

**Perceived barriers and enablers impacting women in leadership within the information,
communication and technology (ICT) sector in South Africa**

Applied Research Project

Submitted by

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Contents

DECLARATION	iv
DEDICATION	v
ACKNOWLEDGEMENT	vi
ABSTRACT	vii
CHAPTER 1	1
1.1 Statement of purpose	1
1.2 Background of the study	1
1.3 Research Problem	1
1.4 Research objectives	2
1.5 Rationale of the study	3
1.6 Delimitations of the study	3
1.7 Assumptions of the study	4
CHAPTER 2: LITERATURE REVIEW	5
2.1 Introduction	5
2.2 Empirical literature review	5
2.2.1 Information, Communication and Technology	5
2.2.2 Enablers and Barriers	5
2.3 Women Leadership in ICT	6
2.4 Barriers affecting women leaders in the ICT sector in South Africa	6
2.5 Enablers for women leaders in the ICT sector	7
2.6 Analytical Framework	7
2.6.1 Theoretical Framework: Transformational Leadership	7
2.7 Conclusion	8
CHAPTER 3: RESEARCH METHODOLOGY	9
3.1 Introduction	9
3.2 Research paradigm	9
3.3 Research approach	9
3.4 Research design	9
3.5 Data collection methods	10
3.6 Population	10
3.7 Sample and sampling method	10
3.8 Research Instrument	11

3.9	Data analysis	11
3.10	Quality assurance	12
3.10.1	Credibility	12
3.10.2	Dependability	12
3.11	Ethical considerations	13
CHAPTER 4: PRESENTATION OF THE FINDINGS		14
4.1	Introduction	14
4.2	Demographic Data	14
4.3	Thematic development	15
4.3.1	Perceived barriers impacting women leadership in ICT	16
4.3.2	Enablers impacting women leaders in ICT	16
4.3.3	Challenges faced by women in ICT	18
4.3.4	Importance of women in taking up leadership positions	19
4.3.5	Low numbers of women in ICT	20
4.3.6	Strategies for breaking barriers faced by women in ICT	21
4.4	Conclusion from the findings of the study	22
CHAPTER 5: DISCUSSION OF THE FINDINGS		24
5.1	Discussion of results in relation to objective 1	24
5.2	Discussion of results in relation to objective 2	25
5.3	Discussion of results in relation to the theoretical framework	28
CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS		30
6.1	Conclusion in relation to objective 1	30
6.2	Conclusion in relation to objective 2	30
6.3	Recommendations	30
REFERENCES		32

DECLARATION

I, Nozipho Mabaso, declare that this research article is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the Graduate School of Business Administration, University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Nozipho Mabaso

Signed at:

Date:

DEDICATION

To my beloved husband, Simeleni Mlilo Mabaso, my darling daughter, Olwethu Simelokuhle Mabaso, and my son, I dedicate this to you. Your unwavering love, support, and encouragement have been my greatest source of inspiration during this journey.

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I give glory to my almighty God because of His grace and mercy and the fact that I was able to complete my second Master's degree.

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To my greatest encouragers, the Mabasos—Simeleni, Olwethu, and Sanele—I thank God every day for the love, patience, and faith in me. I'll do everything I can to keep you proud. Thank you—I love and appreciate you beyond words.

ABSTRACT

Women remain underrepresented in the ICT leadership in South Africa and are hampered by systemic constraints in the form of gender discrimination, stereotypes, a lack of mentors, and balancing life and work. These constraints hinder their professional advancement and perpetuate a male-dominated power structure, thereby limiting innovation and diversity. Despite efforts worldwide aimed at increasing women's representation in ICT leadership, there are still issues due to socio-cultural attitudes, professional network exclusion, and a lack of organizational support. The research explores the barriers facing women's leadership in ICT and undertakes a comprehensive investigation of the barriers hampering their advancement.

The study also explores major enablers in women succeeding in top jobs, e.g., qualifications, mentoring, sponsorship, organisational support, and attitudes in the working environment. The research reveals how systematic leadership programmes, equal-gender policies, and assertive mentoring are major in advancing women in top jobs. By integrating transformational leadership theory, the research reveals how organisations can design working conditions that are gender-inclusive, empowering women through mentoring, professional development, and flexible working policies. These are major in constructing a balanced ICT industry in terms of gender.

The research is significant to policymakers, educators, ICT leaders, and professional women, with implications on how gender diversity, inclusion in leadership, and sustainable career progress are addressed. The research makes recommendations on how these are improved with mentoring programmes, organisational reform in policies, and systematic programmes in leadership aimed at rectifying gender imbalances. The research also advocates for future studies on global ICT leadership barriers and enablers, aiming to identify the most effective approaches to gender-inclusive leadership. The overcoming of these problems would result in a balanced, creative, and diverse ICT profession that benefits organisations and the broader economy.

Keywords: Women ICT leaders, gender discrimination, mentoring, transformational leaders, organisational support, diversity, leadership barriers, professional advancement

CHAPTER 1

1.1 Statement of purpose

This study examines the barriers and facilitators faced by women leaders in the field of Information, Communication, and Technology (ICT). It explores the pitfalls women leaders in the ICT field have encountered and describes the possibilities available and potential ways to overcome the identified barriers women leaders in the ICT field have encountered.

1.2 Background of the study

South Africa has a highly developed Information, Communication, and Technology (ICT) sector with a contribution to generating jobs and stimulating economic growth and innovation. ICT in South Africa has experienced a high rate of growth and is credited with unleashing human capital over the past three decades (Mzekandaba, 2024). Despite all the progress, women in ICT and other managerial positions are below the desired level (Times Higher Education, 2021).

Lower numbers in women in leadership are enhanced by gender discrimination in leadership; even in other continents like Asia and Europe (Maheshwari & Nayak, 2022). Avsar (2024) noted that in the Science, Technology, Engineering, and Mathematics (STEM) field, a significant gender gap exists, with women leaders often facing limited professional advancement due to their lower ranks. Women leaders are motivated by other women who are already established in the corporate ladder of the ICT field, as one of the recommended ways to break the glass ceiling for women in leadership (Avsar, 2024).

This context provides the foundation upon which the subjective, multi-dimensional barriers and facilitators that women experience in becoming leaders in the ICT sector are explored.

1.3 Research Problem

There has been a notable increase in workplace diversification, particularly in the presence of women leaders in the ICT field. It was approximated that there would be a 6.9% increase in women leadership in the ICT field in 2022, from a level of 11.7%. Moreover, among every four major global technology firms, a leader was approximated to be a woman (Rock & Grant, 2018). Despite

the reported progress, it is undeniable that women leaders in the technology field still face socio-economic setbacks, according to various authors, who attribute these largely to the socio-cultural challenges faced by women seeking top roles in the ICT field. Part of these setbacks, among a variety of others, are gender stereotypes and discrimination, access to professional connections, and excessive working hours, which negatively impact their work-life balance (Opoku & Williams, 2019; Silva et al., 2023; Steffens et al., 2019). In most situations, these reported setbacks equate to reduced professional progress and hamper diversification and inclusion in top roles, and in turn, business performance and innovativeness.

Critical to note is the fact that the ICT profession has previously been a male profession. It is because of this fact that there is a phenomenon where the ICT profession is rendered incompatible in a societal construction among women in the profession. The perception is not only damaging to women in the technology profession but also because professional advancement is stifled (Barreto & Doyle, 2023).

In a study on women leaders in the ICT profession in Mauritius, the study identified that women in the ICT profession field are burdened with work-life balance problems and are compelled to resign from top spots. Those who remain are left with a handful, or none, in their working life (Ramseook-Munhurrin et al., 2023). The presence of women leaders is significant in empowering women (Steffens et al., 2021). In light of the above insights, the researcher is conducting the study paying particular attention to the Gauteng province in South Africa.

1.4 Research objectives

- To identify the perceived barriers impacting women in leadership within the technology sector in South Africa.
- To explore factors which enable women in leadership to be successful in their leadership roles within the ICT sector in South Africa.

1.5 Rationale of the study

The foundation of this research lies in addressing the underrepresentation of women in ICT leadership. Inclusive thinking is at the core of ICT leadership. Women's exclusion from ICT leadership results in a loss of diversity in insights and innovation. The identification and analysis of what is thought to constrain and enable women in ICT leadership will contribute to knowledge in the ICT sector regarding gender disparity, how such disparity is addressed, and how enablement opportunities are optimised for overcoming the obstacles.

The research findings will be useful to the enrolment division in universities, women in the ICT profession, women joining the ICT field, ICT organisation managers and decision-makers, educators, organisational leaders, and women in the ICT profession. An opportunity will be presented to discuss efforts aimed at closing the gender leadership gap in the ICT profession.

1.6 Delimitations of the study

- The number of research participants will be limited due to time constraints, as this research report must be conducted within a short timeframe. The limited number of participants is also due to the qualitative nature of the study.
- Despite the insightful perspectives that can be drawn from women leaders in the ICT sector globally, this study is situated in the context of South Africa, and research will be conducted with participants within Gauteng province in South Africa.
- Furthermore, this study focuses on women leaders; therefore, it excludes other women who do not hold leadership positions within the ICT sector. The study will focus on middle management and higher managerial levels, as these levels are relevant to addressing the research questions.
- A qualitative approach was preferred over a quantitative approach because of its nature as research participants were able to also relate their experiences in depth, and there were multiple views to address bias.

1.7 Assumptions of the study

- The participants are women; with their experiences, the women leaders can provide relevant answers.
- Women's relevance in the ICT sector outside the South African context was not rendered relevant in this study.
- The ICT career pathways for women in leadership roles may not have been straightforward, but rather, they face opportunities and challenges.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This section reviews the literature on women leaders and perceived barriers in the ICT profession in South Africa, definitions, a theoretical basis, and how the variables in the theory are relevant to the research. It also reviews themes related to women leaders and perceived barriers in the ICT profession in South Africa, as well as enablers for women leaders in the ICT profession.

2.2 Empirical literature review

2.2.1 Information, Communication and Technology

Information and Communication Technologies (ICT) are technologies used for storing, retrieving, managing, and sending digital information (Suleiman et al., 2020). It encompasses various communication technologies, including computers, the internet, cellular telephony, and wireless communications. ICT makes information available over telecommunication and encompasses hardware and software used in the transmission, storage, and processing of information. It includes telecommunication infrastructure such as space systems, the internet, television, and radio (Reena, 2021).

2.2.2 Enablers and Barriers

Barriers and enablers are fundamental concepts in technology adoption and use, particularly for women leaders in the ICT sector. An enabler facilitates adoption and use, making it smoother, whereas a barrier hinders adoption and use. Limited knowledge is a barrier, whereas financial support and resources are enablers (Moum, 2010). Barriers in this scenario are obstacles faced by women in the ICT sector, whereas enablers are circumstances and opportunities present and conducive to women in progressing and growing in their professional lives.

2.3 Women Leadership in ICT

The percentage of technology in South Africa is roughly about 23%, and women hold only 14% of ICT leadership positions worldwide (Nelwamondo, 2024). The above fact brings out the fact that even with the progress made in South Africa, ICT gender gaps in leadership are a global issue. Women holding ICT-related degrees are approximately 25% of degree holders in the field at universities. IITPSA (2024) also reported a narrowing gender gap in ICT enrolments among girls and boys. The gender gap is beginning in university and is consistent in career progress (Dallago & Casagrande, 2023). Despite the enormous amount of literature on women's workplace barriers, there is not a lot of attention on women leaders in the ICT private sector. Furthermore, there are no empirical studies on women's ICT field leadership and a research gap in the field (Mwagiru, 2019; Smith & Suby-Long, 2019).

2.4 Barriers affecting women leaders in the ICT sector in South Africa

Numerous barriers hinder women's advancement in ICT leadership, e.g., discrimination based on gender, limited work-life balance, societal attitudes, and a lack of mentors. Women ICT leaders play a crucial role in developing innovation, particularly with the evolving Artificial Intelligence and emerging technologies, in a country moving towards equality (Halls & Ellis, 2023).

Workplace culture has been a significant barrier to gender diversity in ICT leadership, with men having been disproportionately preferred for top roles. The roles of Chief Executive Officer (CEO), Chief Information Officer (CIO), and Chief Technology Officer (CTO) have traditionally been held by men, reinforcing the cultural expectation. In a country with global recognition in the ICT field, only 25% of top roles are occupied by women, with only 35% of these top executives serving on boards. However, there is a change in progress, with women increasingly wanting and seeking top roles in a previously male-prevalent field (Nelwamondo, 2024).

The persistent exclusion of women in ICT leadership roles, whether intentional or unintentional, limits their contributions to societal reform and equality in the workplace. The sustainability of such a difference underscores the imperative need to dismantle barriers rooted in male superiority and increase women's presence in ICT leadership (Zikode, 2020).

2.5 Enablers for women leaders in the ICT sector

Key enablers among women in ICT leadership include institutionally driven reforms that challenge stereotypes and disallow them from holding leadership roles. Gonzalez (2020) illustrates how women in South Africa have shattered such stereotypes and gained access to previously inaccessible top roles, a phenomenon in other major sectors in the economy. In addition to enhanced access, male prevalence in ICT remains dominant in developing economies, with power relations in the state working to disenfranchise women even more (Vyas-Doorgapersad, 2018).

However, gaps in research on women and ICT in South Africa are particularly evident in comprehending the special issues women face. The research is not inclined to tackle institutionally, sociologically, and culturally based barriers, mostly in historically marginalised groups. In addition, there is a paucity of research on such enablers such as mentoring and policy interventions. The contribution and role of gender-targeted policies in advancing equality in the technology space are not yet examined.

2.6 Analytical Framework

2.6.1 Theoretical Framework: Transformational Leadership

The theoretical foundation adopted in the research was the transformational leadership theory. Transformational leaders are leaders who seek to create ideas and perceptions in order to provide the company with a new method of growing and succeeding. They mobilise employees in order to undertake a big change in the core and foundation of the organisation in order to accommodate a culture of constant innovation and productive abilities in order to move in new ways and reach greater ideal performance plateaus. They do so in order to create commitment, enthusiasm, and loyalty among managers and employees (Korejan & Shahbazi, 2016). Idealised influence, inspirational motivation, intellectual stimulation, and personalised attention are a sample of transformative leadership variables (Khan et al., 2020). In response to the problems encountered in the research, transformational leaders are capable of challenging the gender gap and societal attitudes towards women leaders in the ICT field by encouraging the inclusion and equality of

women leaders within the organisation, through the stimulation variable in transformational leadership.

To address balance in working life, a role in ensuring working conditions are varied in the workplace will fall to a transformational leader. Transformational leaders are in a position where they are going to encourage resources in order to instill balance in working life through their idealised power in the working space, a second variable in the model of transformational leadership. In accordance with the enablement concept, there is a potential for transformational leaders to guide women in ICT leadership. Individualised attention is a characteristic of transformational leadership. Women in ICT are going to progress in their working lives through mentoring with transformational leaders.

Through their Idealised power, transformational leaders can role model followers with the respectful behaviour they themselves exhibit in respecting, believing in and admiring followers. Secondly, their capacity to listen to other people's needs will help make women leaders capable of turning the setbacks they face in the ICT sector into strengths and opportunities.

2.7 Conclusion

There is a need for women leaders in the ICT sector. With relevant strategies to tackle the perceived barriers and leaders who inspire, influence, and continue to prioritize people, the narrative of women underrepresented in the ICT sector could change.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

The methodology section will elaborate on the approaches, research design, sampling methods, data collection instruments, data analysis, limitations, quality assurance, and ethical considerations.

3.2 Research paradigm

A research paradigm is a fundamental structure that guides how researchers perceive the world, design research, and interpret results. It encompasses the philosophical presuppositions that underpin the research process (Khathri, 2020). The research paradigm comprises epistemology, methodology, and ontology. The interpretivist paradigm was utilised in the research, and it is concerned with understanding experiences and meanings on the level of the individual. Interpretivism is in harmony with the knowledge that social life constructs reality, and everyday experiences are key in the research process (Alharahsheh & Pius, 2020). The paradigm was applicable in the research because it made a generation of rich textural data possible through interviewing.

3.3 Research approach

This study will employ a qualitative research approach, which enables participants to express themselves and generate rich textual data (Bazen et al., 2021). A key advantage of this approach is the depth of information it provides, as it is derived firsthand from the research participants.

3.4 Research design

Various research design models are available, including explanatory, descriptive, exploratory, correlational, case study, narrative, ethnographic, experimental, and convergent approaches (Asenahabi, 2019). The research design utilised in the current research is descriptive, and it facilitates in-depth descriptions in order to identify trends and obtain in-depth information. In addition, a phenomenological research design has been employed, focusing on the everyday experiences of research participants (Ashworth, 2003). Phenomenology is concerned with

examining and explaining the essence of a phenomenon by seeking information from people who have undergone a phenomenon themselves and obtaining their perceptions on how the experience was felt and what significant events encountered (Neubauer, Witkop & Varpio, 2019). The design is applicable in the current research because women leaders in the ICT profession are made able to narrate their experiences and talk about how their journey in leadership has moulded them.

3.5 Data collection methods

Data collection is the process of acquiring research findings through the collection of information. In this research, primary data collection methods would be adopted (Taherdoost & Anan, 2021). The primary sources are primarily comprised of interviews, questionnaires, observations, and focus groups. In particular, this research will utilize interviews as the primary source of data collection. Interviews are helpful in the way they are not strict and allow interviewees to expand on their reply and talk about the topic in question. Interviews also enable interviewees to skip over specific questions in the event they already believe such have been addressed indirectly in other responses. One significant flaw with interviews is the fact that they are susceptible to bias in the way information gained is based on subjective opinions of the respondent. In the majority of situations, interview results would need to be cross validated with complementary methods of data collection (Alamri, 2019).

3.6 Population

The population in this study will comprise women employees in the ICT sector who hold leadership positions. The population will be in the South African context, and the target population will be women leaders in the Gauteng province. The total number of women in ICT is 56,000 and 20% women in ICT based in Gauteng are approximately 11,200 and Women in leadership in Gauteng is approximately 34% of 11,200. The population of Women leaders in ICT in the Gauteng province is estimated at 3808 (Mzekandaba, 2024).

3.7 Sample and sampling method

Sampling is generally categorised into two groups: non-probability and probability. The research in the current study utilised purposive sampling or judgement sampling. Purposive sampling is a

method of non-probability sampling in which participants with the necessary expertise are selected intentionally. The advantage of purposive sampling is that it is a time-saving method in ensuring that only suitable participants are recruited (Campbell et al., 2020).

The research sample here initially comprised 20 women leaders in the ICT sector, with snowball sampling also being used. Data saturation was however reached with just 12 participants and, as such, only 12 of the original 20 eventually ended up being part of the research.

3.8 Research Instrument

A face-to-face interview would be adopted, and the interview would be recorded. An interview is a systematic method of information collection where there is a conversation involving an interviewee and an interviewer, and in the process, information is garnered to a satisfying extent (Sahoo, 2022). The strengths of an interview are that it provides comprehensive information and allows for a follow-up.

An interview guide would be developed to assist the interviewer in selecting questions relevant to the research objectives. The interview would be divided into two sections: the first would cover background information, and the second would address the main research questions.

3.9 Data analysis

According to Williams and Moser (2019), data analysis is a process involving the refinement, modelling, and exploration of data with the goal of obtaining significant results in research and, consequently, informing decision-making. The research at hand will employ a thematic data analysis approach. Thematic analysis is a systematic process of structuring and comprehending complex information. It is a process that identifies recurring themes and yet captures the essence of the tale in the information. Repeated reading is required in thematic analysis before transcription. Stringent examination enhances the credibility of results (Dawadi, 2020).

For this research, the following steps were taken in thematic data analysis: The initial step involved multiple readings of the data to gain a thorough understanding of its contents. The second step was

producing initial codes based on relevant attributes in the data. These codes were subsequently grouped together in an effort to identify potential themes based on corresponding patterns. After this, the thematic elements were scrutinized in a quest to represent the data properly, with necessary adjustments made where the need arose. In the final step, the thematic elements were labelled and presented and comprehensive descriptions made in a quest to identify connections with research aims and questions.

3.10 Quality assurance

For quality in qualitative research to be ensured, there are key elements such as confirmability, dependability, credibility, transferability, and confirmability. In research with humans, there is a need to ensure the research is not biased but genuine and dependable. Validity and reliability are major elements to evaluate in quality research (Mohajan, 2017). Validity is the degree of precision in a measurement, whether research results are a reflection of what is needed to be measured. In opposition, reliability is a measurement in research on whether results would repeat over and over with the same conditions (Ahmed & Ishtiaq, 2021).

3.10.1 Credibility

Credibility is a significant aspect of qualitative research, referring to the extent to which findings accurately reflect the reality experienced by participants (Dodgson, 2019). To ensure the credibility of this study, the researcher will ensure that the findings are presented truthfully, without bias or influence from preconceived expectations. The theory underpinning this study will also be used for cross-checking and interpreting information. Furthermore, interviews will not be rushed, allowing sufficient time to gather comprehensive insights from participants.

3.10.2 Dependability

Dependability refers to the consistency and reliability of research findings over a period. To achieve this, every step and process in the research must be thoroughly accounted for (Ahmed, 2024). In order for a research to be considered reliable, based on Stenfors et al. (2020), it has to possess dependability. In-depth details on how the research is conducted will be presented,

allowing future researchers to trace and amend the process taken. Additionally, the study will include clearly documented methods to enhance its reliability.

3.11 Ethical considerations

Ethics are rules directing research while doing research in order to see what is wrong and what is right (Ayinkamiye & Spencer, 2021). The research aims and benefits, and how they would get something out of the research, were made known to the research participants. The definition of what is referred to as voluntary was made known, where humans are not compelled to participate in research. The research participants were informed that their participation was voluntary and that they could withdraw at any time. Information on how they could withdraw from the research was made available. Moreover, the research gave them informed consent. To maintain anonymity and confidentiality, pseudonyms were used.

CHAPTER 4: PRESENTATION OF THE FINDINGS

4.1 Introduction

This chapter presents the data collected from the research participants through the interview sessions conducted. The data is organised into two sections: the demographic section, which covers the participants' work background, age, and qualifications, and Section B, which comprises questions from the main study aligned with the research objectives. The findings are presented in textual form, incorporating direct quotations, and analysed thematically using the thematic data analysis method.

4.2 Demographic Data

Demographic information collected in the course of interviewing the 12 research participants included their age category, working roles, how many years they had been in their current roles, and highest level of qualifications. Demographic information also included details on the working roles occupied by research participants and the number of years they had held such roles. The research participants were also interviewed about their previous roles to gather information on their work history. The qualification and highest qualifications obtained by research participants were also recorded. Women managers working in the Information and Communication Technology (ICT) field were purposively recruited in the research.

In terms of the roles they took on, the research informants primarily consisted of top managers from various sectors and departments, including TV on-air, quality assurance, content production, and the project office. They consisted of such roles as Business Analyst - Senior, Senior Project Manager, and Senior Risk and Governance Specialist. The duration of these roles was a maximum of one year and six months.

Before transitioning into these roles, participants had held positions such as Consultant in Quality Management, ISO Implementation Specialist, Programme Manager, and Incident Specialist. Most participants had experience as Senior Managers, Business Analysts, Scheduling Managers, and Field Trials Engineers.

The age groups among the interviewees ranged from 26 to 35, 36 to 45, and 46 to 54 years, with the majority falling within the 36- to 45-year category. No interviewee was in the category of 18 and 25 years, a fact that could be because interviewees in such a category are in the initial phase in their working life and, accordingly, are not yet in managerial positions. None of the interviewees was over the age of 55.

The highest qualifications among the members included a diploma and a degree in a field such as accounting, law (LLB), and engineering. Others included master's degree qualifications in information systems and engineering, as well as postgraduate qualifications in project management. One had matriculation as her highest level of qualification, and the other had various certificates.

4.3 Thematic development

This section discusses the different themes derived from the data collected in alignment with the research objectives, which were:

- To identify the perceived barriers impacting women in leadership within the technology sector in South Africa.
- To explore the factors that enable women in leadership to succeed in their roles within the ICT sector in South Africa.

Prior to theme creation, the data was reviewed with the aim of identifying major trends. The second process involved creating initial codes by attaching labels to segments of the data that were significant to the research objectives. After coding, codes that had a relationship were clustered while searching for broader concepts to identify probable themes. The research cross-checked the themes with research objectives before their finalization. Every theme was supported by direct quotations from research participants.

The themes were discussed, and a summary of the findings were presented in the following subsequent sections. The themes were;

- perceived barriers impacting women leadership in ICT,
- enablers impacting women leaders in ICT,

- challenges faced by women in ICT,
- importance of women taking up leadership positions in ICT,
- low numbers of women in ICT and strategies for breaking barriers faced by women in ICT.

4.3.1 Perceived barriers impacting women leadership in ICT

Several perceived barriers to women in ICT achieving leadership roles in ICT are based on intra-organisational, societal, and personal levels. The overcoming of these barriers is based on a holistic strategy with increased education, mentoring, sponsorship, and organisational structure. Most women are trying hard in order to progress in professional life and get beyond conventional tenured restrictions and obtain ICT leadership roles. The following was stated by Participant 2:

“As a woman man, you have to prove yourself 10 times, even, not 100 times more than your male counterpart, because they still don't believe that women can be leaders, right? I still believe, they don't believe women can be leaders, and that for me, I think it is, yeah, it's still a challenge even in the current organisation”

Participant 3 shared a similar view:

“I think people are not sharing knowledge to females as they should, because they say we're not ready yet. It's because we're not given the opportunity and the coaching and the mentoring and the guidance to get there, so you gotta kind of fight your way through it”

The changing nature of attitudes regarding gender in the job market has also been a factor in sustaining these obstacles. Several interviewees noted that women making inroads into professions once held mostly by men is following a gradual pace.

4.3.2 Enablers impacting women leaders in ICT

The study's findings identify a list of enablers that favourably influence women in ICT leadership, operating at both the organisational and personal levels. These enablers form the foundation on which existing barriers are broken, and women are equipped with the tools, platforms, and resources necessary for ICT leadership.

A key motivating factor among women ICT leaders is education and continual learning. The research emphasises the requirement of sound professional and scholastic qualifications to compete favourably in leadership roles. The interviewees emphasised the need for seeking professional development in accordance with leadership standards. Not only is education a source of requisite leadership competencies, but it is also a method by which gaps in qualifications are addressed, enabling women to become viable competitors in high-ranking jobs, and even in male-dominated sectors such as ICT.

Mentoring and sponsorship emerged as key enablers for women in ICT leadership. The role of mentors, particularly male mentors in key roles, who are attuned to organisational dynamics and can effectively position women in leadership roles, was identified. Career advancement conversations are frequently discussed in male groups and sponsorship was viewed as key. Career mentoring programmes strategy that expose women to key business strategies and leadership competencies, enabling them to expand their networks and advance within organisations. These programmes also offer insights on decision-making in a leadership role, preparing women to move with authority and confidence into a leadership role. The role of qualifications and mentoring was stressed by Participant 5 and is quoted here:

“I think it is her qualification, like first and foremost, and I think as well as the network and the support that you know, the woman gets from the organisation, and the mentorship”

Organisational programs in favor of women in leadership positions were also identified as facilitating conditions. Effective support in women's professional advancement includes internal leadership programmes and mentoring programmes intended for women and HR programmes with a function to empower women on every level in organisations. An example is how organisations proactively move women in top-of-the-range leadership roles and structure channels for them. Participant 10 stated the following in order to support the above;

“So I feel that as much as we have all of these different HR type programs to allow for women, I think the key thing is that we have to have some sort of sponsorship, some people that are, like, really invested in having or interested in having women in the ICT Section,

you know, succeed and go into leadership position. So the key thing for me, I think, is just sponsorship understood”

A key driving factor in increasing women's representation in ICT leadership is the shift in gendered workplace norms. Although the field has been male-oriented in the past, there is growing recognition of the need to offer women chances. The change is evident in the fact that women are increasingly entering male-dominated sectors, such as auto repair, sports, and technology. Women gain knowledge and assertiveness in these sectors as they transform, leading to a more balanced working environment.

The increased number of women leaders is inspiring and encourages other women to come forward and break the glass ceiling. Organisations must identify and develop women for top leadership roles. Those companies that have internal talent pipelines, rather than relying solely on external recruitment, are more likely to advance women within their organisations. Some participants emphasised that organisations must identify and invest in potential women leaders through specific programmes in competency development and mentoring.

By prioritising these enablers, organisations can encourage a collaborative and inclusive atmosphere where women are empowered to thrive and advance in the ICT field.

4.3.3 Challenges faced by women in ICT

Challenges for women in ICT are not only different but are rooted in gender stereotypes and discrimination. Women need to labour even more in order to get recognition as leaders and are even compelled to justify their decisions. In contrast, men are often taken at their word and are not questioned in the same manner. The added burden of having to justify their decision-making and having to assert themselves every step in a meeting is a reflection of how hard women leaders in ICT are working in order to get a say and get included in decision-making and deliberation in a team.

“Compared to male counterparts, they have to prove themselves. You have to, as a woman, you have to prove yourself 10 times, even 100 times more than your male counterpart, because they still don't believe that women can be leaders, right? I still

believe, they don't believe women can be leaders, and that for me, I think it is, yeah, it's still a challenge even in the current organisation” Participant 1

Gender bias and bullying

Research findings reveal that women working in male-dominated sectors experience high discrimination and bullying. Women cited experiencing opposition in working in managerial positions, primarily from men who are defensive and apprehensive about women in positions of power. The opposition is rooted in ingrained cultural attitudes that position men in superior roles. Women are met with barriers in recognition and are forced to deal with male egos resistant to women in power. These power relations hinder and slow down their professional progress in the ICT profession. One research respondent had these sentiments;

“Women are not appointed in the positions, and I believe that women are not given a chance. Actually, they are not given that opportunity. And because women are educated, do find, I think there's a lot of people with master's degree, but they're not appointed in right direction, right positions, because they are women, and because their places are said to be in the kitchen, they don't believe that women can lead”. Participant 7

Insufficient sponsorship

Another critical obstacle women are facing is a lack of sufficient sponsorship. While male leaders are mentored and advocated on their behalf, women are often forced to sell themselves or gain little support from male and female counterparts. The lack of sponsorship and mentoring helps perpetuate even greater inequity in professional advancement.

4.3.4 Importance of women in taking up leadership positions

The study emphasised the need for women in key positions, citing their special abilities, the advantages of diversification, and the need for them. Women are primarily associated with patience, tolerance, and multi-tasking potential, qualities which are useful in handling complex situations. Their interpersonal and collaborative working method produces a harmonious working environment, enhancing teamwork.

Gender diversity in a board is a major contributor to organisational performance because it brings about innovation and improved decision-making. Women on a board inject diverse ideas, and with a balance in decision-making, there are better-informed and balanced choices. The integration of male and female leaders makes organisations better equipped to serve a diverse workforce and customer base, driving expansion and adaptability.

Moreover, women leaders serve as role models, inspiring future generations to pursue the same careers and shatter stereotypes regarding gender. Their presence demonstrates to women and men everywhere that a woman could and ought to be a leader. Women are considered hard-working and result-driven and are said not to be distracted by ego as men are. Their passion, persistence, and balanced approach to leadership see them solve problems effectively. Women's leadership is not just a matter of equality, but a significant driving force in organisational performance, as women bring a different perspective and the required competencies to practice and demonstrate great and compassionate leadership.

"I believe in diversity. So I believe, if there's men and women in the boardroom, you know, it's balanced, yeah, in innovation is even better when there's diversity". Participant 3

"The first answer is representation, especially in a business sector. We know that the average profile of a DSTV subscriber is a middle aged black woman, right? And if you don't have middle aged, black women, then who are you building the product for?"
Participant 11.

4.3.5 Low numbers of women in ICT

Historical and cultural conditions are significant in women's underrepresentation in ICT. Cultural and societal attitudes divert women away from the technology profession and direct them toward traditionally feminine sectors such as teaching and nursing. The information technology sector, much like technology itself, is often considered male-dominated.

Even with qualifications, women are overlooked in leadership because of gender discrimination, research has identified. Women in ICT are also afflicted with stereotypes where they are made to believe the field is male. The fact that there is no support system, no visibility, and no mentoring exacerbates these issues, and we witness low female participation in the field. To balance the scorecard, we need to change societal and cultural attitudes and increase the number of women working in STEM fields. Moreover, women in ICT who are already working need the same support system in order to empower them and position them as leaders in the field.

“I think the reason why is it's just historical and I think it's just taking time to infiltrate, you know, I think it's, it's a slow progress, but it's happening. I think there's going to come a time that, as I said, that we might have the reverse of what we have now, but I think it's just because we starting on the back foot”. Participant 10

4.3.6 Strategies for breaking barriers faced by women in ICT

To address the challenges women face in transitioning into top ICT positions, a variety of solutions have been proposed, with a focus on initial education, mentoring, and equal access. One solution is exposing women to professional life in ICT at the onset of their education. The majority of women are reportedly not seeking professional counselling, and there is a need for affirmative efforts to inform them about professional roles and pathways to top positions. Women are endowed with the knowledge and practice required in ICT with an initial introduction to top positions.

Sponsorship and mentoring are crucial in overcoming workplace challenges. Women are benefited with mentors and role models who have successfully made it to top positions. When women leaders "lift while climbing," they raise the level of representation in leadership and encourage other women to step up and move into top positions. Proactive mentoring would address issues such as low self-esteem and a perception of not being "good enough." Formalised programmes with step-by-step routes would also be recommended, taking women step-by-step to managerial and top leadership positions. These programmes would not only progress women but also arm them with the knowledge and opportunities necessary in order to refine their leadership potential. The recognition and encouragement of potential leaders and their mentoring is crucial.

Equal opportunities and equal treatment cropped up as a way of overcoming discrimination. Gender-free leadership programmes would eliminate stigmas and ensure that women are promoted based on performance, rather than gender, thereby creating a better working environment. Ultimately, women must gain confidence in themselves, demand access to leadership roles, and believe in their abilities to break down barriers. Approaches such as early education, systematic leadership development programmes, equal opportunities, and self-empowerment would ensure a better working environment, where women can lead more fulfilling lives in ICT leadership.

“Coaching, coaching, coaching, coaching, network, network, networks. Mentoring, mentoring, mentoring and mentoring, not just, you know. I love what this organisation is doing, where they have a mentorship program for young girls, you know, to get them to the right position. I think that is needed, and it must be done like intentionally. Yes, it must be intentional and aggressive” Participant 8.

4.4 Conclusion from the findings of the study

The findings of this research highlight significant concerns among women in the ICT profession, particularly in the areas of representation and professional advancement. Cultural and societal conditioning, even at a young age, often dissuades women from pursuing careers in technology. In most situations, such dissuasion is based on family expectations and conventional gender roles where technology is associated with men. Women with qualifications are frequently refused top managerial roles, primarily owing to deep-rooted stereotypes in believing they are not capable leaders.

Another key issue is the shortage of women mentors and women support groups, not only male counterparts but even other women in the profession. The highly competitive and male-dominated ICT working conditions make it really difficult for women to find a way in. Women are compelled to keep on proving themselves again and again, and their views are silenced and not taken heed of by their male counterparts.

The research also emphasises the need for advocacy in order to engage girls in taking the field of STEM at the initial level and receive increased leadership training. It is necessary in order to empower women in ICT and equip them with the ability to reach top level. Once these problems

are taken care of, the ICT gender gap will close progressively and will allow women to thrive and hold top positions in the field.

CHAPTER 5: DISCUSSION OF THE FINDINGS

This chapter the research findings in relation to the research objectives: identifying the hindrances to women's progress in leadership in South Africa's ICT sector and the key promoters driving them towards success.

5.1 Discussion of results in relation to objective 1

The study identified several barriers impeding women's advancement into leadership roles within the ICT sector. These include gender biases, cultural stereotypes, emotional labour, work-life balance challenges, and the lack of mentoring and sponsorship opportunities. These barriers are deeply rooted in both societal norms and organisational structures, limiting the progression of women in technology leadership roles.

Gender biases and cultural stereotypes

Women in ICT leadership positions are often subjected to greater scrutiny than their male counterparts, reinforcing perceptions of their incompetence or unsuitability for executive roles (Zikode, 2020; Opoku & Williams, 2019). These biases manifest in various ways, including:

Lack of mentoring and sponsorship opportunities

One of the principal limitations to women's leadership development in ICT is the absence of mentorship and sponsorship, with mentorship providing guidance and career advice and sponsorship playing a key role in actively advocating for women's leadership development (Ramseook-Munhurrin et al., 2023). Women have limited access to high-value networks, and powerful sponsors are difficult to obtain, with many leadership opportunities arising from informal professional networks controlled by men. Gendered sponsorship patterns also perpetuate inequalities, with male executives more inclined to mentor and sponsor men, and a paucity of women in senior leadership roles limiting opportunities for mentorship. Compounding this issue, many organisations fail to implement structured mentorship and sponsorship programs to facilitate women's career progression, with women forced to create their own leadership development and face considerable barriers.

Conclusion

The study identifies that gender stereotypes, emotional labour, and inadequate mentorship structures significantly hinder women's advancement in ICT leadership, and a multi-faceted approach is necessary to address these barriers. Organisational interventions, including gender-sensitive hiring and promotion policies, are essential to ensuring equal opportunities for women. Formal mentorship and sponsorship schemes can also proactively enable women's leadership development and bridge the leadership gap. Flexible work practices and an inclusive organisational culture can also mitigate work-life balance problems, enabling more women to assume leadership roles. By addressing these structural problems, the ICT sector can make the leadership environment more inclusive, where women have equal opportunities to succeed and contribute meaningfully to the sector.

5.2 Discussion of results in relation to objective 2

The study identified several key enablers that support women's advancement into ICT leadership roles. These include higher educational qualifications, access to sponsorship and mentorship, changes in workplace culture and gender norms, structured organisational leadership programs, and the recognition of women in senior positions. These enablers work together to create a more supportive environment for women in leadership, addressing structural barriers and enhancing career progression opportunities.

Educational qualifications as a catalyst for leadership

Higher education qualifications are critical in equipping women with the technical knowledge, leadership competencies, and professional confidence to assume ICT leadership positions. However, despite the growing demand for skilled ICT professionals, women are underrepresented in ICT-related academic programs and leadership positions. Advanced qualifications and certifications provide women with the technical knowledge and strategic understanding required to compete for leadership positions, with studies showing that postgraduate qualifications establish professional credibility and enhance the potential for senior positions (IITPSA, 2024).

However, women only account for 25% of ICT graduates globally, limiting the talent pool for leadership and reinforcing the gender gap at executive levels. Bridging this divide requires that

more women be persuaded to pursue STEM education and ICT-related qualifications through scholarships, training programs, and career awareness initiatives, with collaborations between organisations and governments proving pivotal in attracting and retaining women in the field.

The role of sponsorship and mentorship in career advancement

One of the most powerful ways of catapulting women into leadership roles is sponsorship and mentorship, with mentorship providing counsel and professional development, and sponsorship being critical for career advancement because it involves influential leaders becoming active champions for the advancement of women. Literature indicates that women with sponsors are more likely to transition into executive positions, as sponsors use their power to provide access to high-visibility projects, leadership development, and promotion opportunities (Gonzalez, 2020).

Mentorship, on the other hand, helps women gain key leadership skills, build confidence, and navigate challenges in the workplace, with female role models playing a critical role in inspiring and motivating future leaders. Because men dominate most executive positions in ICT, however, women lack sponsors who will advocate for their career progression. To alter this, organizations must create formal sponsorship programs that pair high-potential women with senior leaders who will advocate for their progression, ultimately achieving a more balanced leadership pipeline.

Shifts in gendered workplace norms and organisational culture

Workplace culture plays a large role in leadership opportunities for women, and challenging gendered norms and fostering inclusivity can establish a workplace culture in which women feel encouraged to take on and succeed in leadership roles. Traditional biases that associate ICT leadership with masculinity must be dismantled by promoting gender-neutral leadership norms and ensuring that hiring and promotion procedures are merit-based and free from gender assumptions (Gonzalez, 2020). Creating an inclusive workplace culture through policies that facilitate flexible work practices, equal pay, and gender balance in leadership teams makes the workplace more supportive and equal, which leads to higher retention rates for women in leadership. Unconscious bias training and allyship building within organisations can also help eliminate obstacles and build a culture of gender-inclusive leadership.

The impact of organisational leadership programs

Formal leadership development programs for women are essential in closing the gender gap for ICT leadership by providing key skills, networking, and career planning strategies that facilitate women's advancement up the leadership pipeline. The programs enhance leadership competencies in strategic decision-making, executive presence, and conflict resolution that are essential for women to assume top management roles. The programs also expose women to leadership opportunities through executive coaching, rotational leadership assignments, and networking that address the visibility challenges women face in securing leadership promotions. Organisations must take data-driven approaches to measuring the effectiveness of these programs in driving gender diversity in executive roles through the use of key performance indicators (KPIs) to drive accountability and continuous improvement.

Recognising and appointing women to leadership positions reinforces organisational commitment to gender diversity and prompts more women to pursue leadership careers. Giving priority to internal career development for women sends a powerful message of leadership diversity commitment by businesses and offers role models for future female leaders. Having women in senior leadership positions dispels biases, stimulates innovation, and enhances decision-making and business performance. Nevertheless, organisational support must be sustained recognition and an ongoing process embedded in corporate culture, and leadership succession planning must incorporate gender diversity objectives in order to provide a strong pipeline of women leaders in ICT.

Conclusion

The study demonstrates that women's advancement into ICT leadership is facilitated by key enablers, including education and qualifications, sponsorship and mentorship, workplace culture change, formal leadership programs, and increased visibility of women leaders. To tackle these enablers, there is a necessity to expand access to education and STEM programs, formalise sponsorship and mentorship initiatives to support career mobility, develop gender-inclusive organisational cultures that debunk stereotypes, establish targeted leadership programs to ready women for executive leadership, and actively promote and celebrate women leaders to inspire and retain future generations of talent. By leveraging these strategies, organisations and policymakers

can forge concrete progress in gender diversity, establishing a more equitable and inclusive ICT leadership landscape.

5.3 Discussion of results in relation to the theoretical framework

The research findings are aligned with Transformational Leadership Theory, which is focused on the role of inspirational leadership, empowerment, mentorship, and creating positive work climates in contributing to career development (Korejan & Shahbazi, 2016). In leadership of women in ICT, transformational leadership provides a theoretical context for clarifying the manner in which leadership style and organisational culture can support or hinder women's career advancement to executive roles.

Transformational Leadership and Organisational Support for Women in ICT

Transformational leadership, characterised by idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration (Bass & Riggio, 2006), is central to advancing women's careers in ICT by breaking down systemic barriers. The study illustrates that sponsorship and mentorship programs, in line with the individualised consideration dimension, enable women to gain personal coaching and career advancement, with transformational leaders playing an active role in seeking out and advocating for emerging female talent (Khan et al., 2020). Transformational leaders also promote inclusive organisational cultures by fostering diversity, equity, and inclusion, building supportive environments that neutralise gender norms and reduce systemic biases (Korejan & Shahbazi, 2016). Transformational leadership also enables the establishment of formalised career development programs—such as training, executive coaching, and access to high-impact projects—in line with intellectual stimulation, enabling women to build critical thinking, problem-solving, and strategic decision-making skills required for leadership effectiveness.

Evolving Leadership Styles to Support Women's Advancement in ICT

To enable ICT organisations to offer full support for women's leadership development, leadership styles must change to adopt transformational leadership principles of empowerment, inclusion, and professional development. Women in ICT share common challenges such as work-life balance stresses, gender stereotypes, and limited networking opportunities, and transformational leaders

who exercise individualised consideration can address these through the provision of personalised support, flexible policies, and individual guidance (Bass & Riggio, 2006).

In a rapidly changing sector, intellectual stimulation is paramount—transformational leadership encourages innovation, critical thinking, and continuous learning, and establishes cultures in which women are empowered to work on difficult projects, share their ideas, and contribute to technological advancements. In addition, idealised influence enables transformational leaders to be ethical role models, inspiring women to pursue leadership roles despite industry barriers; the success of female leaders further inspires and motivates others to enter and succeed in the ICT sector (Khan et al., 2020). This is a new finding not present in the background.

Conclusion

The findings confirm the pivotal role of transformational leadership in shattering gender barriers and advancing women's leadership in ICT. Organisations that instil mentorship, sponsorship, inclusive workplace policies, and targeted leadership development programs create work environments in which women can thrive, innovate, and lead. Through the adoption of transformational leadership qualities, individualised consideration and intellectual stimulation, ICT companies can advance a more diverse, equitable, and high-performing leadership context.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

This chapter consolidates key research on the barriers and enablers of women's ICT leadership in South Africa. It connects research aims, theories, and findings, and provides actionable recommendations on how to improve gender inclusion and leadership. It also makes suggestions on future research on how women in ICT could be better supported in their roles.

6.1 Conclusion in relation to objective 1

The study identified several barriers to women's leadership progression, including gender biases, stereotypes, emotional labour, and lack of sponsorship and mentorship. These factors contribute to self-doubt, hinder career advancement, and lead to underrepresentation in leadership roles. Organisational commitment to gender equality policies, mentorship programmes, and cultural shifts is essential for addressing these challenges.

6.2 Conclusion in relation to objective 2

Key enablers of women's leadership success include educational qualifications, mentorship, sponsorship, shifting workplace norms, and organisational leadership programmes. Education provides the technical expertise needed to excel in ICT, while mentorship and sponsorship enhance career growth. Organisational programmes supporting gender diversity and leadership development play a crucial role in fostering an inclusive work culture.

6.3 Recommendations

To address challenges faced by women in ICT leadership, the following actions are recommended:

- Promote gender-inclusive leadership policies to support the advancement of women in ICT.
- Implement structured mentorship and sponsorship programmes to accelerate career growth.
- Provide counselling and emotional support for women affected by workplace discrimination or bias.

6.1 Suggestions for further studies

Future research should expand globally to compare the enablers and barriers faced by women in ICT leadership across different regions, offering insights into best practices that are adaptable to various cultural and organisational contexts.

6.2 Implications of the findings

The findings inform gender-related policies in ICT, focusing on sponsorship, recruitment, mentorship, and workplace equality. A cultural shift towards inclusivity could increase female enrolment in STEM and improve representation in ICT leadership.

6.3 Limitations of the study

The study was limited by time constraints, preventing a deeper exploration of additional factors. As a qualitative study, findings reflect participants' perspectives and may be subject to bias. However, diverse participant insights helped ensure balanced representation.

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