent part of its operations over time.

Specific IT Tools and Platforms: R8, R10, R11 and R13 mentions specific IT tools or platforms they use, including accounting packages, Office 365, Zoom, social media platforms, e-commerce platforms and Office application such as computers for word processing and spreadsheets for office and contract administration. The use of specific IT tools highlights the varied technological requirements and preferences of women business owners.

Insufficient Information: R6, R9 and R12 provide limited information, merely confirming that they use information technology without specifying the type or extent of its usage. While these responses confirm IT usage, they do not offer detailed insights into the specific information systems employed by these businesses.

Finding 5: This data gives insights into the diverse approaches and levels of IT adoption among women business owners, Women business owners exhibit different levels of IT integration, ranging from advanced systems to basic usage. Some use specific IT tools and platforms to cater to their unique business needs, while others provide limited information, making it challenging to determine the exact extent of their IT usage. These findings illustrate the diversity in IT adoption and the importance of technology in supporting various aspects of women-owned businesses.

Q6: Do the current information technology solutions support what your business does best?

The purpose of this question is to determine whether the current IT systems support the business needs and get their opinion on what IT solutions could further enhance their business.

Table 5-6 Perceptions, Benefits and Efficiency of Current IT Solutions

Q6	Themes	Summary
R1	Recognition of Technological Advancements	Category – Perceptions, Benefits and Efficiency of Current IT Solutions Recognition of Technological Advancements (1) Satisfaction with Current IT Solutions (2) Need for System Upgrade (1) Streamlining Business Operations (2) Specific IT Benefits (2) Limited Information (3) Insufficient IT Support (1) No response (1)
R2	Satisfaction with Current IT Solutions	
R3	Satisfaction with Current IT Solutions	
R4	Need for System Upgrade	
R5	Limited Information	
R6	Streamlining Business Operations	
R7	No response	
R8	Streamlining Business Operations	
R9	Specific IT Benefits	
R10	Specific IT Benefits	
R11	Limited Information	
R12	Limited Information	
R13	Insufficient IT Support:	

Recognition of Technological Advancements: R1 showed awareness of the constant evolution of technology in their industry therefore the need for updating IT.

Satisfaction with Current IT Solutions: R2 & R3 express contentment with their current IT solutions.

Need for System Upgrade: R4 perceives the need for system upgrades due to business growth.

Streamlining Business Operations: R6 & R8 highlights the positive aspects of their current IT solutions, particularly in streamlining business operations.

Specific IT Benefits: R9 & R10 identified specific benefits of their current IT solutions, such as managing customer interactions, tracking leads, and reaching a large customer base.

Information Provided: R5, R11 and R12 provided limited information about their current IT solutions without elaborating on the specifics.

Insufficient IT Support: R13 mentions that their current IT solutions do not adequately meet their business needs and indicates the use of minimal technology for administrative processes, considering the adoption of new technologies in the future.

Finding 6: Highlight the varied perspectives of women business owners regarding the support provided by their current IT solutions. While some are satisfied with the benefits and efficiency gained from their systems, others recognize the need for upgrades or express concerns about the insufficient support offered by their existing IT solutions. The limited information provided by some respondents underscores the importance of further exploration and understanding of their IT needs to make informed decisions for enhancing their businesses.

Q11: Have you considered including the role of information technology in your growth strategy for your business? Please elaborate.

The purpose of this question is to determine whether according to the owner, IT is crucial to the business and whether they would go to the extent of including it in their growth strategy.

Table 5-7 Summary themes, categories, and findings

Q11	Themes	Summary
R1	Yes, IT crucial for business growth	Category – Recognition of IT's importance for business growth IT as Crucial for Business Growth (1)
R2	Exclusion of IT from Growth Strategy:	
R3	Exclusion of IT from Growth Strategy:	
R4	Exclusion of IT from Growth Strategy:	
R5	Yes, the potential of IT for Improved Productivity and Customer Service:	Category – Evaluation of IT's relevance to current growth strategy Exclusion of IT from Growth Strategy (4)
R6	IT for Improving Communication and Decision-Making:	Category – Perceived benefits of IT integration in growth strategy Potential of IT for Improved Productivity and Customer Service (2)
R7	Exclusion of IT from Growth Strategy:	
R8	Consideration of IT for Expanding into New Markets	Category – IT's role in enhancing communication and decision-making IT for Improving Communication and Decision-Making (1)
R9	Challenges and Future Steps for IT Implementation	
R10	The potential of IT for Improved Productivity and Customer Service:	Category – Exploration of new markets and global reach with IT Consideration of IT for Expanding into New Markets (1)
R11	IT for Automating Reporting and Analysis	
R12	No specific details provided	
R13	Challenges and Future Steps for IT Implementation	Category – Challenges and future orientation for IT implementation Challenges and Future Steps for IT Implementation (2) Category – Leveraging IT for automating reporting and analysis IT for Automating Reporting and Analysis (1)

Recognition of IT's Importance for Business Growth: R1 acknowledge the significance of IT for their business growth, particularly in managing complex technical and social systems. They understand the importance of information systems to effectively communicate with stakeholders and achieve optimal outcomes in various project stages.

Evaluation of IT's Relevance to Current Growth Strategy: R2, R3, R4 and R7 states that IT is currently not officially included in their growth strategy. They either use basic IT and find it unnecessary at this stage or lack sufficient information to determine its viability for their growth plans.

Perceived Benefits of IT Integration in Growth Strategy: R5 and R10 recognize the potential benefits of integrating IT into their growth strategy. They believe IT can enhance productivity by automating tasks and focusing on critical aspects. Additionally, they consider IT's role in improving customer service, leading to increased customer loyalty and repeat business.

IT's Role in Enhancing Communication and Decision-Making: R6 expresses the intention to include IT in its growth strategy to improve communication within and outside the company.

They believe that efficient communication will lead to increased productivity and faster decision-making processes.

Exploration of New Markets and Global Reach with IT: R8 mentions the possibility of incorporating IT into its growth strategy to facilitate entering new markets and connecting with global clients. They perceive IT as a means to offer goods and services to a broader audience.

Challenges and Future Orientation for IT Implementation: R9 and R13 acknowledge the difficulties and costs associated with IT implementation, leading them to exclude it from their current growth strategy. However, they express a willingness to take small steps towards integrating IT in the future, indicating a proactive approach.

Leveraging IT for Automating Reporting and Analysis: R11 considered IT as a means to achieve growth targets by automating reporting processes and digitizing analysis tools. They believe this can lead to more efficient business operations.

Finding11: Overall, the findings indicate that while some women business owners recognize the crucial role of IT for business growth and consider its integration into their strategies, others have yet to fully explore its potential or address challenges related to implementation.

SQ2: What primary structures need to be in place to ensure the successful development of an IT governance framework in women-owned SMEs in South Africa?

Q7: Is there any formal business strategy in place for your company?

This research question evaluates the outcome of the proposed framework is strategic IT and business strategy. Therefore, we need to determine whether there currently are business strategies in place.

Table 5-8 Summary themes, categories, and findings

Q7	Themes	Summary
R1	Presence of formal business strategies	Category – Business strategy Presence of formal business strategies (9) Absence of formal business strategies (4)
R2	Presence of formal business strategies	
R3	Absence of formal business strategies	
R4	Absence of formal business strategies	
R5	Presence of formal business strategies	
R6	Presence of formal business strategies	
R7	Presence of formal business strategies	
R8	Presence of formal business strategies	
R9	Absence of formal business strategies	

R10	Presence of formal business strategies	
R11	Presence of formal business strategies	
R12	Presence of formal business strategies	
R13	Absence of formal business strategies	

Presence of Formal Business Strategies: R1, R2, R5, R6, R7, R8, R10, R11, and R12 indicate the presence of formal business strategies in their companies. Some respondents mention specific aspects of their business strategies, such as focusing on achieving company strategies within or below budget, customer focus as a foundational element (R1), intense strategies (R2), cost-saving to enhance competitiveness (R8), prioritizing digital marketing and e-commerce (R10), and having an overarching strategy with individual strategies for different service offerings (R11).

Absence of Formal Business Strategies: R3, R4, R9, and R13 state that there are currently no formal business strategies in place for their companies.

R3 outlines a vision for the future but does not have formal strategies now. R4 states that there is no formal business strategy as part of their current approach. R9 mentions that decisions on the company's strategy are made monthly, indicating a lack of formalized long-term plans. R13 believes that formal business strategies would be beneficial in the future, suggesting that they are not yet in place.

Findings 7: These findings provide insights into the diversity of approaches among women business owners regarding the presence and nature of formal business strategies in their respective companies. Some have well-established strategies, while others are either in the process of formulating them or currently do not have formal strategies but are considering their implementation in the future. This diversity suggests that women business owners have different levels of strategic planning and readiness to align their business goals with formalized strategies. The presence of formal business strategies is essential for the proposed framework's outcome, as it helps align strategic IT initiatives with the overall business strategy to enhance business success.

Q8: In your opinion, would implementing a more formal information technology structure benefit your business?

The purpose of the question is to gather information from respondents and derive from that data what their attitudes are concerning formal structures in general and towards ITG structure, in particular, are being implemented.

Table 5-9 Attitude Towards ITG Structure

Q8	Themes	Summary
R1	Acknowledgment of potential benefits Current Informal Structure:	Category – Attitude towards ITG structure Acknowledgment of potential benefits (10) Currently informal structure (1) Need for evaluation (2) Cost concerns (1) Ongoing implementation (1) Industry-specific considerations (1)
R2	Acknowledgment of potential benefits	
R3	Acknowledgment of potential benefits	
R4	Acknowledgment of potential benefits	
R5	Acknowledgment of potential benefits	
R6	Need for evaluation	
R7	Acknowledgment of potential benefits Cost concerns	
R8	Acknowledgment of potential benefits Need for evaluation	
R9	Acknowledgment of potential benefits	
R10	Acknowledgment of potential benefits	
R11	Acknowledgment of potential benefits	
R12	Ongoing implementation:	
R13	Industry-specific considerations	

Positive Attitude towards Potential Benefits: R1, R2, R3, R4, R5, R7, R8, R9, R10 and R11 expressed a positive outlook towards the potential benefits of implementing a more formal ITG structure in their businesses. They believe that such a structure could lead to improved efficiency, streamlined processes, better management, and enhanced business performance.

Existence of Informal Structure with IT Governance: Additionally, R1 acknowledges that there is currently an informal IT structure in place that balances technical and business principles. This indicates that some businesses may already have some level of IT governance, even if it is not explicitly formalized.

Need for Evaluation: R6 and R8 mention the need to evaluate the impact of a formal ITG structure on their business. They express a cautious approach and indicate the importance of careful assessment before making decisions about IT governance.

Cost Concerns: Additionally, R7 raised concerns about the costs associated with implementing a formal ITG structure. Some business owners may be cautious about potential expenses and the return on investment related to formalizing IT governance.

Ongoing Implementation Efforts: R12 states that their business is currently in the process of implementing a formal ITG structure. This suggests that some businesses are actively working towards adopting a more structured IT governance approach.

Industry-Specific Considerations: R13 highlights industry-specific challenges, particularly regarding the cost of implementing technology in the construction sector. It indicates that the suitability and feasibility of formal ITG structures may vary across different industries.

Findings 8: The findings show that the majority of respondents recognize the potential benefits of implementing a more formal ITG structure in their businesses. However, some respondents expressed a need for evaluation, and there are also considerations related to cost and industry-specific challenges. These insights provide valuable information about the attitudes and perspectives of women business owners towards formal IT governance structures in their respective businesses.

Q9: What are the decision-making procedures for suggesting, assessing, sanctioning, and ranking IT investments?

Q9 aims to establish whether there are processes in place when it comes to IT investments.

Table 5-10 Decision-Making Process

Q9	Themes	Summary
R1	Informal decision-making process	Category – Decision-making process Informal decision-making approaches (9) Formal decision-making processes (4)
R2	Informal decision-making process	
R3	Informal decision-making process	
R4	Informal decision-making process	
R5	Informal decision-making process	
R6	Formal decision-making processes	
R7	Formal decision-making processes	
R8	Informal decision-making process	
R9	Informal decision-making process	
R10	Formal decision-making processes	
R11	Informal decision-making process	
R12	Formal Decision-Making Processes	
R13	Informal decision-making process	

Informal Decision-Making Approaches: R1, R8, and R9 mentioned various informal methods used for IT investment decisions. The most common approach was individual decision-making, where a single individual, typically the respondents themselves, holds the authority to make decisions regarding IT investments. Additionally, R2 indicated that decision-making roles for IT investments are designated to an unofficial group of individuals chosen based on their knowledge of IT. Moreover, R3, R4 and R13 businesses lacked specific or formal decision-

making processes for IT investments. Instead, they may rely on ad-hoc decision-making or consider outsourcing to specialized service providers.

Formal Decision-Making Processes: While the majority of respondents indicated informal decision-making approaches, there were a few women business owners who had formal decision-making processes in place for IT investments. These formal approaches involve the participation of stakeholders, committees, and high-level executives in the proposal, evaluation, and prioritization of IT needs. R6 and R7 mentioned the involvement of a team of stakeholders, including IT professionals, department heads, and financial analysts, in reviewing and evaluating proposed IT investments. Additionally, R12 company has established committees, such as the Steerco Committee, which are involved in decision-making processes, with the Managing Director serving as a sponsor.

Findings 9: Overall, the findings suggest that the majority of women-owned businesses have informal decision-making processes for IT investments, where individual authority, ad-hoc approaches, and outsourcing are common. While some women business owners have established formal decision-making processes involving stakeholders and committees, they represent a smaller proportion in the survey. The variation in decision-making approaches may indicate different levels of IT governance and decision-making maturity among women-owned businesses.

Q10: How are the outcomes of these procedures monitored and conveyed to different stakeholders?

Table 5-11 reviews feedback from Q10 and identifies whether these businesses have any structures in place for accountability when it comes to IT/ ITG.

Table 5-11 IT Governance Accountability

Q10	Themes	Summary
R1	IT Manager as Communication Channel	Category – Formal Communication Channels and Reporting IT Manager as communication channel (R1) Unofficial members for Communication and monitoring (R2) Direct communication with the respondent (R4) Reporting to stakeholders (R10)
R2	Unofficial members for communication and monitoring	
R3	Lack of Specific Details	
R4	Direct Communication with the Respondent	
R5	Regular meetings for updates	
R6	Communication through dashboards and reports	Category – Informal Communication and Lack of Specific Details Lack of specific details (R3, R12)
R7	Usage of communication tools	
R8	Quarterly review sessions:	
R9	Frequent meetings covering business issues	
R10	Reporting to stakeholders	
R11	Monitoring and review meetings	
R12	Lack of specific details	

Q10	Themes	Summary
R13	Owners' responsibility for major IT decisions	Category – Meetings and Review Sessions: Regular meetings for updates (R5) Quarterly review sessions (R8) Frequent meetings covering Business Issues (R9) Monitoring and review meetings (R11) Category – Communication Tools and Dashboards Communication through dashboards and reports (R6) Usage of communication tools (R7) Category – Owners' Responsibility for Decision-making: Owners' Responsibility for Major IT Decisions (R13)

Informal Decision-Making Approaches: R1, R8, and R9 mentioned various informal methods used for IT investment decisions. The most common approach was individual decision-making, where a single individual, typically the respondents themselves, holds the authority to make decisions regarding IT investments. Additionally, R2 indicated that decision-making roles for IT investments are designated to an unofficial group of individuals chosen based on their knowledge of IT. Moreover, R3, R4 and R13 businesses lacked specific or formal decision-making processes for IT investments. Instead, they may rely on ad-hoc decision-making or consider outsourcing to specialized service providers.

Formal Decision-Making Processes: While the majority of respondents indicated informal decision-making approaches, there were a few women business owners who had formal decision-making processes in place for IT investments. These formal approaches involve the participation of stakeholders, committees, and high-level executives in the proposal, evaluation, and prioritization of IT needs. R6 and R7 mentioned the involvement of a team of stakeholders, including IT professionals, department heads, and financial analysts, in reviewing and evaluating proposed IT investments. Additionally, R12 company has established committees, such as the Steerco Committee, which are involved in decision-making processes, with the Managing Director serving as a sponsor.

Findings 9: Overall, the findings suggest that the majority of women-owned businesses have informal decision-making processes for IT investments, where individual authority, ad-hoc approaches, and outsourcing are common. While some women business owners have established formal decision-making processes involving stakeholders and committees, they represent a smaller proportion in the survey. The variation in decision-making approaches may

indicate different levels of IT governance and decision-making maturity among women-owned businesses.

Q12: Now that we have come to the end of my set of questions, is there anything further that you would like to comment on that could potentially contribute to my research? Specifically, when it comes to women in business and ITG.

Q12 explores any additional aspects that could potentially contribute to the research study. Some respondents did not answer this question, leaving it blank.

Table 5-12 Additional Aspects

Q12	Themes	Summary
R1	Importance of IT Skills	Category – Skills and Expertise in IT Importance of IT Skills (1)
R2	Mentorship and Female Leadership	
R3	Perseverance and Hard Work	
R4	IT Improvement and Resource Constraints	IT Improvement, Resource Constraints (1)
R5	Increasing Awareness of IT in Business	Increasing Awareness of IT in Business (1)
R6	No feedback	Leadership and Empowerment: Mentorship and Female Leadership (1)
R7	Challenges Faced by Women-Owned Businesses	
R8	Inclusive Workplace Culture	
R9	No feedback	Category – Entrepreneurial Traits and Business Success Perseverance and Hard Work (1)
R10	No feedback	
R11	No feedback	
R12	No feedback	
R13	Technology for Small Business Success	
		Technology for Small Business Success (1)

Importance of IT Skills: R1 acknowledges the value of being IT-savvy in the business and engineering industries. They recognize the need for women engineers to improve their IT skills alongside their engineering expertise, highlighting the significance of IT knowledge in the modern business landscape.

IT Improvement and Resource Constraints: R4 expressed interest in enhancing the IT side of their businesses. However, they point out challenges related to allocating extra resources and costs for implementing IT solutions. This finding indicates that while there is interest in improving IT capabilities, resource constraints can be a barrier to implementation.

Increasing Awareness of IT in Business: R8 is aware of the importance of information technology in their operations. Respondents expressed interest in having a basic structure to help them implement IT solutions effectively. This finding suggests that there is a growing recognition of the role of IT in optimizing business processes.

Mentorship and Female Leadership: R2 shared their personal experiences of being inspired by female CEOs and mentors. They express hope for more women to take on leadership

positions and serve as role models for the younger generation. This finding emphasizes the positive impact of mentorship and female leadership in encouraging women to pursue leadership roles.

Challenges Faced by Women-Owned Businesses: R7 highlights the challenges women-owned businesses face in accessing information technology resources and opportunities. This finding indicates that there may be gender-related barriers in the IT industry that hinder the growth and success of women-owned businesses.

Inclusive Workplace Culture: R8 actively fosters an inclusive workplace culture that values diversity and equal opportunities for women, especially in IT leadership positions. This finding underscores the importance of creating an inclusive and supportive environment for women to thrive in IT-related roles.

Perseverance and Hard Work: R3 mentions that entrepreneurship requires dedication, hard work, and perseverance. Respondents encourage not giving up and staying committed to one's passion and dreams rather than being solely motivated by monetary gains. This finding highlights the importance of determination and resilience in achieving business success.

Technology for Small Business Success: R13 recognizes the significance of technology in improving accountability and efficiency. They express eagerness to embrace IT initiatives to advance their businesses and emphasize the unique capabilities women bring to business relations. This finding indicates that technology plays a crucial role in enhancing the competitiveness and success of small businesses, and women entrepreneurs are keen on leveraging it for growth.

Finding 12: In summary, these findings provide valuable insights into the perspectives and experiences of women business owners concerning IT and business operations. Not all respondents answered this question and left it blank. The research highlights the need for IT skills, mentorship, and an inclusive workplace culture, as well as the challenges faced and the importance of technology for entrepreneurial success. The findings can contribute to an understanding of how women navigate the intersection of business and ITG and shed light on potential areas for further research and support.

5.3 Interpretation of the findings

Table 5-13 below sets out links in Section 5.3 between secondary research questions SRQ1 and SRQ2 and findings outlined in the preceding section, Section 5.2.

Table 5-13 Secondary Research Questions and Related Findings

#	Related Findings
SRQ1	1 Positions and responsibilities
	2 Educational Backgrounds
	3 Understanding of IT Governance
	4 Experiences of Women Owners in Executive Positions
	5 Approaches to and Levels of IT Adoption
	6 Perspectives Regarding Support Provided by IT Solutions
	8 Potential Benefits of Implementing Formalised IT Governance Structure
	11 Role of IT for Business Growth with Integration Into Strategy
SRQ2	7 Approaches to the Presence and Nature of Formal Business Strategies
	9 Decision-making Processes for IT Investments
	10 Monitoring and Communicating Results to Stakeholders
	12 Insights Into Perspectives and Experiences of Women Business Owners

Findings 1 to 6, 8 and 11 reflect the outcomes of SRQ1 while SRQ2 maps to findings 7, 9, 10 and 12. For each of the listed findings, the section offers notes on interpretation, implications and recommendations.

5.3.1 Findings relating to SRQ1: What are the factors that influence the implementation of an IT governance framework in women-owned SMEs in South Africa?

Finding 1 Positions and responsibilities

Overall, the findings reveal that women entrepreneurs in the sample hold diverse positions and responsibilities within their businesses. The majority are sole owners, demonstrating their independent leadership in managing their companies. Additionally, women actively participate in various aspects of their businesses, including financial management, leadership, operations, specialized services/products, human resources, and sales/marketing. These findings highlight the significant roles and contributions of women in business ownership and management.

Interpretation

The findings suggest that women entrepreneurs in the sample play diverse and significant roles within their businesses. The majority of women are sole owners, which showcases their

independent leadership capabilities in managing their companies. Additionally, women actively participate in various key areas, such as financial management, leadership, operations, specialized services/products, human resources, and sales/marketing. These findings emphasize the vital and multifaceted contributions of women in business ownership and management, challenging traditional gender norms and stereotypes that might suggest a limited scope for women in these roles.

Applying the lenses of the Individual Difference Theory of Gender and IT (IDTGIT) to this finding, it becomes relevant to explore how individual gender-related characteristics influence women entrepreneurs' attitudes and decision-making regarding the implementation of IT governance frameworks. IDTGIT could examine whether the diverse roles and responsibilities undertaken by women entrepreneurs are associated with varying levels of enthusiasm and engagement in IT governance adoption. It may also investigate how individual differences in problem-solving, risk-taking, and technology perception influence women's readiness to embrace IT governance practices.

From the perspective of the Contingency Theory, the diverse positions and responsibilities of women entrepreneurs should be analysed in the context of factors that influence the adoption and effectiveness of IT governance frameworks. The theory may suggest that the size of the business, the industry type, and the level of technology integration can impact the suitability of specific IT governance approaches. Understanding these contingencies can help in tailoring IT governance strategies that align with the unique needs and characteristics of women-owned SMEs in South Africa.

Implications

1. **Gender-Inclusive IT Governance Strategies:** Recognizing the diverse roles and contributions of women entrepreneurs, it is essential to develop gender-inclusive IT governance strategies that consider their specific business contexts and individual characteristics. This approach can enhance the relevance and effectiveness of IT governance frameworks in women-owned SMEs.
2. **Empowering Women Entrepreneurs:** Highlighting the significant roles of women in business ownership and management can contribute to empowering women entrepreneurs further. By acknowledging and promoting their leadership and decision-making roles, a supportive environment can be fostered to encourage women to embrace IT governance practices and other technology-related initiatives.

3. **Breaking Gender Stereotypes:** The finding challenges traditional gender stereotypes that might limit women's participation in certain business functions. Encouraging and nurturing diverse leadership roles for women can lead to more inclusive and equitable business practices, including the integration of IT governance frameworks.

Recommendations

1. **IT Governance Awareness Campaigns:** Conducting awareness campaigns on the benefits and importance of IT governance frameworks can help women entrepreneurs understand the potential advantages it offers for their businesses. These campaigns should address the diverse roles and responsibilities of women entrepreneurs, illustrating how IT governance can support and enhance their various business functions.
2. **Tailored IT Governance Training:** Providing tailored training programs on IT governance that cater to the specific needs and roles of women entrepreneurs can increase their confidence and competence in adopting and implementing IT governance practices. These programs should focus on practical applications and real-world examples relevant to their businesses.
3. **Mentorship and Networking Opportunities:** Creating mentorship programs and networking opportunities can connect women entrepreneurs with experienced IT professionals and successful women business owners who have implemented IT governance frameworks. Such interactions can provide valuable insights and guidance for successful IT governance adoption.
4. **Research on Gendered Factors in IT Governance:** Conducting further research on gendered factors that influence the implementation of IT governance in women-owned SMEs can contribute to developing evidence-based strategies and policies. This research can shed light on specific challenges and opportunities unique to women entrepreneurs' IT governance journey.

By using inductive reasoning and applying the lenses of the Individual Difference Theory of Gender and IT (IDTGIT) and the Contingency Theory to the finding, the interpretation, implications, and recommendations offer valuable insights into the factors that influence the implementation of IT governance frameworks in women-owned SMEs in South Africa. Implementing the provided recommendations can create a supportive and inclusive environment that encourages women entrepreneurs to adopt effective IT governance practices, ultimately contributing to their business success and growth.

Finding 2 Educational Backgrounds

The findings indicate that the owner's educational backgrounds, in terms of tertiary qualifications, encompass a range of experiences, from formal degrees to more focused diplomas and certificates, as well as those who emphasize industry experience. The diversity in educational backgrounds could potentially influence the level of competencies and the values these owners bring to their businesses. Regardless of the specific qualification, education seems to be valued to foster critical thinking, problem-solving abilities, and continuous improvement, all of which are essential for running successful businesses. The adoption of IT governance in the business might be influenced by the level of competencies and the owner's inclination towards investing in education and professional development.

Interpretation

The findings reveal that the owner's educational backgrounds vary significantly, including formal degrees, diplomas, certificates, and industry experience. This diversity suggests that business owners have pursued different paths of education and training, resulting in varying levels of competencies and values within the entrepreneurial landscape. Despite the differences in qualifications, the value placed on education is evident, as it is recognized to develop critical thinking, problem-solving abilities, and continuous improvement, all of which are crucial for achieving business success. The level of competencies and the owner's inclination towards investing in education and professional development are potential factors that may influence the adoption of IT governance in their respective businesses.

Implications

1. Within the context of IDTGIT, these findings may highlight potential gender differences in tertiary qualifications among business owners. Research has shown that women and men tend to choose different academic and career paths, which may influence their competencies and values in the business realm. Addressing any gender disparities in educational opportunities and promoting inclusivity can foster a diverse pool of skills and perspectives within the business sector.
2. Contingency Theory: The diverse educational backgrounds of business owners may align with Contingency Theory's notion that there is no one-size-fits-all approach to management practices. The qualifications possessed by each owner may shape their managerial style and decision-making processes differently. Consequently, IT governance adoption should be tailored to each business's unique combination of

competencies and values, considering factors like the educational background of the owner and the specific business context.

Recommendations

1. **Training and Development Initiatives:** Considering the value placed on education and professional development, businesses should invest in ongoing training initiatives for both owners and employees. These initiatives can enhance competencies, foster critical thinking, and promote IT governance understanding and adoption. Providing opportunities for continuous learning can also help bridge any skill gaps arising from the diversity of educational backgrounds among business owners.
2. **Gender Diversity and Inclusivity:** To address potential gender differences identified by the IDTGIT, businesses should actively promote gender diversity and inclusivity. Encouraging women's participation in fields related to IT and business can contribute to a broader range of competencies and ideas. Providing mentorship and support networks for women in business can also help overcome traditional barriers and promote equal access to educational and entrepreneurial opportunities.
3. **Tailored IT Governance Approaches:** Recognizing the Contingency Theory's relevance, IT governance approaches should be adaptable and customized to suit the unique characteristics of each business. Understanding the level of competencies, values, and educational backgrounds of business owners can guide the development and implementation of IT governance strategies that align with their specific needs and goals.

In conclusion, the diversity in educational backgrounds among business owners has implications for competencies, values, and the adoption of IT governance. By acknowledging individual differences and applying a contingency approach, businesses can foster a supportive and inclusive environment that leverages the strengths of each owner's educational background to drive innovation and maintain a competitive edge. Investing in education and professional development remains a fundamental aspect of successful businesses, regardless of the specific tertiary qualification.

Finding 3 Understanding of IT Governance

The level of understanding of ITG among women business owners is varied. While some demonstrate a level of knowledge and understanding, others have a limited understanding or no understanding at all. These findings highlight the need for further education or awareness-building efforts regarding ITG within this group.

Interpretation

The findings indicate that the level of understanding of IT governance (ITG) among women business owners in the sample varies significantly. While some women demonstrate a good level of knowledge and understanding of ITG, others have limited understanding or lack any understanding at all. This diversity in understanding emphasizes the need for further education and awareness-building efforts regarding ITG within this group of women entrepreneurs.

Applying the Individual Difference Theory of Gender and IT (IDTGIT) to this finding, it is relevant to explore how individual gender-related characteristics may influence women's attitudes and receptiveness towards IT governance. The theory may investigate whether some specific gender-related traits or perceptions contribute to the variation in their understanding of ITG. Understanding these individual differences can help in tailoring education and awareness initiatives to cater to the unique needs and characteristics of women business owners.

From the perspective of the Contingency Theory, it is crucial to explore the contextual factors that may influence women entrepreneurs' level of understanding of ITG. Factors such as educational background, prior experience with IT, industry type, and business size may play a role in shaping their comprehension of ITG. Conducting further assessments of these contingencies can aid in developing targeted approaches to enhance ITG understanding among women-owned SMEs in South Africa.

Implications

1. Tailored Education and Awareness Initiatives: The finding underscores the need for customized education and awareness initiatives on IT governance for women entrepreneurs. These initiatives should be designed to address the varying levels of understanding and knowledge among women business owners, providing relevant and accessible information that aligns with their specific needs.

2. Addressing Gender-Related Perceptions: The Individual Difference Theory of Gender and IT (IDTGIT) suggests that addressing gender-related perceptions and attitudes towards ITG can help bridge the gap in understanding among women business owners. Efforts should be made to challenge any gender-related stereotypes or biases that might hinder women's engagement with IT governance concepts.
3. Context-Specific Training and Support: The Contingency Theory highlights the importance of considering contextual factors that influence ITG understanding. Tailoring training and support based on women entrepreneur's educational backgrounds, industry types, and business sizes can facilitate better comprehension and application of ITG principles.

Recommendations

1. Collaborative Learning Platforms: Creating collaborative learning platforms where women entrepreneurs can share experiences and insights related to ITG can foster a supportive learning environment. This can be achieved through workshops, webinars, or networking events focused on ITG.
2. Mentorship Programs: Establishing mentorship programs that pair experienced women business owners proficient in ITG with those seeking guidance can provide personalized support and encouragement. Mentorship can enhance ITG understanding and confidence among less knowledgeable entrepreneurs.
3. Industry-Specific Training: Developing industry-specific ITG training programs that address the unique challenges and opportunities in different sectors can enhance the practical relevance of ITG knowledge for women-owned SMEs.
4. Government Support and Resources: Governments and relevant institutions can offer resources and funding to support ITG education and training initiatives for women entrepreneurs. Financial support can increase the accessibility of such programs and ensure broader participation.
5. Research and Evaluation: Conducting further research to understand the factors influencing ITG understanding among women-owned SMEs can guide the design of more effective interventions. Regular evaluations of the impact of education and awareness initiatives can help refine and improve these efforts over time.

By using inductive reasoning and applying the lenses of the Individual Difference Theory of Gender and IT (IDTGIT) and the Contingency Theory to the finding, the interpretation,

implications, and recommendations offer valuable insights into the factors that influence ITG implementation in women-owned SMEs in South Africa. Implementing the provided recommendations can create a supportive and empowering environment that fosters ITG understanding and adoption among women entrepreneurs, ultimately contributing to the success and growth of their businesses.

Finding 4 Experiences of Women Owners in Executive Positions

Illustrate the diverse experiences of women owners and women in executive or management positions. While some face gendered challenges in male-dominated industries and encounter stereotypes and biases, others benefit from the advantages of autonomy and ownership. The findings also touch upon issues related to judgment, work-life balance, and the increased expectations placed on women in leadership roles.

Interpretation

The findings reveal the diverse experiences of women owners and women in executive or management positions in women-owned SMEs in South Africa. Some women face gendered challenges in male-dominated industries, encountering stereotypes and biases that can hinder their career progression and influence the implementation of an IT governance framework. On the other hand, other women benefit from the advantages of autonomy and ownership, which may positively impact their engagement with IT governance. Additionally, the findings highlight issues related to judgment, work-life balance, and the increased expectations placed on women in leadership roles, which can influence their approach to IT governance implementation.

Applying the Individual Difference Theory of Gender and IT (IDTGIT) to this finding, it is important to explore how individual gender-related characteristics shape the diverse experiences of women owners and executives. The theory may investigate whether certain gender-related traits, such as confidence, assertiveness, or risk aversion, play a role in the challenges and advantages faced by women in leadership positions regarding IT governance implementation.

From the perspective of the Contingency Theory, understanding the contextual factors that contribute to the varied experiences is crucial. Factors such as the industry type, organizational culture, support from peers and superiors, and access to resources can influence the challenges and opportunities encountered by women in leadership roles, influencing their engagement with IT governance.

Implications

1. **Gender-Sensitive IT Governance Initiatives:** Recognizing the diverse experiences of women in leadership roles, IT governance initiatives should be designed to be gender-sensitive. They should address the unique challenges faced by women in male-dominated industries and create supportive environments that encourage women's participation and contribution to IT governance discussions.
2. **Empowering Women in Leadership:** The findings suggest that autonomy and ownership can positively impact women's engagement with IT governance. Empowering more women to assume leadership positions and providing opportunities for ownership in their businesses can potentially foster a more inclusive and proactive approach to IT governance implementation.
3. **Addressing Stereotypes and Biases:** Efforts should be made to challenge and eliminate gender stereotypes and biases in the workplace that hinder women's career progression and involvement in IT governance. Implementing diversity and inclusion training can help create a more equitable and supportive work environment.

Recommendations

1. **Mentorship and Leadership Development:** Implementing mentorship programs and leadership development initiatives can support women in overcoming challenges related to work-life balance and increased expectations. Mentorship can provide guidance and support for navigating leadership roles and the implementation of IT governance strategies.
2. **Creating Supportive Organizational Cultures:** Organizations should foster inclusive and supportive cultures that value diversity and empower women to participate in decision-making processes, including IT governance. Encouraging open communication and recognizing the contributions of women leaders can help build a supportive environment.
3. **Resources and Training:** Providing resources and training to women leaders and owners in IT governance best practices and strategies can enhance their understanding and confidence in implementing effective IT governance frameworks.
4. **Research and Benchmarking:** Conducting research and benchmarking against industry best practices can help identify successful approaches to IT governance implementation in women-owned SMEs. Learning from successful case studies and

experiences can inform strategies for overcoming gendered challenges and leveraging opportunities.

By using inductive reasoning and applying the lenses of the Individual Difference Theory of Gender and IT (IDTGIT) and the Contingency Theory to the finding, the interpretation, implications, and recommendations offer valuable insights into the factors influencing the implementation of an IT governance framework in women-owned SMEs in South Africa. Implementing the provided recommendations can contribute to a more inclusive and effective IT governance strategy, fostering an environment where women leaders can thrive and make meaningful contributions to the success of their businesses.

Finding 5 Approaches to and Levels of IT Adoption

This data gives insights into the diverse approaches and levels of IT adoption among women business owners. Women business owners exhibit different levels of IT integration, ranging from advanced systems to basic usage. Some use specific IT tools and platforms to cater to their unique business needs, while others provide limited information, making it challenging to determine the exact extent of their IT usage. These findings illustrate the diversity in IT adoption and the importance of technology in supporting various aspects of women-owned businesses.

Interpretation

The findings provide insights into the diverse approaches and levels of IT adoption among women business owners in South Africa. It is evident that women entrepreneurs exhibit a wide range of IT integration, varying from advanced systems to basic usage. While some women use specific IT tools and platforms to cater to their unique business needs, others provide limited information, making it challenging to determine the exact extent of their IT usage. These diverse approaches to IT adoption highlight the importance of technology in supporting various aspects of women-owned businesses.

Applying the Individual Difference Theory of Gender and IT (IDTGIT) to this finding, it is essential to explore how individual gender-related characteristics influence women business owners' decisions regarding IT adoption. The theory may investigate whether certain gender-related traits, such as risk aversion, technological self-efficacy, or attitudes towards technology, play a role in the varied levels of IT integration observed among women-owned SMEs.

From the perspective of the Contingency Theory, understanding the contextual factors that influence IT adoption is critical. Factors such as business size, industry type, available resources, and the technological infrastructure of the business can impact women entrepreneurs' IT adoption decisions. It is important to recognize that the effectiveness of IT governance frameworks may vary based on these contextual factors.

Implications

1. **Tailored IT Governance Strategies:** Given the diverse approaches to IT adoption, it is crucial to develop IT governance strategies that are flexible and can be tailored to meet the specific needs of individual women-owned SMEs. One-size-fits-all approaches may not be effective in this context.
2. **Technology Training and Support:** Providing technology training and support to women business owners can enhance their technological self-efficacy and confidence in adopting and utilizing IT tools and platforms effectively. This can help bridge the gap between different levels of IT adoption.
3. **Resource Allocation:** Recognizing that women-owned SMEs may have varying resources available for IT adoption, providing access to affordable and scalable technology solutions can support more extensive IT integration among these businesses.

Recommendations

1. **IT Education and Awareness:** Promoting IT education and awareness among women entrepreneurs can foster a greater understanding of the benefits of IT adoption and its potential to enhance business operations. Workshops, webinars, and training sessions can be organized to inform women business owners about the value of technology in their businesses.
2. **Peer Networks and Knowledge Sharing:** Establishing peer networks and platforms for knowledge sharing can provide a space for women entrepreneurs to learn from each other's experiences and best practices in IT adoption. This can encourage women to explore new technological solutions and innovative approaches.
3. **IT Infrastructure Assessment:** Conducting IT infrastructure assessments for women-owned SMEs can help identify technological gaps and areas for improvement. Based on these assessments, businesses can develop strategic IT plans to enhance their IT adoption.

4. **Financial Support and Incentives:** Providing financial support and incentives to women-owned SMEs for investing in IT adoption can encourage more businesses to integrate technology into their operations. Grants, subsidies, or tax incentives could be considered to promote IT integration.

By using inductive reasoning and applying the lenses of the Individual Difference Theory of Gender and IT (IDTGIT) and the Contingency Theory to the finding, the interpretation, implications, and recommendations offer valuable insights into the factors influencing the implementation of an IT governance framework in women-owned SMEs in South Africa. Implementing the provided recommendations can contribute to a more inclusive and effective IT governance strategy, supporting women entrepreneurs in harnessing the potential of technology to grow and succeed in their businesses.

Finding 6 Perspectives Regarding Support Provided by IT Solutions

Highlight the varied perspectives of women business owners regarding the support provided by their current IT solutions. While some are satisfied with the benefits and efficiency gained from their systems, others recognize the need for upgrades or express concerns about the insufficient support offered by their existing IT solutions. The limited information provided by some respondents underscores the importance of further exploration and understanding of their IT needs to make informed decisions for enhancing their businesses.

Interpretation

The findings shed light on the varied perspectives of women business owners regarding the support provided by their current IT solutions in South Africa. It is evident that while some women are satisfied with the benefits and efficiency gained from their IT systems, others recognize the need for upgrades or express concerns about the insufficient support offered by their existing IT solutions. The limited information provided by some respondents suggests that further exploration and understanding of their IT needs are necessary to make informed decisions for enhancing their businesses through IT governance.

Applying the Individual Difference Theory of Gender and IT (IDTGIT) to this finding, it is essential to investigate how individual gender-related characteristics and perspectives influence women business owners' attitudes towards IT solutions. The theory may explore whether women with different gender-related traits and experiences have varying expectations and preferences regarding IT support.

From the perspective of the Contingency Theory, understanding the contextual factors that influence women entrepreneurs' perspectives on IT solutions is crucial. Factors such as the complexity of business operations, the IT infrastructure, budget constraints, and the availability of IT expertise can impact how women perceive the adequacy of their current IT solutions.

Implications

1. Customized IT Solutions: Recognizing the varied perspectives of women business owners, it is essential to offer customized IT solutions that cater to the specific needs and requirements of individual businesses. Tailoring IT solutions can enhance user satisfaction and improve the efficiency of IT adoption.
2. IT Needs Assessment: Conducting thorough IT needs assessments for women-owned SMEs can help identify gaps in their current IT support. This assessment can inform the development of appropriate strategies for upgrading or improving existing IT systems.
3. IT Training and Support: Providing IT training and support to women entrepreneurs can empower them to make informed decisions regarding their IT solutions. Training can enhance their understanding of IT capabilities and functionalities, enabling them to maximize the benefits of their current systems.

Recommendations

1. IT Consultation Services: Offering IT consultation services to women-owned SMEs can provide expert advice and guidance on selecting and optimizing IT solutions based on their unique business needs. Consulting professionals can help identify suitable upgrades or alternatives for enhancing IT support.
2. Technology Partnerships: Encouraging partnerships with technology providers can offer women entrepreneurs access to innovative and up-to-date IT solutions. Partnerships can facilitate the integration of advanced technologies, leading to improved efficiency and competitiveness.
3. Networking and Knowledge Exchange: Creating networking opportunities for women business owners to share their experiences and best practices regarding IT solutions can foster a supportive environment for learning and growth. Knowledge exchange can inspire women to explore new IT strategies and enhance their technological capabilities.

4. Financial Support for IT Upgrades: Providing financial support or incentives for IT upgrades can motivate women-owned SMEs to invest in modern and efficient IT solutions. Financial assistance can alleviate budget constraints and promote technology adoption.

By using inductive reasoning and applying the lenses of the Individual Difference Theory of Gender and IT (IDTGIT) and the Contingency Theory to the finding, the interpretation, implications, and recommendations offer valuable insights into the factors influencing the implementation of an IT governance framework in women-owned SMEs in South Africa. Implementing the provided recommendations can contribute to a more inclusive and effective IT governance strategy, supporting women entrepreneurs in optimizing their IT solutions and driving business success.

Finding 8 Potential Benefits of Implementing Formalised IT Governance Structure

The findings show that majority of respondents recognize the potential benefits of implementing a more formal ITG structure in their businesses. However, some respondents express a need for evaluation, and there are also considerations related to cost and industry-specific challenges. These insights provide valuable information about the attitudes and perspectives of women business owners towards formal IT governance structures in their respective businesses.

Interpretation

The majority of respondents in women-owned SMEs in South Africa recognize the potential benefits of implementing a more formal IT governance (ITG) structure in their businesses. They understand the importance of having a structured approach to managing IT resources and operations. However, some respondents expressed a need for evaluation, indicating a cautious approach towards adopting formal IT governance. Additionally, considerations related to cost and industry-specific challenges play a role in shaping their perspectives on ITG. These findings provide valuable insights into the attitudes and perspectives of women business owners towards formal IT governance structures in their respective businesses.

Applying the Individual Difference Theory of Gender and IT (IDTGIT) to this finding, it becomes relevant to explore how gender-related characteristics and experiences influence women entrepreneurs' attitudes towards ITG. The theory may investigate whether gender differences play a role in shaping their perceptions of the potential benefits and challenges associated with formal IT governance implementation.

From the perspective of the Contingency Theory, it is essential to consider the contextual factors that impact the adoption of formal IT governance structures in women-owned SMEs. Factors such as the size of the business, the nature of the industry, and the availability of resources can influence women entrepreneurs' decision-making regarding IT governance.

Implications

1. **Awareness and Educational programs:** Since some respondents express a need for evaluation and may approach formal IT governance with caution, it is important to provide awareness and education programs. These initiatives can highlight the potential benefits of IT governance, address concerns, and showcase success stories from other women-owned SMEs that have implemented effective ITG structures.
2. **Tailored IT Governance Solutions:** Recognizing the considerations related to cost and industry-specific challenges, offering tailored IT governance solutions can be beneficial. Women entrepreneurs may benefit from flexible and scalable ITG frameworks that align with their specific business needs and financial constraints.
3. **Support and Resources:** Providing support and resources to assist women entrepreneurs in the evaluation and adoption of IT governance can be valuable. This may include access to expert guidance, funding opportunities, and tools for assessing the impact of ITG on their businesses.

Recommendations

1. **IT Governance Assessment Workshops:** Organizing workshops focused on IT governance assessment can help women entrepreneurs understand the potential benefits and risks associated with ITG implementation. These workshops can guide them in evaluating the suitability of ITG for their businesses.
2. **Mentorship and Peer Support:** Establishing mentorship programs and peer support networks can offer women entrepreneurs the opportunity to learn from others who have experience in implementing IT governance. Such support systems can provide valuable insights and encouragement.
3. **Cost-Benefit Analysis:** Encouraging women entrepreneurs to conduct a cost-benefit analysis of IT governance adoption can help them make informed decisions. Providing resources and tools for conducting such analysis can be beneficial.

4. **Industry-Specific Resources:** Offering industry-specific resources and case studies can help women entrepreneurs understand how IT governance has been successfully implemented in businesses like theirs. This can serve as inspiration and guidance.

By using inductive reasoning and applying the lenses of the Individual Difference Theory of Gender and IT (IDTGIT) and the Contingency Theory to the finding related to primary structures needed for successful development of IT governance framework in women-owned SMEs in South Africa, the interpretation, implications, and recommendations provide valuable guidance for fostering a supportive environment for women entrepreneurs to adopt formal IT governance structures. Implementing the recommendations can help empower women-owned SMEs to leverage IT effectively and drive business growth and success.

Finding 11 Roles of IT for Business Growth with Integration Into Strategy

Overall, the findings indicate that while some women business owners recognize the crucial role of IT for business growth and consider its integration into their strategies, others have yet to fully explore its potential or address challenges related to implementation.

Interpretation

Finding 11 suggests that there is a varied perspective among women business owners in South Africa regarding the implementation of IT governance frameworks. While some women recognize the crucial role of IT in fostering business growth and have integrated IT strategies, others have not fully explored the potential of IT or encountered challenges in its implementation.

Applying the Individual Difference Theory of Gender and IT (IDTGIT) to this finding, it is essential to investigate how individual gender-related characteristics and experiences influence women's attitudes towards IT governance. The theory may explore whether women with different gender-related traits and backgrounds exhibit varying levels of interest and willingness to adopt IT governance frameworks.

From the perspective of the Contingency Theory, understanding the contextual factors that influence women entrepreneur's approach to IT governance is crucial. Factors such as business size, industry type, access to IT resources, and managerial expertise can impact how women perceive the significance of IT governance and their ability to implement it effectively.

Implications

1. **Tailored IT Governance Strategies:** Recognizing the diversity in women business owner's perspectives, it is crucial to develop tailored IT governance strategies that accommodate different levels of familiarity and readiness for IT integration. Customized approaches can facilitate a smoother and more effective implementation process.
2. **Awareness and Education:** Raising awareness about the benefits and potential of IT governance among women entrepreneurs who are yet to fully explore its possibilities is essential. Providing educational resources and training programs can empower them to make informed decisions and take advantage of IT governance for business growth.
3. **Addressing Implementation Challenges:** For women business owners facing challenges in implementing IT governance, providing support and assistance to overcome these obstacles is vital. Addressing concerns related to IT implementation can encourage wider adoption and usage.

Recommendations

1. **IT Governance Workshops and Seminars:** Organizing workshops and seminars focused on IT governance for women entrepreneurs can enhance their understanding of its importance and practical applications. These events can provide a platform for knowledge exchange and networking.
2. **Mentorship and Guidance:** Establishing mentorship programs where experienced women business owners can guide and support those who are new to IT governance can foster a supportive environment for learning and growth.
3. **Access to IT Resources:** Ensuring access to affordable and reliable IT resources and technologies can facilitate the integration of IT governance frameworks. Government initiatives and private-sector partnerships can play a crucial role in providing such resources.
4. **Case Studies and Success Stories:** Sharing case studies and success stories of women-owned SMEs that have successfully implemented IT governance can serve as inspiration and motivation for others to follow suit.

By using inductive reasoning and applying the lenses of the Individual Difference Theory of Gender and IT (IDTGIT) and the Contingency Theory to Finding11, the interpretation, implications, and recommendations offer valuable insights into the factors influencing the implementation of IT governance frameworks in women-owned SMEs in South Africa.

Implementing the provided recommendations can contribute to a more inclusive and effective approach to IT governance, supporting women entrepreneurs in harnessing the full potential of IT for their business growth and success.

5.3.2 Findings relating to SRQ2: What primary structures need to be in place to ensure the successful development of an IT governance framework in women-owned SMEs in South Africa?

Finding 7 Approaches to the Presence and Nature of Formal Business Strategies

These findings provide insights into the diversity of approaches among women business owners regarding the presence and nature of formal business strategies in their respective companies. Some have well-established strategies, while others are either in the process of formulating them or currently do not have formal strategies but are considering their implementation in the future. This diversity suggests that women business owners have different levels of strategic planning and readiness to align their business goals with formalized strategies. The presence of formal business strategies is essential for the proposed framework's outcome, as it helps align strategic IT initiatives with the overall business strategy to enhance business success.

Interpretation

Finding 8 reveals that among women-owned SMEs in South Africa, there is a diversity of approaches regarding the presence and nature of formal business strategies. Some women entrepreneurs have well-established strategies, while others are in the process of formulating them or considering their implementation in the future. This diversity suggests that women business owners vary in their levels of strategic planning and readiness to align their business goals with formalized strategies. The presence of formal business strategies is crucial for the successful development of an IT governance framework as it allows for the alignment of strategic IT initiatives with the overall business strategy, leading to enhanced business success.

Applying the Individual Difference Theory of Gender and IT (IDTGIT) to this finding, it is important to examine how individual gender-related characteristics and experiences influence women entrepreneurs' approach to developing formal business strategies and integrating IT governance. The theory may explore whether there is gender-based differences in strategic planning and how these differences impact the adoption of IT governance frameworks.

From the perspective of the Contingency Theory, it is essential to consider the contextual factors that influence the presence and nature of formal business strategies in women-owned SMEs. Factors such as business size, industry type, market conditions, and available resources can impact women entrepreneurs' decision-making regarding strategic planning and IT governance.

Implications

1. **Tailored IT Governance Framework:** Recognizing the diversity in approaches to formal business strategies, the IT governance framework should be designed to accommodate different levels of strategic planning readiness. It should offer flexibility to support women-owned SMEs at various stages of strategy formulation and implementation.
2. **Capacity Building and Training:** Providing capacity building and training programs on strategic planning and business development can empower women entrepreneurs to develop and implement formal business strategies effectively. These programs can enhance their strategic thinking and decision-making skills.
3. **Support for Strategy Formulation:** For women entrepreneurs who are in the process of formulating formal business strategies, offering support and guidance can be beneficial. Mentorship programs and business advisory services can assist in refining and implementing strategic plans.

Recommendations

1. **Strategic Planning Workshops:** Organizing workshops focused on strategic planning specifically tailored to the needs of women-owned SMEs can help them develop effective formal business strategies. These workshops can offer practical guidance and best practices.
2. **Collaboration with Business Advisors:** Collaborating with experienced business advisors or consultants can provide women entrepreneurs with expert insights and guidance in developing formal business strategies and integrating IT governance.
3. **Benchmarking and Case Studies:** Sharing benchmarking data and case studies of successful women-owned SMEs that have implemented formal business strategies and IT governance can serve as role models and inspire others to follow suit.

4. **Access to Resources:** Ensuring that women entrepreneurs have access to relevant resources, including business data, market research, and technology support, can facilitate the development and implementation of formal business strategies.

By using inductive reasoning and applying the lenses of the Individual Difference Theory of Gender and IT (IDTGIT) and the Contingency Theory to Finding 8, the interpretation, implications, and recommendations offer valuable insights into the primary structures needed to ensure the successful development of an IT governance framework in women-owned SMEs in South Africa. Implementing the provided recommendations can contribute to a more supportive and conducive environment for women entrepreneurs to develop formal business strategies and integrate IT governance effectively, ultimately enhancing the success and growth of their businesses.

Finding 9 Decision-making Processes for IT Investments

The majority of women-owned SMEs in South Africa have informal decision-making processes for IT investments, characterized by individual authority, ad-hoc approaches, and outsourcing. Some women business owners have established formal decision-making processes that involve stakeholders and committees, but they represent a smaller proportion in the survey. The variation in decision-making approaches suggests different levels of IT governance and decision-making maturity among women-owned businesses.

Interpretation

Applying the Individual Difference Theory of Gender and IT (IDTGIT) to this finding, it is important to explore how gender-related characteristics and experiences may influence women entrepreneurs' decision-making processes regarding IT investments. The theory can investigate whether there are gender-based differences in the adoption of formal decision-making structures for IT governance.

From the perspective of the Contingency Theory, it is essential to consider the contextual factors that influence the decision-making processes in women-owned SMEs. Factors such as the size of the business, the industry's competitive landscape, and the availability of IT expertise can shape the choice of decision-making approaches.

Implications

1. **Awareness and Education:** Given the prevalence of informal decision-making processes, there is a need for awareness and education regarding the benefits of formal IT governance structures. Women entrepreneurs should be informed about the positive impact of involving stakeholders and committees in decision-making and the advantages of aligning IT investments with strategic business goals.
2. **Empowerment and Skill Development:** Encouraging and empowering women business owners to develop their IT governance and decision-making skills can enhance their confidence and competence in making strategic IT investments. Skill development programs can include training on IT governance best practices and risk assessment.
3. **Tailored Decision-Making Approaches:** Recognizing the variation in decision-making approaches, it is essential to offer tailored solutions that align with the specific needs and preferences of women-owned businesses. This may involve providing resources and guidelines for implementing both formal and informal decision-making structures.

Recommendations

1. **IT Governance Workshops:** Conducting workshops on IT governance and decision-making can help women entrepreneurs understand the importance of formalizing their processes and involving stakeholders in IT investment decisions. Practical case studies and success stories can be shared to inspire and guide respondents.
2. **Networking and Collaboration:** Facilitating networking opportunities and collaboration among women business owners can encourage knowledge sharing and peer learning. Women can exchange experiences and insights related to IT governance and decision-making practices, fostering a supportive community.
3. **Expert Consultation:** Offering access to IT governance experts and consultants can be beneficial for women-owned SMEs that seek guidance in developing formal decision-making structures. Expert advice can assist in tailoring the approach to suit their unique business needs.
4. **Pilot Initiatives:** Encouraging pilot initiatives for formal decision-making processes in select women-owned businesses can help demonstrate the positive outcomes of IT governance adoption. These success stories can motivate other women entrepreneurs to follow suit.

By using inductive reasoning and applying the lenses of the Individual Difference Theory of Gender and IT (IDTGIT) and the Contingency Theory to the finding related to primary structures needed for successful development of IT governance framework in women-owned SMEs in South Africa, the interpretation, implications, and recommendations aim to enhance the decision-making maturity of women-owned businesses in IT investments. Implementing the recommendations can contribute to the development of a more structured and strategic approach to IT governance, fostering business growth and resilience among women entrepreneurs.

Finding 10 Monitoring and Communicating Results to Stakeholders

Highlight the diverse range of approaches used by women business owners when it comes to monitoring and communicating results to stakeholders. While some have formalized structures with designated communication channels and reporting, others rely on meetings, communication tools, and direct interactions with stakeholders. This variability reflects the flexibility and adaptability of these businesses in ensuring accountability and transparency in their decision-making processes.

Interpretation

The findings reveal that women business owners in South Africa use diverse approaches when it comes to monitoring and communicating results to stakeholders. Some businesses have formalized structures with designated communication channels and reporting mechanisms, while others rely on more informal methods, such as meetings, communication tools, and direct interactions with stakeholders. This variability reflects the flexibility and adaptability of these businesses in ensuring accountability and transparency in their decision-making processes related to IT governance.

Applying the Individual Difference Theory of Gender and IT (IDTGIT) to this finding, it is important to explore how gender-related characteristics and experiences may influence women entrepreneurs' preferences for different communication approaches. The theory can investigate whether there are gender-based differences in the use of formal versus informal communication methods in IT governance practices.

From the perspective of the Contingency Theory, it is essential to consider the contextual factors that influence the choice of communication methods in women-owned SMEs. Factors such as the size of the business, the nature of stakeholders, and the business's IT capabilities can shape the approach to monitoring and communicating IT governance results.

Implications

1. **Tailored Communication Strategies:** Recognizing the diverse range of approaches used by women business owners, it is essential to offer guidance and resources for developing tailored communication strategies. Women entrepreneurs should be encouraged to choose communication methods that best suit their business's unique needs and align with stakeholder expectations.
2. **Strengthening Accountability:** Emphasizing accountability and transparency in IT governance practices can help build trust with stakeholders. Women-owned SMEs can benefit from implementing formalized reporting mechanisms that provide clear insights into the results of IT investments and their impact on business performance.
3. **Communication Skill Development:** Offering communication skill development programs for women entrepreneurs can enhance their ability to effectively convey IT governance results to stakeholders. Training in presentation techniques and data visualization can help make complex information more accessible and understandable.

Recommendations

1. **Stakeholder Mapping:** Conducting stakeholder mapping exercises can assist women business owners in identifying key stakeholders and understanding their communication preferences. This can inform the development of targeted communication strategies that cater to the specific needs and interests of stakeholders.
2. **IT Governance Communication Guidelines:** Developing communication guidelines specifically focused on IT governance can help women entrepreneurs navigate the complexities of reporting IT results to stakeholders. The guidelines can offer best practices and tips for effective communication.
3. **Evaluation and Feedback:** Regularly evaluating the effectiveness of communication strategies and seeking feedback from stakeholders can provide valuable insights for continuous improvement. Women-owned SMEs can use feedback to fine-tune their communication approaches and address any areas of concern.
4. **Sharing Best Practices:** Creating a platform for sharing best practices in IT governance communication among women entrepreneurs can foster knowledge exchange and learning. Case studies and success stories can serve as valuable examples for others to emulate.

By using inductive reasoning and applying the lenses of the Individual Difference Theory of Gender and IT (IDTGIT) and the Contingency Theory to the finding related to primary structures needed for successful development of IT governance framework in women-owned SMEs in South Africa, the interpretation, implications, and recommendations aim to enhance the communication effectiveness of women-owned businesses in IT governance practices. Implementing the recommendations can contribute to the establishment of robust communication strategies that promote accountability and stakeholder engagement, thereby facilitating the successful development of an IT governance framework.

Finding 12 Insights into Perspectives and Experiences of Women Business Owners

This finding provides valuable insights into the perspectives and experiences of women business owners concerning IT and business operations. The research highlights the need for IT skills, mentorship, and an inclusive workplace culture, as well as the challenges faced and the importance of technology for entrepreneurial success. The findings can contribute to an understanding of how women navigate the intersection of business and ITG and shed light on potential areas for further research and support.

Interpretation

Finding: The findings offer valuable insights into the perspectives and experiences of women business owners concerning IT and business operations. It emphasizes the significance of IT skills, mentorship, and an inclusive workplace culture for women entrepreneurs. The research also sheds light on the challenges faced by women-owned SMEs and underscores the importance of technology in achieving entrepreneurial success. The understanding gained from these insights highlights the need for further research and support to empower women in navigating the intersection of business and IT governance.

Applying the Individual Difference Theory of Gender and IT (IDTGIT) to this finding, it becomes essential to examine how gender-related characteristics and individual differences influence women's attitudes and approaches towards IT adoption and integration in their businesses. The theory can help identify unique challenges faced by women entrepreneurs and explore the role of individual characteristics in shaping their experiences with IT and business operations.

From the perspective of the Contingency Theory, it is crucial to recognize the contextual factors that impact the implementation of IT governance structures in women-owned SMEs. Considering the unique challenges faced by women entrepreneurs in South Africa, such as

access to resources and mentorship opportunities, the Contingency Theory can guide the identification of appropriate strategies to support the successful development of IT governance frameworks.

Implications

1. **Skills Development and Training:** The findings underscore the need for IT skills among women entrepreneurs. Initiatives that focus on providing training and skill development opportunities in IT can enhance their competencies and confidence in using technology for business growth.
2. **Mentorship Programs:** Establishing mentorship programs can offer valuable guidance and support to women-owned SMEs. Experienced mentors can provide insights into IT governance practices and help women entrepreneurs navigate challenges they may encounter.
3. **Fostering Inclusive Workplace Culture:** Promoting an inclusive workplace culture that encourages diversity and gender equality can create an environment where women entrepreneurs feel empowered to explore and adopt IT solutions to enhance their businesses.

Recommendations

1. **Research and Data Collection:** Further research should be conducted to gain a deeper understanding of the specific challenges faced by women-owned SMEs in South Africa concerning IT and business operations. Gathering more data on their experiences and perspectives can inform targeted interventions and policies.
2. **Access to Resources:** Policymakers and organizations can work together to ensure that women entrepreneurs have access to essential resources, such as funding, technological infrastructure, and mentorship opportunities. This can facilitate the successful implementation of IT governance frameworks.
3. **Networking and Collaboration:** Creating networking opportunities and platforms for women business owners to collaborate and share experiences can foster a supportive ecosystem that promotes knowledge exchange and best practices in IT governance.
4. **Awareness and Advocacy:** Raising awareness about the importance of technology and IT governance in driving business success can encourage more women entrepreneurs to integrate technology effectively. Advocacy efforts can also address gender disparities in the tech industry and promote equal opportunities.

By using inductive reasoning and applying the lenses of the Individual Difference Theory of Gender and IT (IDTGIT) and the Contingency Theory to the finding related to primary structures needed for successful development of IT governance framework in women-owned SMEs in South Africa, the interpretation, implications, and recommendations aim to support women entrepreneurs in overcoming challenges and harnessing the potential of technology for business growth. Implementing these recommendations can contribute to fostering a supportive environment that empowers women to navigate the intersection of business and IT governance successfully.

5.4 Conclusion

The analysis aimed to develop a gender-inclusive IT governance framework for women-owned SMEs in South Africa, addressing formal business strategies, IT governance perspectives, decision-making processes, communication methods, and IT and business operations perspectives. Two theories, the Individual Difference Theory of Gender and IT (IDTGIT) and the Contingency Theory, were utilized to gain valuable insights into the dynamics of IT governance adoption in this context.

The analysis revealed the diverse and significant roles played by women entrepreneurs within their businesses, challenging traditional gender norms and showcasing the multifaceted contributions of women in business ownership and management and commitment to continuous learning. However, they also showcased women entrepreneur's resilience, determination, and willingness to challenge existing gender norms. The analysis further revealed variations in IT governance understanding, technological sophistication, and perception, indicating the need for context-specific approaches to address these differences effectively.

Applying the IDTGIT, the research explored how gender-related characteristics influenced women entrepreneurs' attitudes and decision-making regarding IT governance adoption. Simultaneously, the Contingency Theory analysed the impact of business size, industry type, and technology integration on the suitability of IT governance approaches for women-owned SMEs. It also stressed the need for adaptive leadership approaches and flexible learning opportunities to address specific challenges faced by women entrepreneurs.

The findings underscored the importance of developing gender-inclusive IT governance strategies tailored to women entrepreneur's specific business contexts and individual characteristics. By promoting women's leadership and decision-making roles and breaking

gender stereotypes, the integration of IT governance could foster a more inclusive and equitable business environment.

To support the development and implementation of IT governance frameworks in women-owned SMEs, the analysis provided specific recommendations. These included awareness campaigns on IT governance benefits, tailored training programs, mentorship and networking opportunities, research on gendered factors in IT governance, customized workshops, a learning culture, and collaborations with educational institutions.

In conclusion, integrating the IDTGIT and Contingency Theory offers an understanding of the complex dynamics of gender, individual differences, and leadership in the context of IT-related business ownership. Policymakers and organizations can leverage these insights to design gender-inclusive IT governance strategies that empower women-owned SMEs in Cape Town South Africa and foster business success by recognizing their diverse roles and addressing their unique challenges.

5.5 Clarification on Link Between Literature Review and Implications/Recommendations

The literature review lays the foundation for understanding the challenges and dynamics of women-owned SMEs, particularly in the context of technology adoption and governance. The implications and recommendations, while rooted in the literature, should explicitly reference specific findings from the data collected, ensuring a seamless connection between theory and practical insights.

Women-owned SMEs in South Africa

The literature highlights the definition and characteristics of SMEs, setting the stage for understanding the unique challenges faced by women-owned SMEs in South Africa (Zulu, 2019). The literature highlights the economic and social contributions of women-owned SMEs in South Africa (IFC, 2020). This contextual background is crucial for framing the implications for IT governance. The implications extend to promoting women's economic empowerment and addressing gender-based inequality. Recommendations include targeted support through grants, funds, and specialized structures to advance women in businesses.

Information Technology and women-owned SMEs

The literature identifies barriers, such as a lack of infrastructure and skills, hindering women-owned SMEs from adopting technology (Chimucheka, Dodd, and Chinyamurindi, 2018). This directly informs the need for tailored IT governance strategies. Implications involve

emphasizing the importance of IT adoption for competitiveness. Recommendations include securing top management support and addressing the skill gap through investments in IT.

Corporate Governance and women-owned SMEs

The literature indicates that corporate governance, while crucial, may be perceived as a compliance burden by women business owners (Patmore & Vandayar, 2020). This informs the recommendation for a gender-inclusive approach in the IT governance framework. The implications recognize the challenges and responsibilities falling on individual owners. Recommendations involve promoting awareness, providing training, and developing cost-effective governance frameworks tailored to SMEs.

IT Governance and women-owned SMEs

The literature underscores the importance of aligning business and IT strategy, especially for SMEs (Lindros, 2017). This aligns with the call for a gender-inclusive IT governance framework. Implications stress the need for women-owned SMEs to not only understand IT but also govern it effectively. Recommendations include tailored IT governance frameworks, awareness campaigns, and collaboration with educational institutions to address resource constraints.

Effective IT Governance

The literature provides structural, procedural, and relational mechanisms for functional IT governance (Da Silva et al., 2020). The implications involve understanding the contextual constraints of SMEs, including the absence of boards of directors. Recommendations focus on clear definition of responsibilities, adoption of proven frameworks, and the need for structured knowledge transfer processes.

6 CHAPTER SIX CONCLUSION

6.1 Introduction

This chapter discusses the conclusions, implications, recommendations, limitations, and contributions of the explorative study that aimed to investigate the development of an ITG framework in women-owned SMEs in South Africa as theoretical models in this domain are scarce. Furthermore, the author aims to explore what primary structures need to be in place to ensure the successful development of an IT governance framework and factors that could influence the implementation of an IT governance framework in women-owned SMEs in South Africa. By exploring this research domain in detail, the author creates a basis for future research.

Firstly, it assesses whether the study adequately addressed research objectives and hence questions established initially in Chapter 1, repeated here conveniently as Table 6-1.

Table 6-1 Research Questions and Corresponding Research Objectives

Research Questions	Research Objectives
MRQ: How can an ITG framework be developed that could potentially assist women-owned SMEs in South Africa?	MRO: To explore the development of an ITG framework that could potentially assist women-owned SMEs in South Africa.
SRQ1: What are the factors that influence the implementation of an IT governance framework in women-owned SMEs in South Africa?	SRO1: To investigate the factors influencing the implementation of an IT governance framework in women-owned SMEs in South Africa.
SRQ2: What primary structures need to be in place to ensure the successful development of an IT governance framework in women-owned SMEs in South Africa?	SRO2: To determine which primary structures, need to be in place to ensure the successful development of an IT governance framework in women-owned SMEs.

To answer the main research question, this section first addresses the secondary research questions SRQ1 And SRQ2.

6.2 SRQ1: What are the factors that influence the implementation of an IT governance framework in women-owned SMEs in South Africa?

The findings cover aspects that can significantly impact the implementation of IT governance frameworks in these businesses. The following is a discussion of how each of these 17 factors is relevant:

1. *Type of ownership*: The ownership structure can influence decision-making processes and the level of control over resources, including IT-related investments and governance decisions. Women-owned SMEs with different ownership structures may approach IT governance differently based on their decision-making dynamics.
2. *Responsibilities and Education*: The distribution of responsibilities within the business and the educational background of women entrepreneurs can impact their understanding and appreciation of IT governance. A better-educated owner or manager may be more likely to recognize the importance of IT governance and its potential benefits.
3. *Level of understanding of IT & ITG*: The level of understanding of IT and IT governance practices among women entrepreneurs may influence their willingness to adopt such frameworks. Those with a higher level of understanding may be more receptive to implementing IT governance initiatives.
4. *Gender Challenges and Empowerment in Business Settings*: Women entrepreneurs may face specific challenges related to gender bias and empowerment. These challenges can affect their confidence and willingness to invest in IT and IT governance. Understanding these gender-related barriers can help tailor IT governance strategies to address them effectively.
5. *Level of IT Integration in business*: The current level of IT integration within the SME can influence the ease of implementing IT governance. A higher level of IT integration may facilitate the adoption of governance practices, while businesses with low IT integration may face additional challenges in implementing IT governance frameworks.
6. *Specific IT Tools and Platforms*: The specific IT tools and platforms being used by women-owned SMEs can impact the choice and implementation of IT governance frameworks. Compatibility with existing IT infrastructure is a crucial consideration.
7. *Perceptions of Current IT Solutions*: The perceptions of women entrepreneurs regarding their current IT solutions can influence their readiness to adopt IT governance. Positive perceptions may lead to more proactive efforts in governance implementation.
8. *Benefits and Efficiency of Current IT Solutions*: Understanding the benefits and efficiency of the current IT solutions can provide insights into whether IT governance is perceived as a necessary step to enhance existing IT practices.

9. *Insufficient IT Support*: Lack of adequate IT support can be a barrier to implementing IT governance. Identifying such challenges can help devise strategies to provide the necessary support for successful governance adoption.
10. *Recognition of IT's importance for business growth*: Women entrepreneur's recognition of IT's importance in business growth can influence their motivation to invest in IT governance to ensure proper management and utilization of IT resources.
11. *Evaluation of IT's relevance to current growth strategy*: Aligning IT governance with the growth strategy of the business is crucial for its successful implementation. Understanding how women entrepreneurs evaluate IT's relevance in this context can guide the integration of IT governance practices.
12. *Perceived benefits of IT integration in growth strategy*: The perceived benefits of integrating IT into the growth strategy can drive women entrepreneurs' enthusiasm for IT governance. Highlighting these benefits can be instrumental in gaining support for governance initiatives.
13. *IT's role in enhancing communication and decision-making*: IT governance can impact communication and decision-making processes. Recognizing IT's role in these areas can underscore the importance of governance in achieving effective outcomes.
14. *Exploration of new markets and global reach with IT*: IT can open doors to new markets and global opportunities. Understanding how women entrepreneurs explore these possibilities with IT can inform governance strategies that cater to expansion efforts.
15. *Challenges and future orientation for IT implementation*: Identifying challenges in IT implementation can help anticipate and address potential roadblocks to adopting IT governance. Additionally, considering future orientation ensures that governance frameworks remain adaptable to changing circumstances.
16. *Leveraging IT for automating reporting and analysis*: Automating reporting and analysis through IT can enhance business efficiency. Recognizing this potential can encourage women entrepreneurs to implement IT governance to optimize these processes.
17. *Attitude towards ITG structure*: The attitudes of women entrepreneurs and employees towards the IT governance structure can significantly impact its adoption. Positive attitudes may lead to greater acceptance and commitment to implementing IT governance practices.

In conclusion, the provided findings address the factors that influence the implementation of an IT governance framework in women-owned SMEs in South Africa. These factors have the

potential to aid researchers and policymakers in developing tailored strategies to promote IT governance adoption and support the growth and success of women-owned businesses in the country.

6.3 SRQ2: What primary structures need to be in place to ensure the successful development of an IT governance framework in women-owned SMEs in South Africa?

The provided information addresses the secondary research question by presenting ten key elements that are essential for the successful development of an IT governance framework in these businesses.

1. *Business Strategy*: The alignment of the IT governance framework with the overall business strategy is crucial. It ensures that IT governance initiatives are well-integrated with the business objectives, enabling effective decision-making and resource allocation.
2. *Gender Challenges and Empowerment in Business Settings*: Recognizing the unique challenges faced by women entrepreneurs in the context of IT governance is important. Addressing gender-specific challenges promotes empowerment and inclusivity, creating a supportive environment for the development of the IT governance framework.
3. *Level of IT Integration*: Assessing the current level of IT integration within the organization is fundamental. Understanding the existing IT landscape allows for the identification of areas where IT governance practices can be effectively implemented and integrated.
4. *Specific IT Tools and Platforms*: The selection of appropriate IT tools and platforms is essential for the successful development of an IT governance framework. Choosing tools that align with the organization's needs and capabilities ensures optimal utilization and integration.
5. *Perceptions of Current IT Solutions*: Understanding how women entrepreneurs perceive existing IT solutions is important. Positive perceptions may facilitate the acceptance and adoption of IT governance practices, while negative perceptions may require targeted efforts to address concerns.
6. *Benefits and Efficiency of Current IT Solutions*: Evaluating the benefits and efficiency of current IT solutions provides insights into the organization's readiness for IT

governance. Identifying areas of improvement can guide the development of the IT governance framework.

7. *Evaluation of IT's Relevance to Current Growth Strategy:* Assessing the relevance of IT to the current growth strategy is vital. Understanding how IT can support business growth enables the integration of IT governance practices that align with growth objectives.
8. *Insufficient IT Support:* Identifying gaps in IT support helps in designing IT governance structures that address the organization's specific needs. Ensuring sufficient IT support is essential for the successful implementation of the IT governance framework.
9. *Skills and Expertise in IT:* Having the necessary skills and expertise in IT among employees and leadership is critical. Adequate IT knowledge ensures effective decision-making and implementation of the IT governance framework.
10. *Leadership and Empowerment:* Strong leadership and empowerment of women entrepreneurs are essential for driving the development and implementation of the IT governance framework. Supportive leadership fosters a culture that values IT governance initiatives and encourages participation.

In conclusion, the list of key elements presented here scaffolds a set of primary structures and factors that need to be in place to ensure the successful development of an IT governance framework in women-owned SMEs in South Africa. By considering these elements, organizations can create a well-aligned and supportive environment that fosters the effective implementation and integration of IT governance practices. Addressing gender-specific challenges and empowering women entrepreneurs in the IT decision-making process are vital steps in achieving success in IT governance implementation in these businesses.

6.4 RQ: How can an ITG framework be developed that could potentially assist women-owned SMEs in South Africa?

Based on the provided information seventeen factors associated with SRQ1 together with ten elements emerging from SRQ2 led to the synthesized evolution of ten higher level themes. These themes summarise the main framework structures supporting an ITG framework that could potentially support women-owned SMEs in South Africa.

This ITG framework considers various structures, processes, communication, integration, and theories to ensure its effectiveness. Furthermore, the framework proposes twelve themes in support of the outcome of this study (MRQ). They are delineated by the following guidelines:

- Leadership and Empowerment;
- Gender-Specific Considerations;
- Communication and Engagement;
- Education and Training;
- Assessment of IT Integration;
- Identification of IT Tools and Platforms;
- Evaluation of Current IT Solutions;
- Alignment with Business Strategy;
- Contingency Planning;
- Individual Difference Theory of Gender and IT (IDTGIT);
- Integration of IT Governance Practices; and
- Empowerment through Skill Development.

Leadership and Empowerment: Strong leadership and empowerment of women entrepreneurs are vital for the successful development of the IT governance framework. Leaders should champion IT governance initiatives, creating a supportive culture that values gender diversity and inclusivity in decision-making processes.

Gender-Specific Considerations: Recognizing the unique challenges faced by women entrepreneurs in IT governance, the framework should address gender-specific challenges and promote inclusivity in the decision-making process.

Communication and Engagement: Effective communication strategies should be in place to engage all stakeholders in the development and implementation of the IT governance

framework. Regular communication about the framework's objectives, benefits, and progress has the potential to foster commitment and support.

Education and Training: Providing education and training on IT governance concepts is essential. This may improve the level of understanding among women entrepreneurs and employees, ensuring their active participation in IT governance practices.

Assessment of IT Integration: Conduct a thorough assessment of the organization's current level of IT integration. This evaluation contributes to the identification of areas where IT governance practices can be effectively implemented and integrated.

Identification of IT Tools and Platforms: Select appropriate IT tools and platforms that align with the organization's needs and capabilities. Compatibility, security, and usability considerations are crucial factors in this selection process.

Evaluation of Current IT Solutions: Assess the benefits and efficiency of existing IT solutions to identify areas for improvement. This evaluation guides the development of the IT governance framework to optimize IT management.

Alignment with Business Strategy: Ensure that the IT governance framework is aligned with the overall business strategy. Integration with business objectives enables effective decision-making and resource allocation.

Contingency Planning: Anticipate and address potential challenges in IT implementation through contingency planning. A future-oriented approach helps proactively devise solutions for potential roadblocks.

Individual Difference Theory of Gender and IT (IDTGIT): Apply the IDTGIT lens to explore how individual gender-related characteristics influence attitudes and decision-making regarding IT governance. Understand how diverse roles and responsibilities of women entrepreneurs are associated with enthusiasm and engagement in IT governance adoption.

Integration of IT Governance Practices: Integrate the identified IT governance practices into the organization's processes and decision-making structures. This integration ensures that IT governance becomes an integral part of daily business operations.

Empowerment through Skill Development: Encourage skill development in IT among employees and leadership. Adequate IT knowledge enables effective decision-making and implementation of the IT governance framework.

Figure 6-1 below illustrates relationships established in the study between the research title, the main research question (MRQ), the two secondary research questions (SRQ1 and SRQ2), seventeen emergent factors and ten elements elicited during qualitative data analysis of respondent feedback.



Figure 6-1 Research Title, Main Research Question, Secondary Research Questions, Factors, Elements and Guidelines

Figure 6-1 concretises the detailed outcomes of the study in many ways. It links the main research question (MRQ) to the title of the research project, associating it with the two secondary research questions (SRQ1 and SRQ2) set out earlier in Table 6-1. While the main research objective (MRO) set out to explore the development of an ITG framework that could potentially assist women-owned SMEs in South Africa, the two secondary objectives (SRO1 and SRO2) respectively aimed to investigate the factors influencing the implementation of an IT governance framework in women-owned SMEs in South Africa and to determine which primary structures, need to be in place to ensure the successful development of an IT

governance framework in women-owned SMEs. Seventeen factors emerged to satisfy SR01 whilst the study extricated ten elements which determine the primary structures associated with the successful development of an IT governance framework in the context of this study. In answer to the main research question, twelve structural components identified components of an ITG Framework, potentially aiding SMEs owned by women in South Africa. The combination of factors, elements and structural components informs the proposed high-level framework shown in Figure 6-2.

In conclusion, as depicted in Figure 6-2, the proposed IT governance framework for women-owned SMEs in South Africa considers structures, processes, communication, integration, and theories such as the Individual Difference Theory of Gender and IT (IDTGIT) and Contingency Theory. The framework emphasizes leadership and empowerment, addresses gender-specific challenges, and aligns IT governance with business strategy. By considering these elements, the framework aims to support the successful development and implementation of IT governance practices that empower women-owned SMEs in their digital transformation journey.

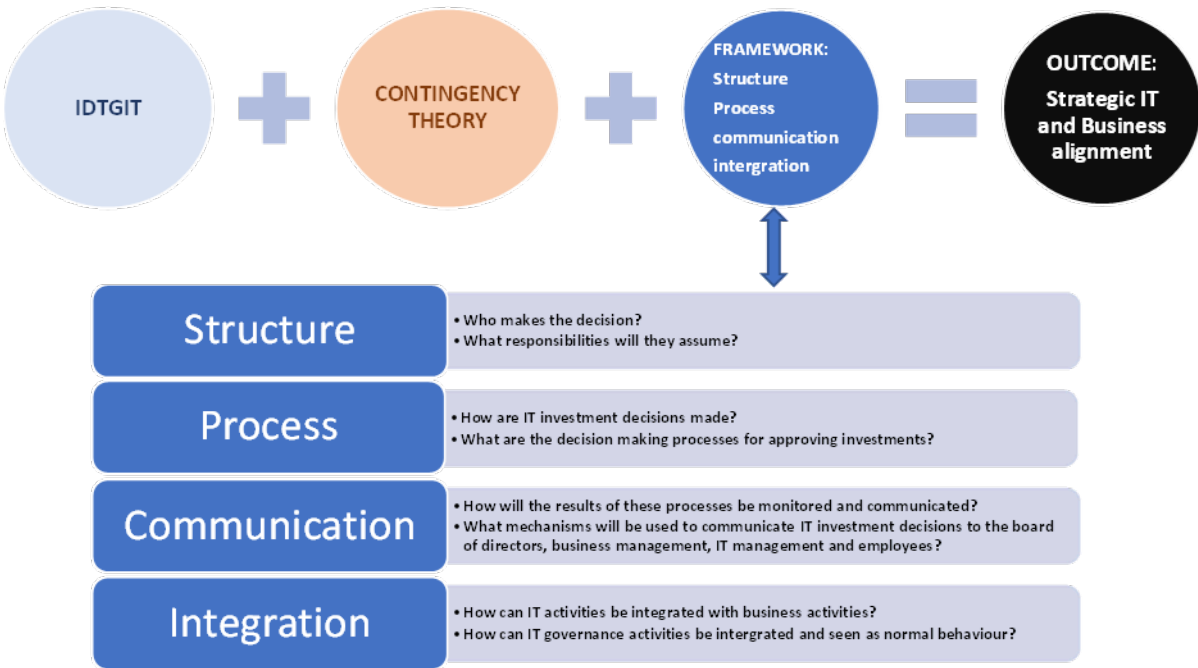


Figure 6-2 Proposed ITG framework for women-owned SMEs (researcher's contribution)

6.5 Contributions

The provided study makes important contributions in theoretical, methodological, and practical aspects:

6.5.1 *Theoretical Contribution*

Integration of Gender Theories: The study incorporates the Individual Difference Theory of Gender and IT (IDTGIT) to explore how individual gender-related characteristics influence attitudes and decision-making regarding IT governance. This theoretical lens adds depth to the understanding of gender dynamics and their influence on IT governance adoption in women-owned SMEs.

Addressing Gender-Specific Challenges: By recognizing and addressing gender-specific challenges faced by women entrepreneurs in IT governance, the study contributes to the growing literature on gender and technology. It highlights the importance of inclusivity and gender diversity in decision-making processes within SMEs.

6.5.2 *Methodological Contribution*

Comprehensive IT Governance Framework: The study proposes an IT governance framework tailored to women-owned SMEs in South Africa. By integrating various structures, processes, and communication strategies, the framework provides a practical and holistic approach to addressing IT governance in this specific context.

Integration of Theoretical Perspectives: The study successfully integrates theoretical perspectives, such as the IDTGIT and Contingency Theory, into the development of the IT governance framework. This integration enhances the robustness of the proposed framework and provides a more nuanced understanding of the factors influencing IT governance in women-owned SMEs.

6.5.3 *Practical Contribution*

Supporting Women Entrepreneurs: The proposed IT governance framework emphasizes leadership and empowerment of women entrepreneurs. By promoting a supportive culture and addressing gender-specific challenges, the framework aims to empower women entrepreneurs to make informed decisions about IT governance.

Enhancing IT Governance Adoption: The study's focus on education, communication, and engagement helps create a conducive environment for IT governance adoption. The emphasis on skill development ensures that women entrepreneurs and employees are equipped to effectively implement IT governance practices.

Strategic Alignment: The alignment of the IT governance framework with the overall business strategy ensures that IT governance initiatives are integrated into the organization's strategic planning. This alignment enhances the framework's relevance and contributes to more effective decision-making and resource allocation.

Contingency Planning: By incorporating contingency planning, the study acknowledges the dynamic and uncertain nature of IT implementation. This proactive approach allows women-owned SMEs to anticipate challenges and devise appropriate strategies to overcome potential roadblocks.

In conclusion, the study offers valuable theoretical insights by integrating gender theories, methodological rigour in developing an IT governance framework, and practical strategies to empower women-owned SMEs in South Africa. The proposed framework has the potential to make a positive impact by fostering gender diversity, inclusivity, and effective IT governance practices, thereby assisting women entrepreneurs in navigating the digital landscape and achieving business growth and success.

6.6 Limitations and future research

The study has uncovered various limitations within its scope, but concurrently, it has provided possibilities for further investigation. These constraints may be associated with either the study's extent or its inherent nature.

The study's reliance on a purposive sample of women-owned SMEs in Cape Town, South Africa, may limit the generalizability of the findings to the broader population of women-owned SMEs in the country. The limited sample size might not adequately capture the diverse perspectives and experiences of women entrepreneurs across different regions and industries.

Moreover, the unique characteristics of the women-owned SMEs in Cape Town might not be representative of the broader population of women entrepreneurs in South Africa, which further restricts the generalizability of the findings.

To address this limitation and enhance the study's external validity, future research should consider employing a larger and more diverse sample of women-owned SMEs from various regions and industries across the country including women-owned SMEs who currently adopted ITG in their businesses. This would allow for an overarching representation of the target population and improve the study's ability to generalize the findings to other women-owned SMEs in South Africa. By including a broader range of respondents, future research can better capture the diverse perspectives and experiences of women entrepreneurs, leading to more robust and applicable conclusions for policymaking, business support, and managerial practices related to women-owned SMEs in the country.

6.7 Conclusion

The value of this socio-technical study lies in answering its main research question, which is, "How can an IT governance (ITG) framework be developed to effectively support women-owned small and medium enterprises (SMEs) in South Africa?"

Women-owned small businesses seek an IT governance framework that offers simplicity and streamlined implementation, focusing solely on controls relevant to their unique needs. These businesses should be able to implement an IT governance framework using general end-user software packages. In the realm of small businesses, IT dynamics differ from those in larger organizations, often characterized by the absence of an IT department and a scarcity of specialized IT personnel. Consequently, non-IT staff often shoulder IT-related responsibilities and external consultants become indispensable sources of support. Organizations seem to be reluctant to make the substantial investment required for implementing IT governance frameworks within women-owned SMEs, despite the valuable benefits that such a framework can deliver. This downplays the importance of IT governance in supporting the success and growth of women-owned SMEs.

While IT governance is not exclusive to larger organisations, it is equally crucial for small businesses. Yet, the distinct factors linked to the latter lead to a significant disparity in the context of IT governance implementation between the two. These distinct characteristics include limited management and board structures, and a scarcity of IT specialists available to oversee IT governance implementation.

Given their limited resources, small businesses necessitate a cost-effective and straightforward IT governance framework. Thus, the focus should be on ensuring its practicality and seamless integration into their operations.

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8 APPENDICES

8.1 Appendix A: Ethical Clearance Certificate



PO Box 1906, Bellville, 7535 Symphony Way, Bellville, Cape Town, South Africa
+27 (0)21 959 6767 www.facebook.com/cput.ac.za info@cput.ac.za www.cput.ac.za

Office of the Research Ethics Committee
Faculty of Informatics and Design
Room 2.09
80 Roeland Street
Cape Town
Tel: 021-469 1012
Email: ndedem@cput.ac.za
Secretary: Mziyanda Ndede

02 August 2022

Ms Madaniyah Mohamed
c/o Department of Information Technology
CPUT

Reference no: 215057287/2022/16

Project title: Development of an Information Governance Framework for women-owned SMEs in South Africa

Approval period: 02 August 2022 – 31 December 2023

This is to certify that the Faculty of Informatics and Design Research Ethics Committee of the Cape Peninsula University of Technology conditionally approves the methodology and ethics of Ms Madaniyah Mohamed (215057287) for MICT: IT (Magister Technologiae: Information and Communication Technology).

Any amendments, extension or other modifications to the protocol must be submitted to the Research Ethics Committee for approval.

The Committee must be informed of any serious adverse event and/or termination of the study.

Dr Blessing Makwambeni
Acting Chair: Research Ethics Committee
Faculty of Informatics and Design
Cape Peninsula University of Technology

8.2 Appendix B1: Ethical Consent Form



Cape Peninsula
University of Technology

FID/REC/ICv0.1

FACULTY OF INFORMATICS AND DESIGN

Individual Consent for Research Participation

Title of the study:

Development of an information technology governance framework for women-owned small to medium enterprises in South Africa

Name of researcher:

Madaniyah Mohamed

Contact details:

email: 215057287@mycput.ac.za

phone: 061 479 4225.

Purpose of the Study:

The purpose of this study is to explore the development of an Information Technology Governance framework that could potentially assist women-owned SMEs in South Africa.

Despite the adoption of IT, the success rate amongst women-owned SMEs in South Africa has been low. A potential contributing factor is that women-owned SMEs are not utilizing IT properly and to its full potential. They rely on production activities and reducing budgets, instead of relying on strategic IT and business alignment. As IT is central to all businesses currently, without proper governance and implementation thereof, women-owned businesses could find it increasingly difficult to succeed. According to UNW (2021), women-owned SMEs do not have boards of directors but have limited management structures and lack IT specialists to implement IT governance. Therefore, because of the lack of resources, they require an IT governance framework that is cost-effective and easy to implement (UNW, 2021).

Research is needed to explore the development of an information technology governance framework which could be adopted in women-owned SMEs in South Africa and could contribute to increasing their success rate, as women-owned businesses are crucial to the country's economy.

Participation: My participation will consist essentially of:

- By participation in a questionnaire which would be further analyzed by researcher.

Confidentiality:

I have received assurance from the researcher that the information I will share will remain strictly confidential unless noted below. I understand that the contents will be used only for the study indicated, and the outputs of this study will be conference presentations, journal articles and book chapters. My confidentiality will be protected by using general descriptors such as my current occupation, my age, and my gender.

8.3 Appendix B2: Ethical Consent Form Continued

Anonymity will be protected in the following manner:

Participants identities will be protected to ensure their anonymity. Their opinions and responses will not be linked to their personal information, and pseudonyms will be used to refer to individuals instead. Personally identifiable information will be kept separate and protected with a password.

Conservation of data: The data collected will be kept in a secure manner.

The researcher will be the only person with access to the research data, which will be securely stored on a password-protected USB drive. To ensure the confidentiality of participants identities, the data will be anonymized before storage.

Voluntary Participation: I am under no obligation to participate and if I choose to participate, I can withdraw from the study at any time and/or refuse to answer any questions, without suffering any negative consequences. If I choose to withdraw, all data gathered until the time of withdrawal will be destroyed.

Additional consent: I make the following stipulations (please tick as appropriate):

	Yes	No
I would like my reflections to include my full name and surname		
My exact words may be used in publications:		

Acceptance: I, (print name) _____

agree to participate in the above research study conducted by Madaniyah Mohamed of the Faculty of Informatics and Design- ICT Department at the Cape Peninsula University of Technology.

If I have any questions about the study, I may contact the researcher. If I have any questions regarding the ethical conduct of this study, I may contact the secretary of the Faculty Research Ethics Committee at 021 469 1012, or email naidoove@cput.ac.za.

Participant's signature: _____ Date: _____

Researcher's signature: _____ Date: _____

8.4 Appendix C1: Questionnaire – Data Collection Instrument

Question	Purpose
1. What are your current responsibilities in the company?	The purpose of this question is to identify what the most common position women occupy in a business.
2. What tertiary qualification do you possess?	The purpose of this research question is, to identify the level of competencies and the owners' values when it comes to business. These two aspects could potentially influence the adoption of IT governance in the business. Education plays a vital role in fostering the development of critical thinking and problem-solving abilities, both of which are fundamental to running a successful business. These skills enable entrepreneurs to effectively tackle challenges, make well-informed decisions, and drive innovation to maintain a competitive edge.
3. What is your understanding of the term information technology governance (ITG)?	The purpose of this question is to test the level of knowledge they have on IT governance and their exposure if they have had any exposure to IT governance.
4. Studies show that women who own their own businesses, often encounter barriers with regards to the position they hold in their business and when it comes to decision making. What is your view on this as a women owner?	The purpose of this question is to gather enough information from respondents as to their experiences as women owner or women in executive or management positions, especially if they are not the sole owners of the business.
5. Are you currently using any sort of information technology in the business?	To determine the type of information systems currently being used in specific industries.
6. Does the current information technology solutions support what your business does best?	The purpose of this question is to determine whether the current IT systems support the business needs and get their opinion on what IT solutions could further enhance their business.
7. Are there any formal business strategy in place for your' company?	Outcome of the proposed framework is strategic IT and business strategy. Therefore, we need to determine whether there are business strategies in place.
8. In your opinion, would implementing a more formal information technology structure benefit your business?	The formal structure being ITG structure. Gather information from respondents' and derive from that data what their opinions are about formal structures being implemented.
9. What are the decision-making procedures for suggesting, assessing, sanctioning, and ranking IT investments?	The purpose of this question is to establish whether there are processes in place when it comes to IT investments.

8.5 Appendix C2: Questionnaire – Data Collection Instrument Continued

10. How are the results of these processes monitored and communicated to various stakeholders?	• The purpose of this question is to identify whether these businesses have any structures in place when it comes to accountability.
11. Have you considered including the role of information technology in your growth strategy for your business? Please elaborate.	• To determine whether according to the owner, whether IT is crucial to the business and whether they would go to the extent of including it in their growth strategy.
12. Now that we have come to the end of my set of questions, is there anything further that you would like to comment on that could potentially contribute to my research? Specifically, when it comes to women in business and ITG.	• Determine any additional aspects that could potentially contribute to my research.

8.6 Appendix D1: What are your current responsibilities in the company?

Q1	Responses	Description/ key words	Themes	Categories
R1	I am the owner of the company and try to be involved in all aspects of the business, but my focus and passion is the engineering consulting aspect. The other important focus of the business is finances, as I feel that this is where the business is most vulnerable to irregularities.	Sole owner Focus and passion on engineering consulting, but also responsible for finances and mitigating irregularities.	Sole owner Financial Management	
R2	Chief operations officer and Co-founder of the company.	COO Co-founder	Co-owner Leadership and Management	
R3	I am the Director of the company. My business is highly focused on delivering a quality service in custom-made matric ball and wedding dresses, ladies ready-to-wear clothing, as well as skills development to disadvantaged teenage girls. I started the business 7 years ago as a legacy to my late mother and today I employ seamstresses, all these women being from local communities. I have 14 years' experience in the corporate environment followed by 7 years on the job business experience. Being the only Director of our company, I am in charge and run the daily administrative duties, operations, and finance.	Director, responsible for daily administrative duties, operations, and finance. Delivering quality service in custom-made dresses, ladies ready-to-wear clothing, and skills development for disadvantaged teenage girls	Sole owner Leadership and Management Operations and Administration Specialized Services or Products	

Q1	Responses	Description/ key words	Themes	Categories
R8	Managing the finances is my responsibility which includes the bookkeeping, accounts, and financial planning.	Managing finances, including bookkeeping, accounts, and financial planning.	Sole owner Financial Management	Specialized Services or Products (2) Human Resources and Employee Management (2) Sales & marketing (2)
R9	I oversee the hiring, training, and management of employees within business.	Overseeing hiring, training, and management of employees.	Co-owner Human Resources and Employee Management	
R10	I am actively involved in sales which is done face-to-face and online.	Sales, both face-to-face and online.	Sole owner Sales and Marketing	
R11	Director, responsibilities include financial management, reporting and risk management	Director with responsibilities in financial management, reporting, and risk management. Responsibilities include financial management.	Co-owner Leadership and Management Financial Management	

Q1	Responses	Description/ key words	Themes	Categories
R12	I oversee: Business strategy and implementation Customer care, Marketing, and stakeholder engagement All department report to me via a Continuous Improvement Manager – setting of all KPIs' for all department. Procurement dept	Overseeing business strategy, customer care, marketing, stakeholder engagement, and departmental reports. Responsible for customer care, marketing, and stakeholder engagement.	Sole owner Leadership and Management Sales and Marketing	
R13	Being the co-owner of this company, I currently oversee several administrative duties, unlike my male counterpart oversees projects and acquiring new business. My position requires me to oversee occupational health and safety, hiring qualified staff, staff / personel administration. Create company policies such as sick-leave, holiday, and code of conduct policies, public liability insurance.	Overseeing occupational health and safety and public liability insurance. Responsible for hiring qualified staff, staff/personnel administration, and creating company policies.	Co-owner Specialized Services or Products Human Resources and Employee Management Operations and Administration	

8.7 Appendix D2: What tertiary qualification do you possess?

Q2	Responses	Description/ Keywords	Themes	Categories
R1	Civil engineering UCT and gained many years of experience across the spectrum of civil and structural engineering projects.	Civil engineering qualification	Degree	Education: Degrees (3) Diplomas (5) [(R8, R13 & 3XR12)] Certificate (6) Industry Experience and Workshops (1)
R2	Bachelor's Degree Metallurgical and Materials Engineering at University of Witwatersrand	Bachelor's degree in metallurgical and Materials Engineering	Degree	
R3	I attended the University of Stellenbosch Small Business Academy where I learnt proper costing, marketing, and an understanding that before you can be charitable you need to be profitable. I was determined to grow my business and attended more workshops and networking sessions to learn more about the industry and make valuable connections.	Small Business Academy and participated in workshops and networking sessions to learn about costing, marketing, and industry insights.	Certificate	
R4	UCT business management short course.	Business management short course.	Certificate	
R5	Public management course at False Bay college.	Public management course.	Certificate	
R6	My years of experience in this industry is my qualification, and I find that it is my experience that gives me the ability to identify opportunities and overcome challenges. Although there are workshops and courses that I used to attend through the years.	Experience in the industry, workshops, and courses for continuous learning.	Industry Experience and Workshops	
R7	I did a project management course through UNISA.	Project management course	Certificate	
R8	Diploma in accounting.	Diploma in accounting.	Diploma	
R9	I have a certificate in HR which I studied at a college, but also have corporate experience as I had to do my internship before getting my qualification, where I actually ended up becoming permanent.	Certificate in HR Corporate experience gained through an internship.	Certificate	
R10	Online sales and digital marketing course.	Sales and digital marketing.	Certificate	

Q2	Responses	Description/ Keywords	Themes	Categories
R11	University undergraduate degree and MBA	Degree and MBA	Degree	
R12	Marketing and Sales Management National Diploma from CPUT Executive Leadership diploma – Business School of Lyon Logistics Diploma through University of Pretoria (did not complete degree)	Diploma in Marketing and Sales Management. Executive Leadership diploma Diploma logistics	Diploma Diploma Diploma	
R13	I have only an NSC, an electronic secretarial diploma, but like I said in question 2, I have accumulated a mountain of experience in this industry. I was lucky to have been able to be mentored in this industry by my partner who has acquired his apprenticeship and whose family have been in this industry for over 40 years.	Secretarial diploma Experience in the industry	Diploma	

8.8 Appendix D3: What is your understanding of the term information technology governance (ITG)?

Q3	Responses	Description/ Key words	Themes	Categories
R1	Just by breaking ITG down, then information technology is software used for analysing and organising data. Governance would therefore be the overseeing the implementation and value these systems would bring to the business.	Understanding ITG as the implementation and value of software systems for data analysis and organization.	Demonstrating Knowledge/Understanding:	Level of understanding: Demonstrating Knowledge/Understanding (5)
R2	The governance which is policies put in place to manage Information systems	Describes governance as policies for managing information systems.	Demonstrating Knowledge/Understanding:	
R3	Being in the corporate world, I understood what governance is, but do not completely understand what ITG and where it fits in where governance is concerned.	Acknowledges understanding governance but expresses incomplete understanding of ITG and its place within governance.	Limited Understanding	
R4	Overseeing the technology side of the company.	Overseeing technology in company	Limited understanding	
R5	I have very limited understanding of IT governance, and do not see the connection between IT governance and business outcomes.	States having a limited understanding of IT governance and does not see the connection between IT governance and business outcomes.	Limited Understanding:	
R6	ITG helps maintain the security and compliance of IT systems and data while ensuring that IT investments are in line with business objectives.	Describes ITG as maintaining security, compliance, and aligning IT investments with business objectives.	Demonstrating Knowledge/Understanding:	
R7	Governance is strict structure, which makes would make IT governance inflexible as well. I would prefer more flexibility and autonomy in IT decision-making.	ITG inflexible	No understanding	

Q3	Responses	Description/ Key words	Themes	Categories
R8	ITG is a more structured way of addressing IT in a company. This is something that I would advocate for as it brings diversity and inclusion when it comes to the IT governance process.	ITG structured way of addressing IT	Limited Understanding:	Limited Understanding (6) No understanding (2)
R9	I have no knowledge of IT governance.	No knowledge	No understanding	
R10	IT governance is a way to promote innovation and agility within the business and prioritises investments that support new business models, products, or services.	promote innovation, agility, and prioritize investments supporting new business models, products, or services.	Demonstrating Knowledge/Understanding:	
R11	Ensuring that all information technology in our company is licensed (where necessary) and that we are leveraging this asset in the most efficient and cost-effective way	States the importance of licensing information technology and leveraging assets efficiently.	Demonstrating Knowledge/Understanding:	
R12	Implementing the necessary IT processes in place in a company to manage corporate governance and manage performance, risk management, measure company general and financial performance	Implementing IT processes	Limited Understanding:	
R13	My knowledge is not very vast where IT Governance is concerned. To my knowledge managing IT is sort of governing IT. Well, my understanding is that corporate governance is more applicable to much larger companies where there are shareholders involved. ITG would therefore in my understanding be the governance of IT. From my point of view, to implement corporate governance or even ITG in a small company as mine, would not be very cost or time effective. There are too many aspects that would need to be considered, such as set of principles, policies, standards etc.	Admits to limited knowledge of ITG, perceiving it as governing IT and discussing challenges and considerations related to corporate governance and small companies.	Limited Understanding:	

8.9 Appendix D4: Studies show that women who own their own businesses, often encounter barriers with regards to the position they hold in their business and when it comes to decision making. What is your view on this as a women owner?

Q4	Responses	Description/ key words	Themes	Categories
R1	I started my own construction and consulting engineering practice due to being discouraged by the challenges I faced operating in a traditionally male dominated industry. This encouraged me to start my own construction engineering company. Working primarily with skilled disadvantaged artisans, I began by doing new builds and renovations for homeowners. Today, the company attracts big projects worth lots of money. With my own company, there are no barriers for me as I currently make all the decisions.	Started own construction engineering company due to challenges faced in a traditionally male-dominated industry. Currently makes all the decisions with no barriers.	Gendered Challenges in Male-Dominated Industries	<u>Gender Challenges and Empowerment in Business Settings</u> Gendered Challenges in Male-Dominated Industries (3) Advantages of Autonomy and Ownership (3)
R2	I have worn many different hats within the company, and it's the best experience that I could have gained, as it prepared me for my role as COO. Going into this position, I had already understood the inner workings of the company, the opportunities, and challenges that our departments and department heads faced. I had also worked directly with our CEO and Founder who is a male for several years and understood how I could best support him and the company.	Has gained experience in various roles within the company, preparing for the role as COO. Worked closely with the male CEO and founder, understanding how to best support him and the company.	Gendered Challenges in Male-Dominated Industries	Stereotyping and Perception (3) Judgement and Dismissal (1) Work-Life Balance (1) Increased Expectations and Effort (1)
R3	The industry I am in, is mostly controlled by women. I am the only director of the company therefore there is no barriers that I have encountered within the business. The decision process lies with me.	The industry is mostly controlled by women. As the only director of the company, there are no encountered	Advantages of Autonomy and Ownership	

Q4	Responses	Description/ key words	Themes	Categories
		barriers, and the decision-making process lies with the respondent.		
R4	The people you work with should be competent and strong and who would boost the business performance. As the owner of the business, if you have a clear vision of your objectives defined and communicated to necessary management, there should not be a problem. Although what I do realise is that there is a tendency of the opposite sex who tend to second-guess my decisions.	Emphasizes the importance of competent and strong individuals in the workplace. Acknowledges some tendency for the opposite sex to second-guess decisions.	Stereotyping and Perception	
R5	What I found is that women are usually judged more harshly than men for the same behaviours, and this leads to their ideas being dismissed.	Observes that women are often judged more harshly, leading to the dismissal of their ideas.	Judgement and Dismissal	
R6	For a female, I would say that one of the significant barriers that women encounter, is work-life balance. Women experience greater pressure when managing work and family obligations, which can make it challenging to handle the duties of a leadership role. This is where I would say men have an advantage over women.	Highlights work-life balance as a significant barrier for women, as they face pressure in managing work and family obligations. Believes men have an advantage in this aspect.	Work-Life Balance	
R7	In an industry where men dominate, I feel that there are still women who feel alone because of lack of women representation in the company, which restricts their opportunity for advancing in the company.	In a male-dominated industry, some women feel alone due to the lack of women representation, limiting their advancement opportunities.	Gendered Challenges in Male-Dominated Industries	
R8	In my experience, there are still small margins of stereotyping in the workplace. Women are sometimes perceived as less competent or less confident than men in leadership roles, which undermine the authority and influence.	Notes the existence of small margins of stereotyping in the workplace. Women can be perceived as less competent or confident in leadership roles, undermining their authority and influence.	Stereotyping and Perception	

Q4	Responses	Description/ key words	Themes	Categories
R9	Women may need to put in more effort to demonstrate their skills and abilities since they are held to higher standards of competence and likeability than males.	Recognizes that women may need to put in more effort to demonstrate their skills and abilities, as they are held to higher standards of competence and likeability.	Increased Expectations and Effort	
R10	There are a range of challenges that I feel women in business face which makes it difficult for them to succeed. Being in sales I can see it first-hand, where customers and even people working around you, still hold on to that outdated stereo types about women's ability and leadership styles.	Observes a range of challenges faced by women in business, including outdated stereotypes about women's abilities and leadership styles.	Stereotyping and Perception	
R11	I have not encountered this in my business.	Indicates not having encountered barriers in their own business.	Advantages of Autonomy and Ownership	
R12	I think it's important to surround yourself with strong, capable people that are team players and will elevate the company's performance. If there are clear objectives outlined and communicated to your team heads and they managed accordingly, there is usually no problem. Your team will respect and execute the plan if they know there is a common goal and that you are open to ideas of achieving that goal. Implementing change management is also critical.	Highlights the importance of surrounding oneself with strong, capable team players to elevate the company's performance. Emphasizes clear objectives, communication, and openness to ideas.	Advantages of Autonomy and Ownership	
R13	Our company is a construction company owned by myself and my husband, so we are the senior level. What I can comment on is that there are very few women in the construction industry and although my co-workers respect me, it is nowhere near the same amount of respect my male counterpart gets, based on practical experience. My knowledge and opinions of this industry does not carry the same weight, and there seems to be a constant struggle trying to get my voice heard.	In a construction company co-owned with the husband, the respondent experiences a lack of equal respect and struggles to have their voice heard in the male-dominated industry. Expresses the difficulty they would have faced climbing the corporate ladder if not in their own company.	Gendered Challenges in Male-Dominated Industries	

8.10 Appendix D5: Are you currently using any sort of information technology in the business?

Q5	Responses	Description	Themes	Categories
R1	Yes, we provide structural and civil engineering services and Project Management, and this requires us to have a more advanced IT system, especially communicating with the necessary stakeholders.	Provides structural and civil engineering services and Project Management. Require a more advanced IT system.	Advanced IT Systems:	<u>Level of IT Integration:</u> Advanced IT Systems (1) Heavy Reliance on ICT (1) Basic IT Usage (3) Long-Term IT Adoption (1) <u>Specific IT Tools and Platforms:</u> Specific IT Tools (4) <u>Insufficient Information:</u> Limited Information (3)
R2	Yes, our company is dependent on Information and communication technology for business operations.	Information and Communication Technology for its daily business operations.	Heavy Reliance on ICT	
R3	Yes, a very basic package	Basic IT package.	Basic IT Usage	
R4	Yes, we have been using for quite a while	Using information technology for a considerable period of time.	Long-Term IT Adoption	
R5	Yes, currently we are making use of communication technologies such as email, and financial management tools.	Communication technologies such as email and financial management tools.	Basic IT Usage	
R6	Yes	"Yes" without additional details.	Limited Information	
R7	Currently Yes, very basic system for invoicing, emailing and point of sale.	The business has a basic IT system in place for tasks like invoicing, emailing, and point of sale.	Basic IT Usage	
R8	Yes, accounting package	The business uses an accounting package for its financial management.	Specific IT Tools	
R9	Yes	"Yes" without further elaboration.	Limited Information	
R10	Yes, use e-commerce platforms to sell our products online	E-commerce platforms to sell their products online.	Specific IT Tools	

Q5	Responses	Description	Themes	Categories
R11	Office 365, Zoom, social media platforms	Using Office 365, Zoom, and various social media platforms.	Specific IT Tools	
R12	Yes	"Yes" without additional information.	Limited Information	
R13	The most prevalent use of IT in our business is Office application such as computers for word processing and spreadsheets for office and contract administration.		Specific IT Tools	

8.11 Appendix D6: Do the current information technology solutions support what your business does best?

Q6	Responses	Description	Theme	Categories
R1	Yes, thus far it does, but with the constant evolving of systems especially in this industry, we are going to have to update our systems to accommodate our clients.	The current IT solutions support their business well so far. Recognize the need to update systems due to the constant evolution of technology in their industry	Recognition of Technological Advancements	<u>Perceptions of Current IT Solutions:</u> Recognition of Technological Advancements (1) Satisfaction with Current IT Solutions (2) Need for System Upgrade (1) <u>Benefits and Efficiency of Current IT Solutions:</u> Streamlining Business Operations (2) Specific IT Benefits (2)
R2	Yes, it does	The current IT solutions support their business needs.	Satisfaction with Current IT Solutions	
R3	Currently it is sufficient yes.	The current IT solutions are considered sufficient for their business at the moment.	Satisfaction with Current IT Solutions	
R4	Yes, it does, although, our company has grown over the past few years, I find that our systems could do with an upgrade.	Current IT solutions support their business. Company has grown, and an upgrade is needed for their systems.	Need for System Upgrade	
R5	Yes	The current IT solutions support their business, but no additional details are provided.	Limited Information	
R6	Yes, operations seem to be streamlined which is a good thing.	Current IT solutions streamline business operations, which is considered a positive aspect.	Streamlining Business Operations	
R7	For the moment yes	Current IT solutions are suitable for the time being.		
R8	Yes, it streamlines the financial process	Current IT solutions streamline the financial processes within their business.	Streamlining Business Operations	

Q6	Responses	Description	Theme	Categories
R9	Yes, it allows us to manage customer interactions, track leads, and improve customer satisfaction.	Current IT solutions allow them to manage customer interactions, track leads, and improve customer satisfaction.	Specific IT Benefits	<u>Information Provided:</u> Limited Information (3) <u>Insufficient IT Support:</u> Insufficient IT Support (1)
R10	Yes, as it connects us to a huge customer base.	Current IT solutions are valued for connecting their business to a large customer base.	Specific IT Benefits	
R11	Yes	Current IT solutions support their business, but no additional details are provided.	Limited Information	
R12	Yes	Current IT solutions support their business, but no additional details are provided.	Limited Information	
R13	No, it does not, there are other technologies available when it comes to this industry, but economically it would not be viable for us to adopt. Thus, we currently make use of minimal technology to help with business administrative processes. Going forward we want to venture into new technologies and evolve with time.	Current IT solutions do not meet their business needs adequately. Currently use minimal technology for administrative processes. Plan to venture into new technologies in the future.	Insufficient IT Support:	

8.12 Appendix D7: Is there any formal business strategy in place for your' company?

Q7	Responses	Description	Themes	Categories
R1	Yes, for us the first point of departure in implementing strategy is to ensure that the company strategies are achieved at budget or below budget. Focussing on our customers is the foundation of business-level plans and strategies.	Strategic focus on achieving company strategies within or below budget. Customer focus is foundational for business-level plans and strategies.	Presence of formal business strategies	<u>Business strategy:</u> Presence of formal business strategies (9) Absence of formal business strategies (4)
R2	Yes, we have a very intense strategy	Intense strategy in place.	Presence of formal business strategies	
R3	There are no formal strategies in place. My vision though is to be the first one-stop, custom made, special occasion dress shop in my area, with my own in-house manufacturing plant and training facility. With a unique selling proposition of an integrated concept of personal style services and assistance, special occasion services such as beauty makeup artist, hairstylist, complimentary accessories, and spa treatments conveniently available under one roof. These services will occupy space in the boutique and will be outsourced to highly professionals. With our own CMT plant it means having the ability to quickly respond and launch new products and react to the rapid changes in the clothing and fashion industry.	No formal strategies in place. The respondent outlines a vision for their business.	Absence of formal business strategies	
R4	No, it currently is not part of the business strategy.	No business strategy	Absence of formal business strategies	
R5	Yes, we have a well-rounded business strategy.	Well-rounded business strategy.	Presence of formal business strategies	
R6	Yes	"Yes" without providing additional details.	Presence of formal business strategies	

Q7	Responses	Description	Themes	Categories
R7	Yes	"Yes" without providing additional details.	Presence of formal business strategies	
R8	Yes, our business strategy is to save costs to lower our prices so that we could be competitive in the market. Being a small business, we are able to cut down on costs	Business strategy focuses on cost-saving to lower prices and enhance competitiveness in the market.	Presence of formal business strategies	
R9	No there is no formal strategy in place, we decide the company's strategy month to month.	No formal strategy in place. Decisions on the company's strategy are made monthly.	Absence of formal business strategies	
R10	Our strategy entails prioritizing digital marketing and e-commerce to reach customers and compete with larger businesses and social media to build the brand and attract customers.	Strategy entails prioritizing digital marketing and e-commerce to reach customers and compete with larger businesses.	Presence of formal business strategies	
R11	Yes, we have an over-arching strategy as well as individual strategies for each of our service offerings.	Overarching strategy, and there are individual strategies for each of their service offerings.	Presence of formal business strategies	
R12	Yes	"Yes" without providing additional details.	Presence of formal business strategies	
R13	No, I don't. But I do believe going forward that would be good for our business.	No formal strategy	Absence of formal business strategies	

8.13 Appendix D8: In your opinion, would implementing a more formal information technology structure benefit your business?

Q8	Responses	Description	Themes	Categories
R1	Yes, it would, although there is not a formal structure per say, there is an informal structure in place, as our company requires a balance of technical and business principles, as our company is formed based on technical competencies. There is a lack of fresh thinking because consultants simply do not have time to reflect on what might be the correct response to the situation in which they find themselves. These individuals try to apply a technical solution to an adaptive challenge, and the most adaptive challenge is around behaviour and creativity; we need always to address these topics with renewed thinking.	Yes, it would benefit business. Have an informal structure based on technical competencies but need fresh thinking to address adaptive challenges.	Acknowledgment of potential benefits Current Informal Structure:	<u>Attitude towards ITG structure:</u> Acknowledgment of potential benefits (10)
R2	Yes, it would, seeing that our business depends on IT. Also, I would think that our business does have some sort of a structure but would like to understand what formal structure are needed in my business.	Yes, it would benefit their business as it depends on IT. While they believe some sort of structure exists, they would like to understand what formal structure is needed.	Acknowledgment of potential benefits	Currently informal structure (1) Need for evaluation (2) Cost concerns (1)
R3	For what my plans are in the future, I would say that it would as IT always brings efficiency to any business operations.	Yes, it would benefit their business in the future, as IT brings efficiency to business operations.	Acknowledgment of potential benefits	Ongoing implementation (1) Industry-specific considerations (1)
R4	Yes, I would think so. Reason is with all the responsibilities I have, having a structure in place would be a safe and easier option, so that I could designate responsibilities with ease of mind, knowing that there is a structure for managers to follow.	Yes, it would benefit their business. Having a formal structure would make it easier to designate responsibilities and manage the company with peace of mind.	Acknowledgment of potential benefits	

Q8	Responses	Description	Themes	Categories
R5	We are assessing the current IT infrastructure to identify where improvement is needed and what changes need to be done. This will enable understand the impact of implementing a more formal structure and the potential benefits.	Currently assessing the IT infrastructure to understand the impact of a more formal structure and potential benefits.	Acknowledgment of potential benefits	
R6	I would need to evaluate how it would impact our business and whether it would disrupt our business operations.	Need to evaluate the impact on business operations before deciding.	Need for evaluation	
R7	A more formal information technology will benefit any company, it is the cost that out ways the benefits	Yes, a more formal IT structure would benefit any company. Concerned cost outweighing benefits.	Acknowledgment of potential benefits Cost concerns	
R8	Yes, it would, but would be unsure about the best approach to implementing a more formal IT structure in our business. We would have to get advice from an IT professional, so that they can provide insight and recommendations based on their expertise.	Yes, it would benefit our business. Unsure about the best approach. Need to seek advice from IT professionals.	Acknowledgment of potential benefits Need for evaluation	
R9	A more formal IT structure can help improve efficiency, productivity in the business, however, the decision to implement such changes should be based on a thorough assessment of the potential benefits, costs, and impact on business operations.	Yes, formal IT structure can improve efficiency and productivity. Decision should be based on a thorough assessment of benefits, costs, and impact.	Acknowledgment of potential benefits	

Q8	Responses	Description	Themes	Categories
R10	Yes, because there are many IT tools that could be used by a business that has an online sales platform. The issue is choosing the correct one for your business and that takes time and resources, which we do not have now.	Yes, it would benefit business. Challenge is choosing the right IT tools due to limited time and resources.	Acknowledgment of potential benefits	
R11	Yes, we require a more robust reporting platform that automates some of our current manual processes.	Yes, we require a more robust reporting platform to automate current manual processes.	Acknowledgment of potential benefits	
R12	We are in the process of implementing a formal structure	In the process of implementing a formal structure.	Ongoing implementation:	
R13	I don't see how it could benefit, as implementing technology in a construction company can be very costly, especially a small and medium sized business like ours.	The respondent does not see how a formal IT structure could benefit their construction company, as implementing technology can be costly, especially for small and medium-sized businesses.	Industry-specific considerations	

8.14 Appendix D9: What are the decision-making procedures for suggesting, assessing, sanctioning, and ranking IT investments?

Q9	Responses	Description	Themes	Categories
R1	There is an IT manager that maintains IT, but any approving is done by me. Our business requires technically competent management in order to that we maintain the balance of technology and business principals.	Individual decision-making	Informal decision-making process	<u>Decision-making process:</u> Informal decision-making process (9) Formal decision-making processes (4)
R2	There are unofficial members who are designated the above roles. They were carefully chosen by me according to their knowledge of IT.	Unofficial decision-making group	Informal decision-making process	
R3	There are no current decision-making processes when it comes to IT investments.	Absence of formal decision-making processes	Informal decision-making process	
R4	When it comes to IT in our company, there aren't any processes to follow, ideally if anything goes wrong, we contact a consultant who would come in and either sort out the problem or at his own accord, decide what to do to fix the immediate problem, so that business operations can carry on.	Absence of formal decision-making processes	Informal decision-making process	
R5	There are no formal steps taken when acquiring IT, but if a need arises where implementation of technology would benefit, it would then be proposed and depending on the cost of implementing it.	Absence of formal decision-making processes	Informal decision-making process	
R6	The proposed needs are reviewed and evaluated by a team of stakeholders that includes IT professionals, department heads, and financial analysts. They consider the feasibility, costs, and benefits.	Proposal and evaluation by stakeholders Consideration of feasibility and cost:	Formal decision-making processes	
R7	We analyse the need and would prioritise based on importance and available resources. Approving would be a cumulative effort from various stakeholders, which includes IT specialists.	Proposal and Evaluation by Stakeholders	Formal decision-making processes	

Q9	Responses	Description	Themes	Categories
R8	When the need arises, we would outsource our IT needs to a specialised service provider, who would propose a more cost-effective solution for our business.	Outsourcing decision-making	Informal decision-making process	
R9	The decision to implement IT need, relies on me, and it would depend on how business could improve and if we would be seeing any change and ultimately from those changes see profits on our IT investments.	Individual Decision-Making Consideration of feasibility and cost:	Informal decision-making process	
R10	The decision-making process involves gathering the input and feedback from multiple stakeholders to reach a final decision.	Proposal and Evaluation by Stakeholders	Formal decision-making processes	
R11	We analyse the manual processes, decide if they require some automation, identify the most appropriate solutions, make the investment. Investment decisions are based on leveraging what we have first before adding additional complexity to our IT environment.	Leveraging existing resources	Informal decision-making process	
R12	We have a Continuous Improvement manager who is the Champion and has put a Steerco Committee in place that has a weekly and monthly meeting. The Managing Director is the sponsor.	Involvement of committees and sponsors	Formal Decision-Making Processes	
R13	So, we have a company that implemented the system and maintains it. It's a small consultancy company and their fees are not too bad. Currently we are outsourcing all IT. When reviewing IT we consult with an IT company and based on their recommendations, myself and my partner will make a joint decision and that decision will be the most cost effective on, not necessarily the ideal.	Outsourcing decision-making	Informal decision-making process	

8.15 Appendix D10: How are the outcomes of these procedures monitored and conveyed to different stakeholders?

Q10	Responses	Description	Themes	Categories
R1	Communicated by the IT manager relevant stakeholders.	The IT manager communicates results to relevant stakeholders.	IT Manager as Communication Channel	<u>Formal Communication Channels and Reporting:</u> IT Manager as communication channel (R1) Unofficial members for Communication and monitoring (R2) Direct communication with the respondent (R4) Reporting to stakeholders (R10) <u>Informal Communication and Lack of Specific Details:</u> Lack of specific details (R3, R12)
R2	These are communicated and monitored by the unofficial members appointed by me.	Unofficial members appointed by the respondent handle communication and monitoring.	Unofficial members for communication and monitoring	<u>Meetings and Review Sessions:</u>
R3	See above	No specific details provided.	Lack of Specific Details	

Q10	Responses	Description	Themes	Categories
R4	Like I said in question 9 there is no process, but communication is done directly to me and I will notify the relevant parties.	No formal process mentioned, but direct communication with the respondent who notifies relevant parties.	Direct Communication with the Respondent	Regular meetings for updates (R5) Quarterly review sessions (R8)
R5	We hold regular monthly meetings to keep key players up to date on business operations and at these meetings if required, IT performance can be discussed.	Regular monthly meetings are used to keep key players updated on business operations, including IT performance discussions if needed.	Regular meetings for updates	Frequent meetings covering Business Issues (R9) Monitoring and review meetings (R11)
R6	Communicated through dashboards and reports.	Communication is achieved through dashboards and reports.	Communication through dashboards and reports	<u>Communication Tools and Dashboards:</u>
R7	We make use of communication tools, such as emails and collaboration software.	Communication is done through tools like emails and collaboration software.	Usage of communication tools	
R8	In our quarterly review sessions, we discuss how the systems are being used.	IT systems are discussed in quarterly review sessions.	Quarterly review sessions:	Communication through dashboards and reports (R6)
R9	We hold frequent monthly meetings to discuss all issues relating to business which includes anything related to IT.	Frequent monthly meetings cover all business issues, including IT-related matters.	Frequent meetings covering business issues	Usage of communication tools (R7)
R10	Reports are sent out	Reports are sent out to stakeholders.	Reporting to stakeholders	<u>Owners' Responsibility for Decision-making:</u> Owners' Responsibility for Major IT Decisions (R13)
R11	We monitor usage of the systems and discuss in our quarterly review meetings.	Monitoring of system usage and discussions occur in quarterly review meetings.	Monitoring and review meetings	
R12	See above	No specific details provided.	Lack of specific details	
R13	Ultimately, we as the owners are responsible for all major IT decisions.	The owners take responsibility for major IT decisions.	Owners' responsibility for major IT decisions	

8.16 Appendix D11: Have you considered including the role of information technology in your growth strategy for your business? Please elaborate.

Q11	Responses	Descriptions	Themes	Categories
R1	Yes, I would. There is a massive degree of complexity when it comes to the work of civil engineers. There is intersection between technical and social systems. With that, we are required to develop communications and feedback mechanisms which allows input from stakeholders and to keep them informed.	Yes, IT is crucial for our business growth. We are civil engineers dealing with complex technical and social systems. We need information systems to communicate with stakeholders and achieve the best results before, during, and after projects.	Yes, IT crucial for business growth	<u>Recognition of IT's Importance for Business Growth:</u> IT as Crucial for Business Growth (1) <u>Evaluation of IT's Relevance to Current Growth Strategy:</u> Exclusion of IT from Growth Strategy (4) <u>Perceived Benefits of IT Integration in Growth Strategy:</u> Potential of IT for Improved Productivity and Customer Service (2) <u>IT's role in Enhancing Communication and Decision-Making:</u>
R2	There are many aspects to our growth strategy of which IT is not officially included.	IT is not officially included in our growth strategy.	Exclusion of IT from Growth Strategy:	
R3	No, I haven't, reason being that we utilise the most basic IT and it will be an overkill to include it in the growth strategy.	No, I haven't considered including IT in our growth strategy because we currently use basic IT, and it may be unnecessary to include it at this stage.	Exclusion of IT from Growth Strategy:	
R4	No, I haven't, I also know that IT in has been the same since I have been in this business. There is no way for me to determine whether it is a viable to include in the growth strategy. It just seems like more work and research needs to be put into the IT section of my business if any changes need to be made.	No, I haven't considered including IT in our growth strategy. IT has been consistent, and I lack the information to determine its viability for our growth strategy.	Exclusion of IT from Growth Strategy:	
R5	I have considered it as by doing so, it could help improve repetitive tasks and allow us to focus on more important tasks which could in turn help the business to grow faster.	Yes, considering IT in our growth strategy can improve productivity by automating repetitive tasks and focusing on more important aspects.	Yes, potential of IT for Improved Productivity and Customer Service:	

Q11	Responses	Descriptions	Themes	Categories
R6	Yes, mainly to improve communication within and outside the company. This way, productivity can be improved, and the decision-making process could be sped up.	Yes, we would include IT in our growth strategy to improve communication, productivity, and decision-making processes.	IT for Improving Communication and Decision-Making:	IT for Improving Communication and Decision-Making (1) <u>Exploration of New Markets and Global Reach with IT:</u> Consideration of IT for Expanding into New Markets (1) <u>Challenges and future orientation for IT implementation:</u> Challenges and Future Steps for IT Implementation (2) <u>Reporting and Analysis:</u> IT for Automating Reporting and Analysis (1)
R7	No, we haven't really thought about it, as we are utilising minimal IT. Although, there is a lot that we can benefit from IT.	No, we haven't thought much about IT in our growth strategy as we use minimal IT, but we see potential benefits.	Exclusion of IT from Growth Strategy:	
R8	We have not considered it, but may do so in the future as it could assist our business in entering new markets by making it simpler to connect with clients globally and offer goods and services to clients who may not have previously had access to them	We haven't considered it yet, but IT may help us enter new markets and connect with global clients more easily.	Consideration of IT for Expanding into New Markets	
R9	Information technology implementation presents its own set of difficulties, such as significant costs and continuing maintenance and support, for this reason we have not considered including it in the growth strategy.	IT implementation comes with difficulties and costs, so we have not considered it for our growth strategy.	Challenges and Future Steps for IT Implementation	
R10	Yes, as IT can help provide better customer service by responding to questions and problems more quickly. Thus, an increase in consumer loyalty and repeat business may result from this.	Yes, IT can improve customer service, leading to increased customer loyalty and repeat business.	Potential of IT for Improved Productivity and Customer Service:	
R11	Yes, we have. To achieve our growth targets, we need to automate our reporting processes and digitise some of our Excel based analysis tools.	Yes, we have considered IT to achieve growth targets by automating reporting and digitizing analysis tools.	IT for Automating Reporting and Analysis	
R12	As can be seen by the above	No specific details provided.	No specific details provided	
R13	No, we haven't, as that would be additional expenses at this point. We will though in future take small steps in the IT direction. As a woman I would like to be more proactive when it comes to IT.	No, we haven't considered it due to additional expenses, baby steps towards IT in the future, with a proactive approach.	Challenges and Future Steps for IT Implementation	

8.17 Appendix D12: Now that we have come to the end of my set of questions, is there anything further that you would like to comment on that could potentially contribute to my research? Specifically, when it comes to women in business and ITG?

Q12	Responses	Description	Themes	Categories
R1	Information technology-savvy engineers are valuable in this industry. Therefore, as women engineers, we need to not only improve in the engineering field, but also in IT, of which both these industries are male dominated.	Importance of being IT-savvy in the engineering industries. Male dominated industry. Need for women engineers to improve engineering skills and in IT to succeed in these fields.	Importance of IT Skills	<u>Skills and Expertise in IT:</u> Importance of IT Skills (1) IT Improvement and Resource Constraints (1) Increasing Awareness of IT in Business (1)
R2	Years ago, I met a woman who was the CEO of a company, and she brought me into my profession, inspiring me to being greater and has been my greatest inspiration, my mentor. Now, many years later, it is incredibly inspiring to see so many women in <i>leadership positions, not as much as there should be, but there is a positive difference. I am hopeful that more young women will be exposed to strong female leaders and will create a new generation of empowered women. ww</i>	Shares a personal experience of being inspired by a female CEO. Mentored. Express hope for more women to take on leadership positions and become strong female role models for the younger generation.	Mentorship and Female Leadership	<u>Leadership and Empowerment:</u> Mentorship and Female Leadership (1) Challenges Faced by Women-Owned Businesses (1)
R3	Never give up, no matter how lonely or impossible it may seem at times, wait until it's done. One very important thing you must learn about being an entrepreneur is that you must work hard, put in the hours and always show up! Be committed to your passion and follow your dream not money.	Importance of perseverance and hard work. Putting in the effort and hours.	Perseverance and Hard Work	Inclusive Workplace Culture (1)

Q12	Responses	Description	Themes	Categories
		Remaining committed to passion and dreams rather than being solely driven by money.		<u>Entrepreneurial Traits and Business Success:</u> Perseverance and Hard Work (1) Technology for Small Business Success (1)
R4	What I would like to say is that for us to consider improving on the IT side of our business would require extra resources which in turn would mean added costs. For now, the systems we are working with does the job, but I am sure there are more updated systems could further enhance our business. Sadly, I do not have the time and extra resources to venture into that.	Interest in improving the IT side of their business. Recognizes that updated systems could enhance their operations. Challenges of allocating extra resources and costs for improvements.	IT Improvement and Resource Constraints	
R5	What I think is that women owned business are becoming more aware of the importance of information technology when it comes to business operations and if you can develop a basic structure that could assist us in implementing it, I for one would be interested.	Acknowledge the increasing awareness among women-owned businesses regarding importance of IT in their operations. Interest in a basic structure to assist them in implementing IT solutions.	Increasing Awareness of IT in Business	
R6	No feedback from respondent	No feedback provided	No feedback	
R7	ITG could be a valuable tool for improving efficiency and effectiveness of the business, but as a women owned business, I have faced many challenges when it comes to accessing information technology resources.	ITG valuable tool for improving business efficiency and effectiveness. However, the challenges they face as a women-owned business in accessing information technology resources.	Challenges Faced by Women-Owned Businesses	

Q12	Responses	Description	Themes	Categories
R8	What I try to do is foster an inclusive workplace culture that values diversity and promotes equal opportunities for women in IT leadership positions.	Fosters an inclusive workplace culture that values diversity and promotes equal opportunities for women in IT leadership positions. Committed to supporting and empowering women in the IT aspect of their business.	Inclusive Workplace Culture	
R9	No feedback from respondent	No feedback provided	No feedback	
R10	No feedback from respondent	No feedback provided	No feedback	
R11	No feedback from respondent	No feedback provided	No feedback	
R12	No feedback from respondent	No feedback provided	No feedback	
R13	Small businesses lack accountability due to poor or no infrastructure. Women have the capability and temperament of getting things done as well as personalising business relations. As a small owner I am very keen on keeping up with technology and would welcome any IT initiatives that could take my business forward in becoming successful	Recognizes the significance of technology in improving accountability and efficiency. Eagerness to embrace IT initiatives that can help take their business forward. Mention the unique capabilities and personal touch that women bring to business relations.	Technology for Small Business Success	

8.18 Appendix E: Synthesized Codebook

Code Groups	#	Codes
Factors That Influence Implementation of an IT Governance Framework in Women-owned SMEs	1	Attitude towards ITG structure
	2	Benefits and Efficiency of Current IT Solutions
	3	Challenges and future orientation for IT implementation
	4	Evaluation of IT's relevance to current growth strategy
	5	Exploration of new markets and global reach with IT
	6	Gender Challenges and Empowerment in Business Settings
	7	Insufficient IT Support
	8	IT's role in enhancing communication and decision-making
	9	Level of IT Integration in business
	10	Level of understanding of IT & ITG
	11	Leveraging IT for automating reporting and analysis
	12	Perceived benefits of IT integration in growth strategy
	13	Perceptions of Current IT Solutions
	14	Recognition of IT's importance for business growth
	15	Responsibilities and Education
	16	Specific IT Tools and Platforms
	17	Type of ownership
Key Elements for Successful Development of an IT Governance Framework in Women-owned SMEs	18	Business Strategy
	19	Gender Challenges and Empowerment in Business Settings
	20	Level of IT Integration
	21	Specific IT Tools and Platforms
	22	Perceptions of Current IT Solutions
	23	Benefits and Efficiency of Current IT Solutions
	24	Evaluation of IT's Relevance to Current Growth Strategy
	25	Insufficient IT Support
	26	Skills and Expertise in IT
	27	Leadership and Empowerment
Framework Guidelines	28	Alignment with Business Strategy
	29	Assessment of IT Integration
	30	Communication and Engagement
	31	Contingency Planning
	32	Education and Training
	33	Empowerment through Skill Development
	34	Evaluation of Current IT Solutions
	35	Gender-Specific Considerations
	36	Identification of IT Tools and Platforms
	37	Individual Difference Theory of Gender and IT (IDTGIT).
	38	Integration of IT Governance Practices
	39	Leadership and Empowerment

8.19 Appendix F: Editing Certificate



DR PATRICIA HARPUR

**B.Sc Information Systems Software Engineering, B.Sc Information Systems (Hons)
M.Sc Information Systems, D.Technology Information Technology**

Editing Certificate

**19 Keerweder Street
Vredelust
Bellville
7945**

 **083 730 8540**
 **doc@getthatresearchdone.com**

To Whom It May Concern

This document certifies I have copy-edited the following dissertation by Madaniyah
Mohamed:

AN INFORMATION TECHNOLOGY GOVERNANCE FRAMEWORK FOR WOMEN- OWNED SMALL TO MEDIUM ENTERPRISES IN CAPE TOWN SOUTH AFRIC

Please note this does not cover any content, conceptual organisation, or textual changes
made subsequent to the editing process.

Best regards

Dr Patricia Harpur

25 September 2023
