The role of digitalisation on gender parity in a South African Bank

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Abstract

In this study, the role of digitalisation and how the bank has responded to it in terms of gender parity are explored. It explores how digitalisation has bridged or perpetuated gender parity in the technology roles in the bank. The study also looks at the extent of gender parity in the bank and how the gender parity rate has changed over the past years, and what might have influenced it given the rate of digitalisation in the industry.

The study followed a generic qualitative research approach in which 12 participants were interviewed using a semi-structured interview via the Microsoft Teams (MS) tool. The data collected was analysed using theoretical analysis type of thematic analysis.

Six themes emerged, the extent of Gender parity in the bank, Jobs affected by Digitisation in the last five years, The future of women in technology and managers perception, Change in women-to-men ratios in banking, Women's views about opportunities in technology roles and lastly, School subject choices for boys and girls and their role in gender parity. The study reveals that most women 's roles were impacted largely due to them being in admin-related roles.

The study further showed that new roles were created, even though not to the same extent as those lost; however not enough women were given opportunities to fill up those roles, and thus the impact was again on women. The study found that the barriers that digitalisation has removed regarding jobs favouring men again did not seem to be taken as an advantage by the bank to bring in more women. Lastly the study points to the strong presence of stereotypes still believing that IT-related roles belong to men than women which has resulted in some resistance from male managers who still have hiring powers and thus making the change in numbers still very low compared to the opportunities being presented by digitalisation.

KEYWORDS

Gender parity, gender equity, women in technology, gender inequality

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AA	Affirmative Action
ARO	African Regional Offices
BEE	Black Economic Empowerment
CIB	Corporate and Investment Banking
CIO	Chief Information Officer
ICT	Information and Communications Technology
IMF	International Monetary Fund
IT	Information Technology
4IR	Fourth Industrial Revolution
MS Teams	Microsoft Teams
NDP	National Development Plan
PNL	Profit and Loss
RBB	Retail and Business Banking
SDG	Sustainable Development Goals
STEM	Science, Technology, Engineering and Mathematics
WEF	World Economic Forum

CHAPTER 1. INTRODUCTION

1.1 Statement of purpose

This qualitative explores how digitalisation has influenced and changed the gender parity existing in technology roles in the banking industry in South Africa.

1.2 Background of the study

Gender inequality has been an issue for years globally even though this has been more prevalent in underdeveloped countries, as it has been linked to economic development (Fernández et al., 2021; Iyalla, 2014; Taukobong et al., 2016). Another study further elaborates that excluding women from the ITC sector and workforce hampers socio-economic development(Vyas-Doorgapersad, 2022).

Gender equity end Economic Growth

Some researchers have studied the participation of the women workforce and its positive relationship to the country's economic growth. Bbaale and Mpunga, 2011; Tsani et al., 2012 as cited by (Mackett, 2016). In their study Asi and Williams (2020) also posit that the relationship between gender inequality and hindered development in countries leading to higher poverty and lower economic power, especially for women. In as much as this has been a focus of many studies globally with some suggestions and even government responses by putting policies, there is still a lot to be done to improve women's workforce participation. In a study as recent as 2021 by the IMF on Gender Equality and Inclusive growth, Fernández et al., (2021) concur that the economic development of a country is an aspect to be considered in the formulation of gender equality policies.

Cultural and Social Structures

Fernández et al., (2021) also, examine a country's specific circumstances like history, culture, and social norms. In agreement with this is a study by (Asi & Williams, 2020), on drivers of gender equality, such as culture, practices, religious beliefs and social structures to also have an impact on gender equality. It may be expected for these to manifest themselves in different degrees from region to region and country to country. This is evident in the study by Fernández et al., (2021), where they argue on the effect of the less restrictive social norms in Nepal with an over 80% of women participation in the labour market compared to 26% in South Africa, where the social norms are much stricter.

South African Context

With women constituting 50% of the world population (Fernández et al., 2021), globally, women make up only 39% of the working population (Bank, 2020). In South Africa, the female labour force is 44.6% with some improvement from 38% since 1990. These figures show that women are still not well incorporated in the working force as a proportion of the female population globally. WEF 2020 global Gender Gaps as cited by Fernández et al., (2021), states that the global gender gap as of 2020 stands at around 60% and further sates that poorer countries have wider gender gaps. Gender inequalities leave women more vulnerable to poverty, yet they are the majority of single parents. This has raised interest in the current study to look at how digitalisation can be used as an opportunity by the banking industry to provide more jobs for women and incorporate them into the workforce.

In South Africa, while a lot of studies focus on the unemployment rate of South Africa and its effects on blue collar workers or the low qualified (Ackermann & Velelo, 2015: Booysen, 2018; Magwentshu et al., 2019; Naidoo, 2020; Statistics South Africa, 2021; Naidoo, 2020).In addition, estimating that the new jobs to come out of digitalisation could increase the percentage of working women in South Africa by 45%, especially in the factory and mining business which was also previously dominated by men; little focus has been paid to digital skills on women in the banking industry and whether digitalisation is helping or worsening the situation. Booysen (2018) posits that 35% of jobs in RSA are at risk of

digitalisation, which he focuses that by 2028 will equate to about 5.7 million. The current explored the narrative and trend over the past five years if the jobs lost so far have affected women and men equally in the banking sector. Choi et al., (2020) assessed digital skills available in Southern Africa using data captured from 27 countries, with digitalisation coming in to replace manual work. Their study used data from at least 100,000 LinkedIn members as part of their study. Relative to other countries, Sub-Saharan Africa still falls short at about 4%, the lowest compared to other regions, the highest being North America reflecting 70% as shown in Figure 1.1 below.

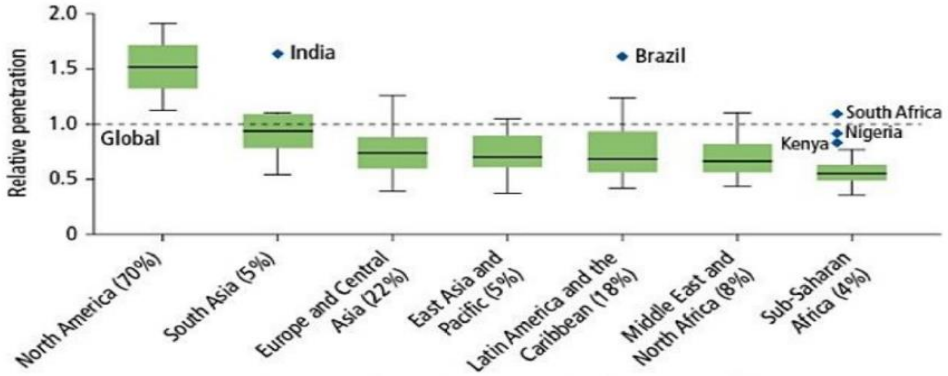

Figure 1.1: LinkedIn users as a share of the total regional working-age population
Source: (Choi et al., 2020) (p.50)

Even though South Africa is in the lead in Sub-Saharan Africa, there is no mention of how many of those are women versus men in their study (Choi et al., 2020).

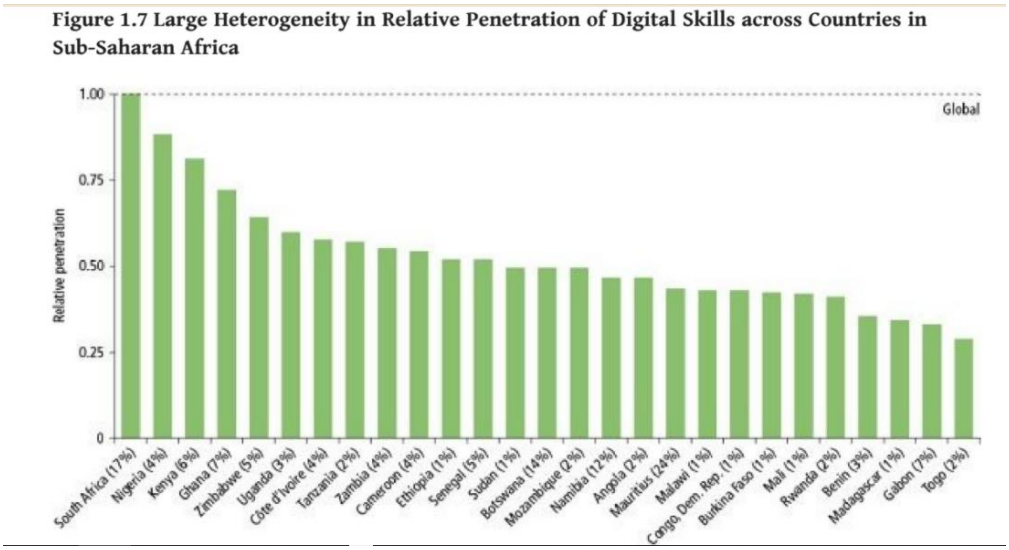

Figure 1.2: Large Heterogeneity in Relative Penetration of Digital skills in Sub-Saharan Africa
Source: Choi et al., (2020, p.52)

In the financial services Jenkin and Naude (2018), posit that digitalisation is a strategic focus for the Bank Seta in South Africa; they also mention as part of

their findings the lack of women entering digital jobs yet there is little being done on how this will balance out the gender parity that has been existing for years in the industry. According to Bank Seta (2018) South Africa is considered to be in the laggards compared to its international counter parts even though it has the highest potential for digital maturity. Another study predicted that up to a third of jobs in the banking industry will have been lost or replaced by 2025 (Dasho et al., 2016; Shukla & Rebello, 2017; Marous, 2018), as quoted by (Jenkin & Naude, 2018). This is consistent with Booysen (2018) with his 2028 focast of 5.7 million jobs estimated to be lost. The question remains if these will impact women's participation in the labour force.

Whilst the lack of women digital skills remains a concern for the Bank Seta and has been considered as one of its strategic focus areas, changes in behaviour, attitudes and habits has a lot to do with changes in the situation of gender divide (Larsson & Viitaoja, 2019) more than the policies and regulations can change the situation in the work place. Little is known if enough has been done globally and in the South African context to change the narrative or if government regulations in response to gender parity like affirmative action show some improvements in the banking industry, if the incentives are helping to balance out the gender parity.

1.3 Research problem

Studies have shown that there are few women in the banking industry, largely driven by technology that has dominated the industry even before digitalisation became popular (Rath, et al., 2016; Capelle-Blancard & Reberioux, 2021). In a study by Rath et al., (2016), they note the improvement in the proportion of women employees in the banking industry in India which has grown from 11% to 18% in the past 3 decades until 2013 (Rath et al., 2016) also by (RBI, 2013) as cited by (Rath, 2016) which is still very small. The origin of the parity is unclear if it was preferences from women or was largely driven by socio-cultural back in the days that too long to fade away with modernisation, which has been another debate among feminist theories.

Ackermann, (2015) posits that the participation of women in the labour force and the lack of, forms part of a study looking into the extent to which women choose to become or not to become part of the labour force; they should still be given the freedom to choose whether to participate or not. Capelle-Blancard and Reberioux (2021) looks at how gender plays a role in influencing careers in the banking and financial industry. With 4IR coming in at a faster pace and replacing many manual jobs that women largely occupy, it means their roles are more at risk. As discussed above, some predict a loss of jobs, yet some researchers think more opportunities will be created from the new skills and jobs. With new jobs emanating and companies hiring appetite shifting, a study by Purdon (2021) together with the World Economic Forum, on the future of India, found that of the companies surveyed, 33% had to hire more staff due to digitalisation compared to only 19% that reduced staff. Of the new hired, 71% hired fewer than 10% of females. This suggests that in as much as jobs could be created by the Digitalisation, women are still not being absorbed as much as men and the gap might still be opening wider.

The proposed study focuses on the perceived role of digitalisation with the new jobs being created and new skills on-demand, how is that impacting gender parity and roles in the South African banking industry. The study will possibly show if the appetite for women entering the workforce has changed towards technology in the South African banking space, if the stereotype has changed to trust and accept women into IT roles and if banks looking to improving the IT intake or upskilling of women in the industry.

1.4 Research questions

The questions below will be addressed and answered in the study to understand how the banking industry is responding to the digitalisation pressure and how that is assisting the gender parity gap that has been existing for years. If the opportunities presented by digitalisation are utilised efficiently by incorporating women and using them to balance out the gender parity, the benefits would be improved economic growth as it has been stated that women participation in the work force is highly beneficial to a country’s economic growth (Mackett, 2016).

- What is the extent of gender disparity in the banking sector?
- What is the role of digitalisation in bridging or perpetuating gender parity in the banking environment?
- How has the gender parity rate changed in Bank A in the last 5 years, and what has influenced the change?

1.5 Rationale

Gender inequality has been an issue globally with women being disadvantaged. Most studies were concentrated in some areas of economics like labour and development (Bhorat & Goga, 2013; Capelle-Blancard & Reberioux, 2021; Goga, 2008), some looking at risk aversion, gender gap pay and even inequalities in leadership positions, in an attempt to bring to end the unequal position of women in society. Lather (1991, p.71) as cited by (Creswell & Poth, 2019; Madsen, 2012; Vaz Cidre, 2019).

With digitalisation transforming industries and seeming to be replacing many jobs, this is not helping the women and the future generation, which is so dependent on single-parent households, mostly women for a source of living. Many families and children (at 46% in the USA) are being raised by single parents, largely women (Fernández et al., 2021; Zakia Redd et al., 2011). Discriminating them from technology-based roles has exacerbated socio-economic and poverty in most regions of the world as it eventually leads to the next generation lacking proper education and the situation evolves over and over again (Zakia Redd et al., 2011). Also, in their study, single families (at 37.2% in the USA) are about four times more likely to be in poverty than married families (Zakia Redd et al., 2011). A study by Purdon (2021) found that the International monetary fund (IFM) estimates that if there were no gender equality in India in the workforce, India would be 27% richer than it is now.

The study will also provide insights on the role of digitalisation on gender parity in the banking sector, if it uses the new and emerging opportunities presented by digitalisation to incorporate women or not, what is the impact and the potential impact on women in the banking sector. It will assist in understanding how the

future generation can be assisted in breaking the trend in gender parity and empower single-parent households into partaking in technology-led industries in the future. Based on data, it will also aid in understanding why or how women are being incorporated and assisted to take the IT roles and if not, what are the barriers that are so strong in perpetuating gender parity despite the opportunities presented by digitalisation.

The study will also assist in understanding how aggressive the measures can be put in place to address and fast track the end to the ongoing gender parity based on the outcome of the rate in which women are being absorbed versus the opportunities presented. Finally, this study will prove if policies and legislations that the government has put in place are really producing the intended results, absorbing women into the right roles without biases or there are some loopholes that need to be addressed over and above the numbers that companies are mandated to report on Economic Empowerment and Affirmative Action statistics in order to show compliance and avoid penalties.

1.6 Delimitations of the study

The study will focus on an oldest Brick-and-Mortar bank gradually transforming and getting digitised as opposed to the newer banks coming in without any legacy system slowing them down on innovation and thus cannot be used in this study as they will not give a clear understanding of how the bank has been changing with new systems in place to replace manual work. Thus, banks less than 25 years will be intentionally excluded as a point of reference.

Another point to note is in as much as most of the RSA banks have an African presence commonly referred to as African Regional Offices (ARO) or Rest of Africa (ROA) as some may refer to it, all employees under the interviewed section working for the RSA banks but residing outside of RSA will be excluded from this study. The study examines how the changes have been, exclusively in RSA and changing the RSA banking gender parity landscape.

Branches within reach with focus on the below divisions/BUs

- Corporate and Investment Banking (CIB)
- Group Technology (GT)
- Retail and Business Banking (RBB)

The research will also not look at the improvements in salary scales or pay gap to see if the digitalisation is positively influencing salaries and thus resulting in better pay for women as gender pay has been a focus for many studies in the past.

1.7 Definition of terms

Brick-and-Mortar Banking - Traditional Banking business done through physical branches, business with face to face dealing with customers (Joju et al., 2017).

Gender parity – defined as a 50-50 female to male representation (Raj et al., 2020)

Digitalisation – the integration of digital technologies into everyday life by digitisation of everything that can be digitised (Hagberg & Jonsson, 2022). The transformative impact produced by digitalisation on how business, economy and society operate (Autio, 2017).

Feminist - all genders having equal rights and opportunities (Brandth & Haugen, 1997), one who actively promotes gender equality in society and rejects traditional gender roles (Houvouras & Scott Carter, 2008).

Feminism – challenging and changing gender relations that subordinate women to men and that thereby differentially advantage some women and men relative to others (Ferree & Tripp, 2006). A certain understanding of women within the context of the social, economic and cultural diversity of women, and the advancement of women's right, status or condition, and reduction or elimination

of gender based hierarchy that underpins basic inequalities between men and women as a group in both public and private spheres (Mazur, 2002).

Gender Equity – the equal treatment of or considered equivalent between men and women, the process of being fair to women and men. Females being represented in equal numbers as males (Subrahmanian, 2005).

FINTECH – Finance and Technology, is a financial industry that uses technology to enhance and automate financial services and processes (Schueffel, 2016).

A technology enabled financial innovation that could have an effect on financial markets and institutions and provides financial services. (Dorfleitner et al., 2017).

1.8 Assumptions

The assumption is that the participants to be interviewed understand gender parity, whether they have experienced it themselves or observed it in the company. The other assumption is that the participants will be able to provide insights and respond to the questions with a clear understanding as they are mostly in the technology space.

1.9 Chapter Outline

Chapter 1 is introducing the context, the background of the study with the research problems and questions. It further outlines the rationale and highlights the scope and delimitations of the study. **Chapter 2** gives a detailed literature review that covers global, regional, and local perspective of the role of digitalisation and its impact on gender parity. The theoretical and conceptual frameworks are also covered and supported by literature and background studies, and finally a conclusion summarising the literature review. **Chapter 3** provides the research methodology which is broken down into the approach and design to be used, the data collection methods, sampling, and analysis strategies. The last section of chapter 3 details the quality assurance and ethical

considerations. **Chapter 4** provides the findings of the study as quoted verbatim from the participants via MS Tools recordings. **Chapter 5** discusses the findings of the study and groups them according to the research questions outlined in section 1.4. **Chapter 6** provides the conclusion and how it links to the theoretical framework detailed in chapter 2, gives recommendations and some suggestions for futures studies around the topic of gender parity and its impact.

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This section will investigate empirical literature based on what has been done in the past or is currently being done in assessing gender parity. It also focuses on the banking industry, what suggestions have been put in place and whether they have reaped any results or improved the situation.

This study looks at the impact of digitalisation defined as the use of digital means to optimise existing resources and processes, making them more efficient and effective, (Jenkin & Naude, 2019). This includes both client-facing processes and the back-office systems with process that were previously done manually. It will thus not focus only on Retail Banking as most of the studies in the past have done.

2.2 Definition of topic or background discussion

Digitalisation has penetrated every industry globally in recent years and it is coming in at a very fast pace (Leviäkangas et al., 2017; Urbach & Röglinger, 2018). Another study by Matthess and Kunkel (2020) further looks at the sector development stage and the intensity of digitalisation where they find that different industries are moving at different paces, grouped as high, medium and low (Matthess & Kunkel, 2020). The rapid digital transformation brought about by 4IR, and its accelerating pace have impacted almost all sectors, even though this is seen at different rates and adopted at different rates per industry and location. Fernández et al., (2021) posits that digitalisation is posing a risk for women due to them being underrepresented in shaping the design and application of new technologies including artificial Intelligence.

The banking sector has shown to be in the lead in investment technologies with 3% growth rate above the median of all industries (Carbó-Valverde et al., 2020 ; Computer Economics, 2019). A recent study suggests that digitisation has

resulted in reduced working hour for manual work (Szabó-Szentgróti et al., 2021). This is what banks are looking for but unfortunately in as much as this will be more profitable for companies and shareholders, bring more efficiencies for the banks, it comes at a cost for the employees who will be made redundant despite the argument that new jobs will resurface.

This has been looked at more closely in the banking sector where women largely did manual work, to understand what the change has been if any in the gender parity as 4th Industrial Revolution (4IR) is taking over the work of manual labour. Work demands and skills are shifting fast and unfortunately, the workforce is not impacted equally. As much as this is opening opportunities for productions and efficiencies, it is simultaneously creating employment risks for some segments of people by taking thousands of routine tasks.

2.3 Role of digitalisation and its impact on gender equity

2.3.1 Global

Women worldwide are facing challenges of unequal treatment in the labour market. The challenge is right at the beginning of the employment cycle, getting them into the workforce and is seen across different industries (Mackett, 2016). This is confirmed by a study by Watson (2018) looking at women workforce participation in the Indio-Pacific region, found that there are barriers that prevent women from participating in the digital economy. He also found that even though there was an improvement in women participation in the workforce from 2000 to 2015, many countries still have low levels of women participation. Fernández et al., (2021) research quotes the world average for women versus men participation in the workforce at 48% and 75% respectively.

India has been one of the countries where women were excluded from technology roles in the past even though it has been a country known for its technology skills, some call it the hub of digital skills due to it hosting more than 7000 firms focusing on digital solutions. It has 150,000 digitally skilled employees, more than 2000 digitally focused start-ups and 30% start-ups working on innovative solutions

(Agarwal & Malhotra, 2016). India is being used as a reference in this Global theme to see how a country that has been so trusted with IT resources and continues to be the case at an accelerated rate as it provides affordable and skilled labour to most countries yet at the same time reflects lower women in technology numbers is responding to fast-changing and requirements of more IT skills. Women are still underrepresented in the labour market, standing at 27% which is even lower than the global percentage of 49% (Purdon, 22 February 2021).

A study by Siddiqui (2012), found that even though there are some improvements done by women in Innovation and New Technology in India, there is still a lot to be done to close the technology gender gap (Siddiqui, 2012). Another study conducted in India, which India has been a technology resourcing hub for years largely supplying well- developed countries such as the USA, looks at answering questions around the future of digital transformation and its impact on Jobs (Purdon, 22 February 2021). The government drove the resourcing strategy in an attempt to stimulate economic growth for the country and has been the industry has been a major contributor in terms of income and earnings (Agarwal & Malhotra, 2016).

Purdon (2021) study looked at how digitalisation will in the future impact growth, transformation, and inclusion in India. It was conducted by the World economic forum in conjunction with the Observer Research Foundation (Chapman et. Al, 2018). The study was conducted using 774 companies across 4 Industries in India, of which banking was included. The results showed that even though 4IR in Indian is impacting jobs and skills, the companies were still not ready to be inclusive in their reaction to the changes. And thus, inclusion was not coming with digital transformation.

In the Banking and Financial Services Industry in India, 22% of interviewed managers said they would still prefer to hire men over women, while 66% considers skills and applicant to gender preference (TERRI CHAPMAN, 2018). The 22% in the Banking and Financial Services is even lower than the current 27% of female labour force, resulting in a shrinking or negative rate. Though this

may not fully represent the industry, the more skills required, the less companies are open to balance out the gender equity.

A study by Watson et al., (2018) shows India reflecting the lowest level of women participation in the workforce with a reduction from 1990 to 2015 even though its demand to be a technology resource hub has been increasing over the years (Watson et al., 2018). In the ITC sector alone, women constitute only 34% of the employees (as at 2016) yet it is known to be the most diverse employer in the private sector (Agarwal & Malhotra, 2016). It has however increased from 10% in 1993 to 21% in 2003 and 34% as of 2016.

Looking broader to developed countries, like the United Kingdom, research done in the UK Bowlby (1990), looking at the technical change and gender division of employment in Britain, they concluded that even though the number of women in IT roles has increased, the proportion has declined as some of the jobs replaced by IT were held mostly by women in clerical positions. They further project that the future for women in the IT industry does not look promising unless drastic political and social change take place (Bowlby, 1990). This proves the extent of gender parity and the outlook globally, in developed and underdeveloped countries.

Another study focuses on gender issues in the IT industry in the USA and how sourcing can help (Atal et al., 2019). This is another attempt by companies going more aggressive by intentionally using the human resource departments to target female candidates into IT related roles to balance out gender parity. Atal et al., (2019) cites a study done by McKinsey & Company on Women in the workplace which was done in collaboration with (Krivkovich, 2021). The McKinsey study also confirms that women in the USA are underrepresented in the workplace and at every level in the USA corporation. Women in IT and software constitute below 33% of the workforce. The study also indicates that as a contribution to low numbers of women in IT, it is also due to low incoming IT female graduates into the workforce and is a big challenge to increasing women in IT roles.

Another study also points to the USA on women in Information Technology roles, reports that only 29% are in IT from a total workforce of 47% (Kazmi, 2014). In

the same study looking at women in Banking and Financial Services, women were found to be underrepresented in such roles that are considered to be mind work versus manual work. Despite the increased number of women entering the banking industry, they do so in clerical jobs and tellers (Kazmi, 2014). In a study by (Ashcraft et al., 2016), he depicts a graph that shows how the percentage of Computing occupations held by women has been declining since 1991 where it was a peak of 36% and down to 25% in 2015 where as other sciences and women participation has been slightly increasing with Biological and Biomedical Sciences being the highest.

With digital technologies shaping every sector of economy globally, the (Women, 2020), in the article Marking the 25th Anniversary after Beijing Platform for Action, calls for 4 catalysts for change of which harnessing technology for gender equality is one of them. This is an indication that two and a half decades after the major Beijing even there could still be some calls for action to address gender inequality. The progress is slow and still needs some attention even though the topic of digital economy for gender equality has been on international political agendas for some time (OEDC, 2017) as cited by (Grau-Sarabia & Fuster-Morell, 2021). The extensive research around tradition of feminist theories of technology and genders studies of technology has existed since the nineties more to empower women and transform gender relations, however the conclusion has been that gender is embedded in technology itself and digital revolution is embedded with in the same institutions that contain structural gender inequalities (Grau-Sarabia & Fuster-Morell, 2021).

2.3.2 Regional

In Nigeria, poor technology infrastructures have hindered the growth and performance of the banking sector. Banks are investing in computer technology to harness the services, let alone to catch up with the digitalisation and transformation forced by the 4IR. It is noted in the study by Soriyan and Odebiyi (1997) that the growth of masculinity that disadvantages women is still visible in Nigeria. In their study they also found that most bankers were men with women filling only the secretarial or typist jobs in the old generation. It would have been

interesting to see the growth of female work force in the banking industry especially Nigeria where some banks were operating with very few computers. (Bimbo Soriyan & Odebiyi, 1997).

Egypt is another country that has been highlighted as showing a huge gap in between men and women in the ITC sector with women lagging behind. Also highlighted is that the majority of the few who have made it into the industry are at the lower sector in terms of required skill level of technology, with an exception of high numbers showing in software consultancy (Mandour, 2014).

Choi et al., (2020) in his study on the Future of work in Africa, posit that digital technology adoption will transform the nature of work for all Africans. This could be positively, or negatively as most African people are not educated to embrace technology and grab the opportunities that may be presented by it. When M-pesa was introduced in Kenya, 6,000 bank jobs were lost between 2014 and 2017 (Choi et al., 2020) while mobile payment agents increased by 70,000. It is believed to have been more beneficial for women headed households and eventually led to reduction in poverty. It has allowed women to move out of farming into business and sales jobs.

2.3.3 Local – RSA

As mentioned by Booysen (2018) regarding the 5.7 million jobs to be lost in South Africa due to digitalisation, even though it ranked the lowest bottom when ranked by a study using Mckinsey data on 46 countries with a potential of automatable jobs at 41%, the 5.7M given the high unemployment rate in South Africa is still high. There are however some critiques of the literature with some argument that more jobs will be created (Naidoo, 2020). This is a concern for South Africa irrespective of gender but more worrying for women who are already struggling to be well represented in the workforce.

In an attempt to understand the impact of gender parity and its effects on unemployment and poverty especially for women, some researchers are looking and the underlying cause and trying to address what can be solved at a root problem. This could be a result of realising that the policies and legislations that

have been put in place are rather being implemented at a late stage and the damage or gap has already opened. A Study from the Human Sciences Research Council in Pretoria looks at Bridging the digital divide in the G20 and skills for the new age. Where they focus on how women are being left behind and how socio-cultural factors strongly impede the access of digital tools by females (Chetty et al., 2018). They emphasise on the socio-cultural norms and developing strategies into educational programmes to help the uptake and impact of digital skills on women. This goes to show that the focus and recommendation is shifting from policies that are implemented at the workplace to balance out affirmative action statistics but rather deal with the socio-cultural norms at a root level. This has a ripple effect on the appetite for women to get involved in technology subjects and eventually career at a later stage. If there is a link between the digital divide between females and males and that can be proven that it does result in women not being attracted to IT careers, then more focus needs to be put on addressing the root of the problem than addressing the aftereffects that are seen at a job level. Further studies are required to prove if people who grow with the absence of technology from a young age can develop the like for it at a later stage and at what age. In agreement to Chetty et al., (2018) a study by Adams (2021) also highlights the importance of addressing the history especially that has excluded women from some jobs.

Women empowerment has been an issue in South Africa looking at addressing the economic advancement in the country (Ackermann, 2015). In his study Ackermann (2015) looks at understanding the position of women in South Africa in the labour force. He concluded that women are still underrepresented in the formal sector and mostly found in the informal sector, more so as domestic workers. A recent study looking at The Gendered Impact of Artificial Intelligence and the 4th Industrial Revolution in South Africa: Inequality, Accessibility and Skills Development concludes that the history and lived experiences of the past and those that they will affect need to be taken into consideration as companies move with the 4IR wave or else it may result in discrimination and biases, particularly for women (Adams, 2021). He further states that the adoption of technology and responses to South African policies as it responds to the 4IR must ensure that no one is left behind. This goes to show some concerns around the

biases of the past and the possibilities of them carrying on for over and still pushing women aside, and thus the interest in this study to understand the extent of it in the banking sector. Another study concludes that age is not relative in digital democracy but more the impact of digital divide (Brown & Czerniewicz, 2010). This study will also challenge the stereotype of the old generations within the bank to see if given an opportunity to hire well qualified women, it will challenge the study of digital divide being affected more by age or versus opportunities, to prove or disagree with the conclusion of the study by Brown and Czerniewicz (2010).

A study by the Southern centre for inequality studies looks at the extent of digital platforms labour in South Africa (Naidoo, 2020). The study looks at the link between innovation and employment and highlights the high rates of structural unemployment in the country especially for women. Naidoo emphasises the point on the importance of technological change versus the effect to the labour market. She further looks at how the 4IR technologies could impact the South African labour market. Using the broad definition of unemployment where the discouraged work-seekers are included, the numbers have increased from 37% in 1994 to 37% in 2019. In that number, the women unemployment rate is 40%, decreasing from 45% in 2005, compared to men of 33% increasing from 22% in 2005 (Naidoo, 2020). This is proving that as the country is moving with the wave of 4IR, women are still being left behind while the narrative that more jobs are going to be and are being created is only true for men whose employment rate is increasing.

In agreement to this, a study by Jenkin and Naude (2018) posit that the influx and growth of FinTechs into the country has placed South Africa in the third position behind China and India with possibilities for more jobs, however there is a lack of women holding digital jobs within the banking sector. The incoming of the FINTECH with a positive outlook in terms of job creating poses more threat to the female workforce if the mentality that females are not being good enough for IT is not changing.

Even though this may not necessarily be linked to digitalisation, the Covid impact has disadvantaged more women than men in South Africa. In A survey conducted

in South Africa, two-thirds of job losses during covid were from women even though they comprised less than half of the work force (Casale et al., 2021). This is further confirmed by a study by Fernández et al., (2021) that the type of service sector related work performed by women has been impacted the most.

An (2021) recently looked at the impact of digitalisation on labour market outcomes in middle income countries, under which South Africa would be classified. His aim was to see if digitalisation increases or decreases the labour force rate participation of women as well as the gender wage gap (An, 2021). He studied 93 middle income countries and concluded that there is a negative correlation in the relationship between internet usage and female labour participation. A 1% increase in internet usage was associated with 0.01% decrease in female labour participation while the gender gap pay was being reduced by 0.06% for a 1% increase in broadband subscription. This study was however done across different industries with no particular focus. It is not clear as to what was the driver in the decrease of women vs men as the internet usage was increasing for both genders. A further study is needed to understand why less women are absorbed into the workforce as a result of internet uptick. The study was only focusing on the impact of internet usage on female labour participation rate and on gender wage gap and they also use broadband subscription to assess the impact on female labour participation rate and also on gender wage gap.

In as much as this does give some guidelines on the inverse relationship of digitalisation to on female labour participation rate, it lacks the actual analysis on what the impact on existing jobs has been and what jobs related to females have been impacted, or what jobs emanated as a result of digitalisation. This has opened an opportunity for potential future research of which this study will be addressing some aspects of it.

2.3.4 Gender equity in South Africa

This section is bringing it closer home, looking at how South Africa has reacted to the balancing on gender parity across all industries and more so in addressing

the effects of the past. The two policies largely in use and monitored in South Africa are the Affirmative action (AA) and the Employment Equity Act (EE).

Affirmative Action (AA)

Burger and Jafta (2010), in their definition for Affirmative action (AA) defines it as affirming and promoting equal opportunities for people to empower them to fully engage in society (Burger & Jafta, 2010) . According to Furtado et al., (2021), AA can be described as initiatives that seek to compensate for societal barriers that hinder women from having equal representation (Furtado et al., 2021) . In South Africa, as a response to correct among many inequalities, (AA) legislations has been put in place to enforce hiring of previously disadvantaged groups. This is also an attempt to correct the misalignment of employment statistics resulting from the past. This was driven by the inequality and discrimination of most South Africans of their fundamental rights, particularly black people. The fact that women of all races qualify for AA (even though with different scoring points) shows that the South African Government acknowledges the gender parity that has existed in the past and the mention of women irrespective of the race, even though the weighting is different for different races due to post-apartheid AA scoring. The benefits and perceptions of its impact vary from race to race. In the study by Burger and Jafta (2010), they used data sources from South Africa as part of a European Commission-funded comparative study to understand how people have received AA in South Africa. In Table 2.1, irrespective of the race of women pre-AA, women were disadvantaged in South Africa. They formed the minority of the work force from all races.

Unemployment Rates, 1993: Men	Unemployment Rates, 1993: Women
African men: 31.6%	African women: 43.9%
Colored men: 21%	Colored women: 26.4%
Indian men: 12.5%	Indian women: 23%
White men: 5.3%	White women: 12.9%

Table 2.1: Unemployment Statistics in South Africa Before Affirmative Action
Source: South African Institute of Race Relations, 2008 as cited by (Burger, 2010)

In another study looking at the outcomes of affirmative action policies in Malaysia and South (Lee, 2010, p1) where they both look at the representation of previously disadvantaged groups from the 2 countries at tertiary level and upper level of employment, they conclude that in as much as both countries have made quantitative gains, qualitatively they are still both lacking (Lee, 2010). A study by Iyalla (2014) explored how businesses should respond to AA laws, concludes that businesses in emerging markets have no choice but to embrace it, he further advises that they should do so in an optimal way to shareholders value and boost organisational capabilities (Iyalla, 2014).

A study by Vyas-Doorgapersad (2022) on the use of Information and Communications Technology (ICT) in achieving sustainable development goals (SDGs) by 2030 in South Africa, the findings confirm that poverty is indeed linked to gender equality and highlights the employment inequalities where women representation is 6 for every 10 people employed as of 2005. He further posits that this has a ripple effect as they are at low- level occupations and have resulted in low affordability of ICT services. This was the main driver by SADC to initiate the gender policy for promoting girls' access to ICT in Southern Africa (Vyas-Doorgapersad, 2022). With all the policies and the National Development Plan (NDP) for 2030 in South Africa, companies are embracing technology changes at a faster pace and stand an opportunity to work with the government to up women participation in ITC roles. Of all the 17 SDGs tabled by the development plan, Science and technology is the most prominent of them all thus ITC policies, programmes (internships, scholarships, and technology programmes) and infrastructure have taken priority in the rolling out and as a foundation for the implementation and success of the NPD 2030.

Employment Equity Act (EEA)

The EEA known as Employment Equity Act (No. 55 of 1998) was passed in South Africa in 1998 post the apartheid transition as (Tladi, 2008), covering all industries, private and public sectors to increase the representation of previously disadvantaged individuals. It further stipulates a racial and gender composition of employees to represent the workforce, specifically stipulating black people, women, and disabled people. This shows that other than apartheid and

discrimination, in South Africa, black women have been double impacted and continue to be even post the apartheid era. The black economic empowerment (BEE) act (Act No. 53 of 2003) formalised in 2003 (Krüger, 2011) further supplements the EEA by providing some incentives to companies hiring previously disadvantaged persons. This legislation and initiative were aimed at promoting economic transformation through meaningful participation of previously disadvantaged people. The “meaningful participation” part of the targeted group is what the government is failing to qualify while the quantifying measures and numbers have been misleading and making people believe that companies are on target and achieving the results. If that was not the case, we would not still be studying and talking about gender parity in a south African context.

With digitalisation opening opportunities for foreign investors as presented by the Fintechs flooding the financial industry, companies coming to do business in South Africa have to consider the policies’ requirements and adapt their operations to such. In the case for South Africa, EEA and socio -economic developments play a big role in encouraging or discouraging investors if not accepted and implemented well by companies (Anwana, 2020). Women especially black, scoring high in the EEA table, must be incorporated in one way or the other into company structures and senior roles, a majority of these roles are of late becoming technical and thus technical skills are becoming a must. Iyalla (2014) posits that theorists are still debating if EEA policies create stable political systems, address past injustice of the past or even reverse discrimination. (Campbell, 1996) as cited by (Iyalla, 2014). Linking all this to the effort of understanding the gender parity in the bank in relation to digitisation, the two propositions of the study are that digitalisation plays a role in bridging or perpetuating gender parity in the banking environment and that gender parity has changed in the banking sector in the last few years as a result of digitalisation.

2.4 ANALYTICAL FRAMEWORK

This section will investigate a theoretical foundation based on Gender Reform Feminism theory. This considers the Marxist feminist, liberal feminist, socialist

feminist, postmodern and post-colonial feminist views. It will look at what has been done in the past or currently being done in assessing gender parity with focus on the banking industry, what suggestions have been put in place and if those suggestions have reaped any results or improves the situation. The study will assess if the Gender Reform Feminism that has been addressed since the 1970s is soon to be history either organically through digitalisation or intentionally through efforts to deal with it using opportunities presented by digital transformation.

2.4.1 Theoretical Framework

Feminist theory is gaining attention in the academic field and through critical political discussions. As mentioned by Ferguson (2017), it is not only about women but rooted in movements for equality for everyone. It draws on different pragmatic orientations and different national context (Olesen, 2005) as cited by (Creswell, 2016). The theme of domination prevails in all feminist theories while the subject matter remains gender domination (Creswell, 2016). In his book "Feminism and social Change" (Gottfried, 1996) posits that the questions that feminism poses and the absence it locates the centrality of gender in shaping our consciousness, skills, and institutions as the distribution of power and privilege.

As discussed by Osmond and Thorne (2009), the feminist theory cannot be looked at from one perspective even though all point to the same, 'women's subordination to figure out how to change it'. This then opens several debates and creates tensions within the different perspectives of feminism, allowing us to freely discuss the Reformist feminist theory from a labour point of view which leads to and integrates so well with the study on gender parity in the banking sector (Osmond & Thorne, 2009).

The Reformist Feminist theory looks at the inequality of gender and considers the division of labour in the workplace, at home and even in society (Lorber, 2010). The reformist feminisms were more dominant in 1970 and the aim was to balance the number of men and women in society, a struggle that persist even in the 21st century despite modernisation in most cultures. The most concern in the modern culture is that men are still seen as clever and more capable than women even

in the workplace, thus discriminating them from some debatable roles “gender based”.

In her study (Stewart, 1994), argues that women have the power to resist oppression and make choices, which is debatable. If that were the case, the gender parity issues and devaluing of women in society globally would not have carried on for so long especially in countries where women have been made heads of state. In a contra argument, Hay and Hay (2013) in their book, The Obligation to Resist Oppression, argue that the Bengal women who were staved and later interviewed wronged themselves by failing to push back on the oppression. They said that they felt their interests were less important compared to those of men and that the little food that was available should not be wasted on them, they would rather starve than the men. The sexist social norms made them believe that, they did not think it was right to push back and resist (Hay & Hay, 2013). Hay and Hay (2013), believe the Bengal women oppressed themselves and thus when they had power to resist oppression, they did not. They believed they were not worth it. They further argue that if one accepts oppression, it goes on to oppress other who share their social category. So, by accepting oppression you are also oppressing other as you make it more acceptable, endorsing it and a norm thus making it more difficult for those in your social category to push back. This could be the reason why women’s’ oppression has gone on for so long due to the women who when given power to resist, do not push back because they do not believe that they are worth anything. (Hay, 2013) in his study also agrees that people who are oppressed also have an obligation to themselves to resists oppression grounded in self-respect even though his study was more on sexual oppression, he agrees that it is applicable to other form of oppression. The power to resist oppression and failing to do so is further argued by (Smith, 2020) in her paper, The Morality of Resisting Oppression. She presents three points arguing the point that believing that women have the power to resist their own oppression is firstly victim-blaming, secondly it distorts the normative directions of self-regarding duties and thirdly the statement is not suitable for justifying self-regarding ethical responsibilities.

The study will assist in understanding the argument existing in the reform feminism if the inequalities in technical roles in the banking industry are due to personal choices or structures that is not changing in history. The study seeks to explore why technical roles are largely filled in by men versus women as literature has shown above, do women themselves believe they are less smart than men, with more roles being technical are women rising to the challenge or they are still being marginally discriminated as per the gender reformist theory. The study will not address the issue of wage differences that also comes with devaluing of women work though this is another basis for the reformist theory. Goga (2008), posits that employers value similar skills differently for men and women doing the same job thus promoting gender pay gap (Goga, 2008).

Mackett (2016), looks at gender-based determinants of labour in South Africa. He looks at the determining factors that drive people to the labour market, he further looks at differences by age cohort. Interesting findings other than urban vs rural location, education level which he finds are equally important for both is that children at home reduce labour participation only for women. Also agreed by Fernández et al., (2021) in his book on achieving inclusive growth, posits that countries around the globe have done significant improvements in closing the gap and have improved women participation in the labour market while combining their work with raising children (Fernández et al., 2021). This is true that children at home reducing labour participation for women, and with the high number of single parents, largely women (Maldonado & Nieuwenhuis, 2019), raising children by themselves, the single mothers are driven more to look for employment so they can raise and support the children as the only source of income, however they experience gender discrimination in the labour market and are finding it difficult to find a job than them choosing to stay at home, that is where childcare intersects with the labour market especially for the low-skilled lone mothers (Ntshongwana & Wright, 2010).

This study will examine what opportunities have been presented by digitalisation and if those opportunities allow women in the banking industry to use their abilities and full potential in occupying those roles like men.

2.4.2 Conceptual Framework

Gender parity has been cited many times with policies in place to address it. Building from the feminist theory will be used to conceptualise the inequality in technology in the banking industry. In a study by Goga (2008), her conclusion on the gender pay gap post-apartheid in South Africa indicates an increase in earnings between sexes. With an obvious finding that men are still earning more. This shows that women are still being disadvantaged from a social perspective due to more domestic responsibilities, labour force participation irrespective of the education qualification (Mackett, 2016), wage pay gap, and being viewed as not intelligent versus men.

IT roles are still viewed as gender-based and more suitable for men than women. In the banking industry women still below in the lower-level administrative roles. This study seeks to explore how digitalisation is changing the narrative, are more women being considered in technology roles that are now dominating the industry as opposed to manual and administrative roles.

The study will look at the roles that have come up and how they were filled, how women were upskilled, the redundant roles, who was impacted the most and if the banking industry is responding to policies to upskill women and eventually fill up technical roles with more females or equal females to males' opportunities. It seems like any mishap that happens seems to disadvantage women than it does for men. When Covid-19 lock down was imposed globally in early March 2020 in order to fight against the spread of Covid-19 (Fu et al., 2020), some jobs were later lost. In a study by Casale and Posel (2020), looking at gendered employment effects of covid-19 in the early stages of the covid lockdown, she found that in the USA, women made less than half of the employed group but accounted for more than 55% of job losses. She further found that women are generally more educated than men in South Africa, but the impact of job losses affects more women than it did for men (Casale & Posel, 2020).

This all forms the conceptual bases of the study as depicted in Figure 2.1 below. This aims to understand how digitalisation is changing the landscape of the gender parity, if new jobs emanating from digital transformation are in favour of

any gender if so which gender and what are the drivers if education and other unbiased job requirements have been proven to be none of the drivers that have favoured men, and finally how the gender parity has changed over the past 5 years.

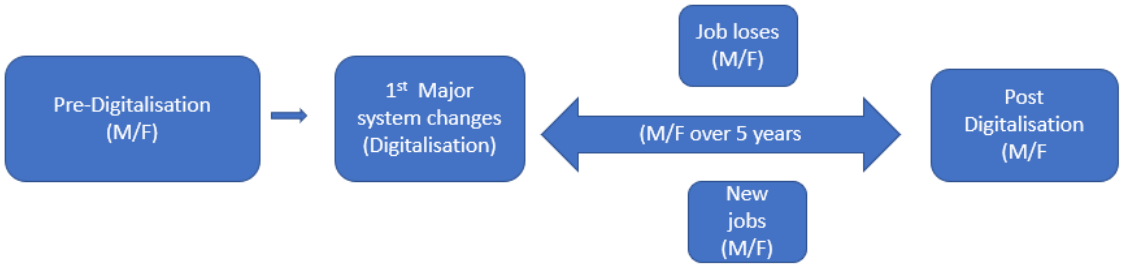

Figure 2.1: Expanded Conceptual Framework for change in gender parity in comparison to digitalisation **disruption in the Banking industry.**
Source: Author's own work

2.5 Conclusion of Literature Review

The literature above outlines how gender parity has existed globally and over the years, with studies that have confronted it from different angles and countries. It has highlighted how gender parity has existed and has been addressed in different parts of the world, highlighting it from a global, regional and in the local South African context.

It has also laid a foundation using the feminist theory and Reformist theory in particular. A conceptual theory has followed the same understanding and arguments from some aspects of the Reformist Feminist theory to be used in understanding how Gender parity is manifesting itself and using digital transformation to change, leave as is or worsen the situation.

In many cases highlighted above the studies were done to address poverty and address different aspects of feminism. Some were done to develop conclusive evidence to assist governments in developing effective polices and regulations based on data to support the existing gender parity. Fernández et al., (2021) posit that understanding the gender gaps and their implications for growth can help create frameworks for policymakers.

In the field of feminism and with all the different approaches that have been studied, everyone's goal was and still is to come up with suggestions for a better community, better world where power relations are put aside and everyone Is treated equally, where all opportunities presented are fairly distributed to potential employees irrespective of sex (Ferguson, 2017).

This is summarised in the conceptual framework Figure 2.2 below which depicts how gender parity, and the rate of its change will be affected by digitalisation that has been transforming the banking industry. With the possibility and reality of emerging jobs, skills and competencies, this study will look at whether this is helping or worsening the women's place in the banking industry.

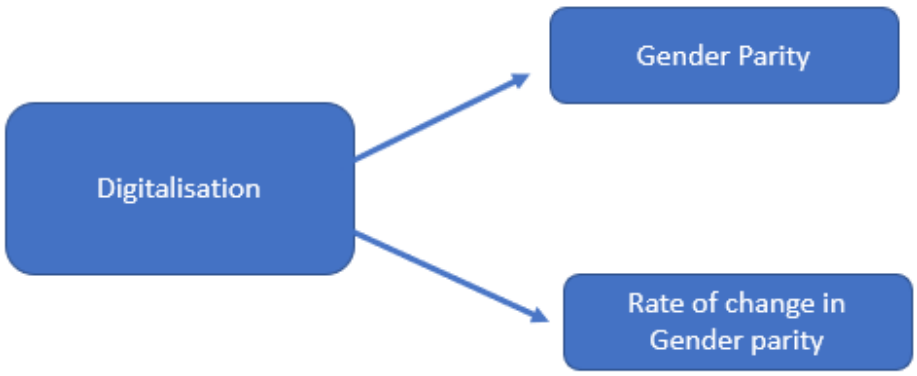

Figure 2.2: **Conceptual Framework of the impact of digitalisation in gender parity in the Banking industry**
Source: Author's own work

CHAPTER 3. RESEARCH METHODOLOGY

The chapter will cover the research methodology used in addressing the research objectives as outlined in section 1.4. It describes the approach used in the study, the research design followed and the data collection methodology, which was done via interviews. It also describes the population and sampling method used. It further highlights some limitations to the study and finally the quality assurance of the data collected as well as its ethical considerations.

3.1 Research approach

This study used qualitative research approach. For a feminist theory-based research (Deem, 2002; Moss, 2006) posit that any method can be made feminist, as long as it focuses on knowledge as to where and how it is obtained and for what purposes (Creswell & Poth, 2019), also, to take note is the researcher's objectivity and biases. In as much as these focus on the social and human science, caution must be taken to avoid exploitation of the subjects as well we objectification but ensure transformation (Olesen, 2005; Stewart, 1994) as cited by (Creswell, 2016).

While some numbers are used to back up the interviewee's answers to data-related questions from the participants, a quantitative approach would not give a clear understanding of the opinions and behaviours to assist in the analysis as is the case with behavioural studies. In this study it is important to understand and question further the participants for clear and precise answers especially where emotions are concerned, a quantitative study would miss that aspect out. A study by (Emsley & Mahadea, 1996) on post-apartheid in South Africa and Bumiputera political dominance in Malaysia also showed that when corrections of the past are being accessed, a quantitative number may be a misrepresentation of the progress but rather a qualitative analysis will give a clear understanding of the impact and progress made.

Some of the advantages of qualitative research chosen in application to this study are listed below: (Weil, 2017)

- Capturing the content – this gives more details about the participants and relevant information that a survey questionnaire may not cover in the context of banking, where there is a history of mergers and acquisitions or restructuring that might have happened for employees to land in different roles.
- Describing the experience - more detailed experience from the men in the bank and the women independently will result in a very objective and independent view of the causes of gender parity in the past and prevailing (if any).
- Identifying motives - aggregated data and statistics based on numbers will not explain the motive as the face-to-face interviews would explain.
- Highlighting the relationship between perpetrator and victim - in this case between male manager and discriminated women in the bank.
- Identifying Risk factors and forward perceptions – no standardization as is often the case with quantitative data. Some statements may not be captured via a survey and quantitative analysis that might predict a forward looking or perception to give a conclusive of further requirement for a study.

There are however some limitations or disadvantages to qualitative study method as listed below:

- Time consuming - it requires the researcher's time to interview the participants as opposed to a questionnaire that just gets sent out and the only time required would be on the formatting and analysis of the data.
- Interpretation of participants may be subject to researcher bias and there are no figures to support the questions.
- As mentioned, the absence of generalizability as a strength can also be a weakness as there is too much information on a small number of settings (Creswell & Poth, 2016).

3.2 Research design

The procedure followed is a generic qualitative research method (Caelli et al., 2003) posits that there is increasing debate on research genres that do not follow the established methodologies of which Generic Qualitative research is one of them. As a result there are conflicting arguments related to Generic Qualitative research (Caelli et al., 2003). It is sometimes called the basic qualitative approach or the researcher's articulated approach (Merriam & Tisdell, 2009). There are no definite guidelines for conducting the research in this basic qualitative research methodology (Kennedy, 2016). In her book (Gottfried, 1996) posits that due to the debate around which method to follow when conducting feminist research, some researchers rely on experimental based research practices, she argues that basing the research claims on the authority of experience may eventually be limiting and exclusionary. In the same book, she summarises a collection by (Harding, 1987) in a book "Feminism and Methodology" and concludes that the authors presenting are silent about research method when it comes to feminist research.

This generic qualitative approach allows the participants comments and also challenge some own biases from the researcher's perspective that might be coming in with the questionnaire and eventually brings in some coherence (Carcary, 2009:12), As cited by (Creswell & Poth, 2019). As mentioned by (Percy et al., 2015), some topics for qualitative research are not suited for the traditional, established and more focused designs but a generic one will be able to address the purposes of the desired study as in this case. Percy et al., (2015) furthermore explains generic qualitative study as designed to investigate people's reports of their subjective opinions, attitudes, beliefs, and reflections on their experiences. It is also more relevant where the researcher has some pre knowledge of the situation but nothing more is known as the direction and severity of the impact under study, in this case, Digitalisation in Banking and its role on gender parity (Percy et al., 2015).

Percy et al., (2015) outlines instances when the generic qualitative methodology can be used. He posits that a generic method can be used when the research questions require a qualitative method, as in this study or mixed method, secondly, he explains that it can be used when the data for the other established methods does not fit the particular study in question. Lastly it can be used when the researcher has a pre knowledge or pre-understanding of the topic and wants to describe it from the participants point of view fully, this is particularly the case in this study on what women in the banking industry have experienced or informed the decisions for the managers to be hiring in a bias manner.

As mentioned that there are some increasing debates on the generic qualitative method or any that does not affiliate itself with the established methodologies, it has opened up a space for critiques who are in disagreements with it (Kahlke, 2014).

Disadvantages of the Generic Qualitative Approach (Kahlke, 2014)

1. It may render a research non-theoretical base, with no consistent set of theoretical assumptions (Neergaard et al., 2009).
2. Lacks detailed literature since the methodology is not grounded to refine it and offer guidance.
3. It may open to mixing elements of the established methods and lead to the contradiction between them.

Some researchers have however presented some counter arguments to avoid the above critiques. On the theoretical void Kahlke (2014) argues that in all 3 generic approaches, there is attentiveness to linkages between research questions, methodological and research methods. As a result, he argues that researchers using generic methods do get forced on to how and to what extent the theoretical perspectives will inform their work. He also argues that the use of a single established methodology assumes that there can be only one true methodology, which is untrue. In the case of lack of literature Kahlke (2014) argues that for a researcher to chose a method they need to know more that one method and sometimes blend methods to justify their choices whereas in generic methodology they are forced to read and think broadly outside of the traditonally

research methodologies. On the possibility of method slurring that might be caused by generic methods (Kahlke, 2014), his argument is that this points to the insufficiency of the established method that there are some instances when a study needs to build something completey new where the reseach questions will fit better and outside of the established methods.

In his paper Kahlke (2014), concludes by pointing out the need for generic methods to open up new methodologies to fit new fields. Well reseached areas have also found a need to use generic methods suggest that some of the well researched areas may be taking a new angle and thus requiring new methodologies.

3.3 Data collection methods

The data collection method followed is the semi-structured Interview method, the primary source and most commonly used method in generic qualitative research (Stanley, 2014). In qualitative research, the interview can be defined as a form of consultation where the researcher seeks to know more of an issue and opinionated by the individual being asked (Adhabi & Anozie, 2017). The interviews were more semi-structured to allow freedom of expression for the participants without any rigid adherence and open up the opportunity for new ideas or information that may be an expansion of the question. This also allowed the researcher or participant to interject at any point for clarity and enable a comprehensive data collection, as cited in the advantages of this data collection method.

Due to the disadvantages of time-consuming posed by the interview methodology of data collection, the advancement in technology has made it easier over the past 10 years to have alternatives to conduct research interviews without having them as face-to-face. Communications methodologies have presented other faster and better alternatives like email, chat boxes and MS teams or Zoom platforms (Opdenakker, 2006).

In this study Microsoft Teams (MS) is being used for the interviews with as an option for showing video for the participants that are comfortable doing so. This was chosen for the advantages discussed below.

- It allowed reading of emotions and social clues linking it to the responses, the spontaneous response without much reflection represents a more honest answer (Opdenakker, 2006). This opens up the opportunity for connection with the participants, as mentioned (Adhabi & Anozie, 2017) which renders the information more authentic.
- The MS teams also allowed for transcript and meeting recording that could be used after the meeting for clear understanding.
- It allowed for voice recording that can be stored and accessed after the meeting- with the permission of the participant.
- Wider Geographical access - with the current work from home arrangements, employees are working from anywhere and this method allows to reach out to anyone targeted without any travelling or set venue appointments required.
- It allowed for a follow-up question if the response is not clear from the participant and more clarity on the question if the researcher's question is not clear.

3.4 Population and sample

A qualitative interview was conducted with a number of employees combining both male and female to dilute some biases. The population is from Bank A and the sample were employees from the CIB, RBB and Group Technology department. The sampling was based on the departments where most of the innovation that is driving the bank reside and has been significant within the last few years.

3.4.1 Population

The population constituted of employees from Bank A. The total number of employees in the South Africa operation is about 26 thousand. The number has

been decreasing over the last 10 years due to branches closing as automated systems rolled out and the bank digitising most of its operations largely in the retail business. The bank branches are spread across the 9 provinces of South Africa with a concentration in the Gauteng Province. The head office is situated at the centre of Johannesburg. The bank provides Corporate and Investment, Business Banking, Retail Banking, Business Banking and Wealth management services. The CIB is situated in Sandton, known as the investment hub of South Africa. The group technology department is spread between the Randburg Technology office and Johannesburg CBD one of the Banks Towers buildings.

3.4.2 Sample and sampling method

The sample were employees from the RBB, Group Technology and CIB. The sampling method used was a non-probability purposively sampling frame. This is because a certain criterion of the employees is targeted with the number of years' experience, their roles, and corporate grades in Bank A. According to Jahja et al., (2021) this fits well with the qualitative research objectives (Jahja et al., 2021), as it further allows the selection of participants whose qualities and experiences are required in this study (Bradshaw et al., 2017). It provides more in-depth information on the issues being investigated. The sample size was determined and capped by the saturation point as should be the case with purposive sampling according to (Lincoln & Guba, 1985). The samples size was thus be determined by the number that adequately answered the research question and no further new information emerging from further data collection. This is because the purpose is to gather as much information than representing the population in a case of generic qualitative research (Gentles et al., 2015). In terms of the sampling size, it is difficult to predetermine before collecting the data from the interviews as the saturation point differ on a case-by-case basis. In a research where they analysed 560 academic qualitative studies, the conclusion was that the determination of sample size before the collection is not always in line with the saturation data theory and in another research where 81 studies were analysed, the conclusion was that the saturation applied in the studies was not supported by sufficient evidence (Boddy, 2016).

The intention, however, is to have participants who can give insight on the issue under investigation, being hiring managers and women who have been in the bank for over 5 years and have witnessed the change in the banking systems and how roles have been impacted in their presence. The aim was to sample a small number of 8-12 so as to allow an in-depth collection of information (Patton, 2014).

3.5 The research instrument

An interview guide is used as an instrument comprising of open-ended questions. This is the most preferred method of data collection for qualitative studies (DiCicco-Bloom & Crabtree, 2006). Interviews are a common method of data collection in qualitative research and (Kallio et al., 2016) posits that the quality of the interview guide influences the quality of the results of the study. Interviews method has gained popularity over the years and personal interview, especially, have made survey research gain popularity (Backstrom and Hursh-Ceser, 1981, p 19) as cited by (Katz, 1993). As defined by (Adhabi & Anozie, 2017), qualitative interviews seek to understand the world from the participants point of view and that for the data to be authentic, the researcher has to connect with the with the source.

Advantages of Interview guide as an instrument

- This method prevents misinterpretation and misunderstanding of questions as opposed to the survey questions as it allows interaction with the participants for more clarity.
- It also allows both the participants and researcher to ask the researcher back and interject if the question or response is not clear (Adhabi & Anozie, 2017).
- It can be applied across all levels of education for the participants as the interviewer can pitch the question at whatever level for simplicity and ease of understanding.

- It also allows full response of questions without any being missed (Babbie, 1990) as cited by (Katz, 1993) further says it reduces the number of “I don’t know responses”.
- It also allows the researcher to have a balance of full representation of the sample targeted. This all enhances the quality of the data being collected as explained by (Adhabi & Anozie, 2017).

The method does however have some disadvantages as listed below (Weil, 2017):

- Time-consuming
- Ethical liabilities as the researcher knows exactly who the participants are
- Possible bias from the researcher may affect the tone of the question depending on who is being asked (Adhabi & Anozie, 2017)

The themes to be covered in the interview guide:

- Jobs affected by digitalisation in the last 5 years.
- How has digitalisation affected jobs occupied by women if it has had any effect?
- Perception of managers on women’s skills in technology.
- Future of hiring women in technology.
- Changes in women to men ration in the Banking roles.
- How women feel they have been viewed and given equal/unequal opportunities in Tech roles.

Further details on the questions will be covered in the appendix.

3.6 Procedure for data collection

The areas targeted were from Bank A and were advised and agreed with. An approval was obtained from the line manager and the risk Department. The set of questions were communicated with the risk department from Bank A. Attestation in the form of an email was shared with the risk department.

Data collection was conducted via MS Teams tool. The invites were scheduled with the targeted participants depending on the availability on their calendars. Most meetings were targeted in the morning to get full attention and avoid any interruptions and emergency meetings that might pop up later during the day. Another alternative was during the meeting free lunch hour where most participants are free from work meetings. Each meeting was scheduled for an hour with a possibility of a follow up if questions are not all answered due to possible interruptions or elaborations on some of the questions.

3.7 Data analysis strategies and interpretation

The data collected was analysed using thematic analysis, commonly used in generic qualitative research methods (Bradshaw et al., 2017). Percy et al., (2015) describes thematic analysis as searching across a data set from a number of interviews to find patterns or themes. (Braun & Clark, 2006, p. 86), as cited by (Percy et al., 2015) posits that it is suitable to this research because it does not follow any of the more focused research designs but is rather flexible and compatible with many approaches to qualitative research.

The semi structured interview data was analysed using a theoretical analysis type of thematic analysis. This type is more applicable where there are pre-existing categories of themes (Percy et al., 2015), like in this case, even though it still opens up opportunities for new emerging themes from the interviews, versus the inductive type where the themes would be formulated after the collection and analysis of the data (Green et al., 2007). The Theoretical thematic analysis was be guided by the theory and themes from the research questions.

The steps to follow were divided into 2 phases where the first phase was assigned the data units into pre-existing themes. The second phase looked at the data patterns that did not fit into the pre-existing themes but presented new themes. The steps followed are summarised below (Percy et al., 2015).

Step by step analysis in Theoretical thematic Analysis by (Percy et al., 2015):

1. Read, review, and familiarise with data collected from interviews, highlighting meaningful sentences, and keeping in mind predetermined themes.
2. For each participant, research question was used to determine relationship to theme.
3. Elimination of unrelated data to question and store in a separate file
4. Give a description for each item of data.
5. Cluster related items and develop patterns.
6. Group together theme related patterns and group those that are not related to pre-existing themes aside.
7. Analyse new emerging and overarching themes into pre-existing themes
8. Arrange themes to correspond with supporting patterns.
9. Analyse patterns that do not fit and open new themes.
10. Write a detailed analysis to describe each scope and substance of theme.
11. Support each new theme with quotes from data.
12. Synthesise all themes to form composite of the analysis.

3.8 Possible limitations and challenges of the study

- Access to senior management and directors to get the gender parity on top positions.
- Work from home preventing face to face.
- Regions outside of Gauteng (less developed regions) was not considered as most of the targeted areas in technology are in the Gauteng region.

3.9 Quality Assurance

As explained by Bradshaw et al., (2017), the quality of a research is essential for all research approaches whether qualitative or quantitative. Quality of the data can be difficult to prove in a qualitative research as opposed to quantitative and this has opened a window for some scholars to critique why validity and reliability is seen as inappropriate for qualitative research (Creswell, 2014), as cited by (Bradshaw et al., 2017).

It is still argued that for qualitative research the importance to demonstrate quality of the data lies on trustworthiness which is an equivalent of validity and reliability for the quatitative world (Lincoln & Guba, 1985) which includes principles of transferability, conformability, credibility and dependability (Bradshaw et al., 2017). In this study, Conformability and Transferability (only 2 chosen as advised by (Creswell & Poth, 2019) as cisted by (Bradshaw et al., 2017), was used to authenticate the quality. This was done by recording the notes via the below as advised by (Bradshaw et al., 2017).

3.9.1 Conformability

To ensure that the objectivity of the data analysis and intepretation is not compromised, a reflective journal was used to record all notes which was backed up by an audit trail of the collection and anlysis process, this was also made possible by the recordings from MS Teams that were kept and downloaded after each session (Bradshaw et al., 2017). This ensured that the information is recorded and backed up should further questioning arise from an independent person.

The demographics of the participants were captured clearly while protected and not linked to a particular person, this also included their years of experience in the banking industry as well as in Bank A under investigation (Bradshaw et al., 2017).

The quotations from the participants were used as evidence for the responses directly from participants to avoid a biases and own intepretations (Bradshaw et al., 2017)

The participants were asked to verify the data after each interview (member checking), which was done after each interview and also by shanring the recording so they can agree to what has been discussed or feel like rewording any response they might have given during the time of interview (Bradshaw et al., 2017; Petty et. Al., 2017).

3.9.2 Transferability

As described in the sampling methodology, a purposeful sampling was used and that is more so for the targeted employees in the different departments with the years of experience required for a meaningful interview (Bradshaw et al., 2017).

To ensure transferability, a reflexive journal was kept and updated after each interview and backed up by the recorded interview and transcripts via MS Teams (Bradshaw et al., 2017; Petty et. Al., 2012). Rich discriptions as collected from the participants where necessary (Bradshaw et al., 2017; Merriam &Tisdell, 2015; Petty et al., 2017); Welch et al., 2011). There was sufficient study details to enable recreation of data and this was done until the data saturation point is reached and ensure that the same data can be used in another context for the same interest of study.

3.10 Ethical considerations

The research instrument as described above was an interview guide that was conducted via MS teams as means of communications. This is largely driven by the fact that some workers are still on a hybrid work from home and office set up.

This type of interview is not too different from the face-to-face interview where in both cases the identity of the participants is known and as a result the confidentiality compromised. Bradshaw et al., (2017) suggests that masking contextualisation to some extent protects the participants identities while not compromising the literal meaning of what is being said by the participants.

The process started with a clearance from the company's compliance for a consent to use some of the employees with a detailed explanation of the purpose and scope of the research. After that, the participants were given a consent form to agree or disagree to the participation. The form also detailed the purpose and scope of the research to allow them to opt in or out. Once they agree, the questions were asked in a form as not to disclose the identity of the individual during the interview and in the reporting or analysis, but a general view was assumed using the responses. To address the issue of anonymity, the capturing

of the data was not to be referenced to an individual name or surname but rather referenced as participant A or participant B.

CHAPTER 4. FINDINGS

4.1 Introduction

This chapter will provide the results and the findings of the interviews conducted as described in chapter 3. The in-depth semi structured interviews gave more detailed information than the other methods would have (Pathak & Intratat, 2012) and the participants were able to fully express themselves, elaborate and even share some practical examples where necessary. The findings are categorised according to the themes as shown below in 4.1.1 and analysis is done on the gathered responses from the participants as guided by the questions. The themes emanated as the participants elaborated on the explanations and raised other factors that might not have been considered while going through the literature. Using the thematic analysis has an added advantage in that it also allows a deeper understanding and appreciation of the issues that some participants had experienced (Nowell et al., 2017). The data was collected and recorded via MS Teams tool and transcripts automatically recorded during the interview by the same MS Teams tool. This was done with the participants' permission as per the ethical guidelines. The tool also captured the date and recordings were saved with the participants labelled Participant A, B, C, etc.

4.2 Participant's profile

Twelve participants were interviewed in total. The participants were male and female with a mixture of White, African, mixed race and Indians. Their levels were represented across the different corporate grades, while the target was on employees who had been with the bank for a continuous period of more than 5 yrs. The balance of the gender representation was an important aspect of the demography in selecting the participants as this is a study on gender parity and was important to collect responses from both genders to neutralise any bias responses if any come out strongly. The participants had an average of 15 years working for the bank with the longest serving of 37 years, which has given substantiated, rich feedback and analysis of the changes as they saw them happen over time.

The questions were answered and further discussed and elaborated by the participants where necessary, and in some cases, examples of real experiences were given to substantiate their points. All the themes were covered, even though some came out more strongly than others as the participants shared their experiences and what they had observed.

The analysis is done using thematic analysis and involves searching across a data set from the interviews to find patterns or themes. This has been done following the step-by-step analysis discussed in Chapter 3 as presented below:

Step by step analysis in Theoretical thematic Analysis by (Percy et al., 2015)

1. Read, review, and familiarise with data collected from interviews, highlighting meaningful sentences, and keeping in mind predetermined themes.
2. For each participant, research question was used to determine relationship to theme.
3. Elimination of unrelated data to question and store in a separate file
4. Give a description for each item of data.
5. Cluster related items and develop patterns.
6. Group together theme related patterns and group those that are not related to pre-existing themes aside.
7. Analyse new emerging and overarching themes into pre-existing themes
8. Arrange themes to correspond with supporting patterns.
9. Analyse patterns that do not fit and open new themes.
10. Write a detailed analysis to describe each scope and substance of theme.
11. Support each new theme with quotes from data.
12. Synthesise all themes to form composite of the analysis.

4.3 Themes

The questions were grouped into different sections, the discussion flowed, and the themes were picked up and regrouped as per the thematic analysis using inductive approach. The six themes addressed the research questions and are listed below, after which they will be discussed in detail.

- The extent of Gender parity in the bank
- Jobs affected by digitisation in the last five years.
- Future of women in technology and managers' perception
- Changes in women to men ratio in the Banking roles
- Perception of equal/unequal opportunities in Tech roles
- Influence of school subject choices for boy's vs girls and their role in gender parity.

4.3.1 The Extent of Gender parity in the Bank

After the ice breaker questions, it was important to level the ground by first addressing the first research question that informed the research and wanted to find more information on the topic. That is finding out from the participants about their perceptions of the existence and extent of gender parity within the bank and technology roles in their own opinions. All the participants expressed their concern on the extent of gender parity they observed, and have over time, with some even giving real statistics in the different departments. One issue raised by the participants worth highlighting is that there is not even a single female CIO in the Group as a whole for the Bank in question.

> "*So right now, we as a bank in its entirety do not have CIO, And we've got quite a lot of CIO's, you know, if I look at, we've got a CIO at a group level, then each of the business units we have within, within the everyday banking structure within CIP structure within the arrow, you know there's many opportunities for us to align. But within the South African context, there is no female CIO within group, there isn't, there isn't."* **– Participant B**

Some figures below were shared by a participant in emphasising the extent of gender parity and opportunities that are being missed by the bank to balance out the figures, the participant reported that:

> *"On two women out of eight leaders in peers, 25%, black women 1/8, only two black females reporting to managing exec, ratio skewed, obvious, a re-org has just been done, recently two males promoted to the senior roles, another opportunity missed".* **– Participant B**

> ***"****And think yes, there is a gap and I have this, Umm my perception is. We haven't come to terms that, um, woman can do as much as men can do, or they also have brains and the same or even more brains than what men has got. So, and I want our company. I feel that we are still You know, 20 years or maybe 30 years behind because they haven't acknowledged that. Hence, that's why in my observation is that also at the top the senior management. If we look at it, the percentage of males against females, it's maybe 8 to 20*" – **Participant J**

Participant G also agreed to the same point while comparing the current situation to years back when he joined the bank, this was in agreement to the point that gender parity is there and dates to years back:

> "*So definitely the, there is a gap, right? So I'm convinced that when I joined the bank, my team, we were three people and we were all males.* **– Participant G**

Participant H commented on how the past is to blame for the current situation and numbers remaining unbalanced, interestingly, this is saying the bank is struggling to correct the issue of the past even though the nature of the work has changed with digitalisation in place. The bank does not seem to be responding as it should, given the opportunities being opened by digitalisation:

> "*I'm not entirely sure in the organization statistics, but I will look at the ESPO site. If I were to give an estimate, I would look at more than 25% female in the. Yeah, I think there is definitely a gap. And if you look what caused the gap is the nature of the work in the past."* **– Participant H**

The participants also shared on the extent of technical and non-technical roles as a follow-up to the extent of gender parity and how females are filling up the non-technical roles, participant A is quoted saying:

> *"I think in the admin roles non-technical, I would say more women than men. Maybe 75% females and 25% males"* **– Participant A**

This was supported by Participant C, who highlighted that the ratio of males to females was unbalanced in the technical versus non-technical roles some participants were sharing numbers as represented in their immediate teams to emphasise the point:

> *"OK, so in my team right now I have got three women and I've got five males. So that gives you the dynamic currently, but overall there as a bank, I would say women are probably 40% or less across the roles. I can honestly say I think they are the majority close to 80-90%. More women I highly doubt there are any men in the last 14 1/2 years of my career I have not come across a man in those non-technical goals"* **– Participant C**

Another participant commented from a group technology perspective and even gave some numbers as per below in terms of the extent of gender parity. The consensus is that about 30% or less of females are in technical roles whereas in some departments there is none.:

> *"And the entire organization, who I'm sure I know in technology with the figures. We have 498 I think females and 1100 and ohh I'm not sure about the exact number, but about 1100 men, So there's still a big gap. So I think the percentage for men and women in non-technical roles and there's about 70% to 30%. 70% for ladies and yeah, now and the other way around, because I think, yeah, yeah. I think we have more women in non-technical roles currently".* **– Participant E**

Some participants have also expressed the changes in gender parity, overtime and it is being slow, they do a comparison, and they mention how the start-up companies, with no legacy issues and starting on a clean slate are advancing more than this Bank:

"*Journey of digitalization, whether it's internal to the bank or external, you know, start-up companies, etcetera, they actually embrace digitalization and they're actually doing pretty well in it. And I think that is sort of seen as shift in the numbers that historically there's still a gap, let's not kid ourselves about that. They still big gender parity gap. We are closing it, but we are not closing it as fast as we want to or as is required".* **– Participant L**

While discussing the extent of gender parity in the bank, it also came out that the risk tolerance for women in general is a contributing factor to the lesser female numbers compared to men. There was a feeling that women being more risk averse than men, they want to tick all boxes before they can apply for a role which most of the time put them at a disadvantage. Women's risk appetite is lower in general than men which excludes them from most opportunities. It does not help even when some have had an exposure to some of the roles but when opportunities open up with a lot of requirements, women will want to ensure they can do and fulfil all that is required by the job before even starting whilst men look for a few they can do, and they go for it. Participant L commented on the risk aversion of women and how detailed women are and good at projects but do not take on the challenge unless they are 100% confident,

"You know women are very, very focused on planning and there's a realization that women actually can lead really great IT projects just because of that, that incessant planning, you know, details looking at the risks through a different lens than men. I certainly see a lot more women leading". **– Participant L**

Participant I also highlighted the point of women being risk averse, saying:

"*Within the bank, admin 60% is female, fear failure, don't think they are good enough, women are not good risk takers. When they take a risk, they want to know what is what. Why do I have to lose before I go and want to tick all the boxes so. Umm. They think they more realistic thing is when it comes to taking risk, where's men. More realistic thinkers but men. Yeah, it is. They ticked one to three boxes and then said I can do this. And men have that can- do attitude in everything that they do even though they scared. I mean, I've spoken to a few men and they're not always as brave as we think. They going in there by chance or by, you know, fake it until you make it something like that scenario*

and. And that's the thinking as woman we want to yeah, we are self-sabotaging ourselves self-doubt and all of that comes and it plays a huge role and it keeps you behind". **– Participant I**

While men do not have to tick all the boxes to apply for a job spec, participant L comments:

" Men, will, you know when they apply for a role, they may have 80% or 70 or even 60% of what is required in the role, but they'll still apply the role and they'll confidently come through the interview. On the other hand, women believe they have to be 90% plus fit for the role before they apply. And they in the yeah. And in the interview that often file and the inside. You know I lack a lot of this experience etcetera. Umm, so I think women need to adopt a little bit of the male aggression when pursuing a role. You don't have to be 100% skilled for that role. Women inherently being very detailed orientated and mostly or more risk averse compared to men, Even if you just have 70% skill but you have got the confidence and the sort of appetite to develop yourself and you know in terms of those gaps that you have, you can be very successful in that role." **– Participant L**

Participant C also comments on the risk aversion of women:

"*But from an overall employment perspective, women tend to only go for those roles that they are more confident in from a skills perspective, whereas a guy will go for the role even if he knows 40% of the job, then they're 60% is gonna learn. So women need that comfort of being a knowing the job 60 percent, 70% of the time, if that makes sense."* **– Participant C**

Once the assumption was cleared and the aching theme agreed upon by the participants, it was easy to follow through with the questions and participants even pre-empt some responses before being questioned by the researcher.

4.3.2 Jobs Affected by Digitalisation in the last 5 years

In this section, the participants were asked questions about how they feel the company has responded in terms of laying off people, if any, shifting them into new roles, and filling up the new emerging roles in terms of females versus males.

This was after some discussions around bank branches closing down, back-office systems being automated, and a lot of other digital platforms introduced due to digitalisation. Participant B says they still do not see females in the newly created jobs:

> "*Yeah, look, I think I think, yes, there's definitely been a shift in you know when it comes digitisation and a lot of the jobs have fallen away and new roles have been created and I don't know about don't see women, but I mean, I think firstly, this translation effects everyone and the jobs that become redundant jobs are for everyone, but I don't see, I don't see any track, I don't see women in these new, newly designed jobs. There's certainly a lot of companies like your Microsoft and others that are investing in internships, you know, with the idea of trying to pump women, you know, in technology for the future but currently now you know, there's very few. I mean I was, I was one of the lucky ones that could move from a digital role into heading up an entire technology application without the qualification, right, so".* **– Participant B**

Some participants say the roles created were fewer than the roles lost. This was expected as digitalisation is also aimed at reducing redundant and manual work, produce some efficiencies and reduce costs and that will definitely reduce headcount as systems take over. The impact on the "more jobs lost" than created is heavier on females yet again the hiring opportunities still impacts females for whatever reason. Participant J comments on the jobs lost versus the newly created for females:

> *"It's like in the bag if you put two oranges in a bag. Meantime three oranges are taken out, or eaten or some something like that went out of the bag, so it's it didn't come back"* **– Participant J**

Another point that came out is that even though there were managers and senior executives in the same non-technical roles (who happen to be men), they were easily moved to take other leadership positions when the non-technical departments were

dissolved and thus the lower-level corporate grades were largely affected and were occupied by females. While females were laid off, males were given opportunities to be transferred to other departments and get retrained into new roles. A response on the question of how the impact has been in terms of males vs females, Participant J says:

> *"People that were retrenched I think more females because majority of the males they could and were, they were actually and what is weird get transferred to other departments"* **– Participant J**

> *"I think the new jobs require men, are filled by men, like the maintenance and the software is more men because I think because of the longer hours*"- **Participant D**

So, the impact on females was in 2-fold, first in admin roles replaced and secondly not being given an opportunity as males to move to other roles due to the perception that they will not be suitable as they are coming from low-level admin roles. Some cite the point of non-technical roles being dominated by females and thus impacted the most by digitalisation. Some participants expressed concern about the reduction of bank branches and tellers. These are the jobs that have been previously held or occupied by females, and this had an impact on them.

> *"I can honestly say I think they are majority close to 80%-90%. More women are highly doubt. There are any men in the last 14 1/2 years of my career I have not come across a man in those nontechnical goals. The types of jobs that was impacted and that impacted your female workforce. So is digitisation a result of it? Not necessarily. Again, I'm gonna say it's the regrouping of the type of role and was the company equipping those individuals for the next level of what that digitisation may bring. That's where I say I don't think so."* **– Participant C**

> *"So by creating, you know automation with the customers now being able to do everything through Internet banking, being able to do everything from mobile banking, it's actually reduced the number of times that the customer needs to visit a branch and that resulted you know in some of the branches being closed and also you know the reduction of Members or tell us that are*

required. Uh, I think that's in that aspect because they were mostly female tellers outside the females are more impacted. But when I look into now bring it onto the technical side whereby the combination of male and female and I think when it comes to the automation and you know artificial intelligence and there is actually work that will reduce going forward and that is gonna impact". **– Participant H**

4.3.3 Future of women in technology and managers' perception

The participants shared their perceptions of managers on women's skills. From what the participants say, the biggest reason managers hire females is that they must balance out some gender and affirmative action statistics for the company. Even that is done at a vigorous exercise than that of hiring a male counterpart for the same role. The participants commented on the thoroughness and unfairness of interviews when a female is being interviewed compared to a male.

"*The interview process, for one, is flawed; I'm like within minutes, you know the, questioning style all of a sudden change when it's a female, then there's more. So outside of the competency-based interview, more technical questions are added for a female candidate just to make sure just one last time just to make sure that this person knows what they're doing. Yeah. And I'll give you an example. So an example myself when I applied for this current role. And then I'm not going to apply for, because even when I did apply for the head of technology role, the question was and you know, this is a quite a tough role, you know, 24 hours it do you have the right support? I don't see them asking a father that question. No, like the where there's not even a feed at the bottom. Now I'm not even talking, CIO. I'm saying, even at the bottom, even at a developer level. Noni, I don't see women. So where are they gonna come from?"* **– Participant B**

"*When they want to hire females, they put them in different roles that are non-technical, you know, just to push the affirmative action stats for the department or even the bank, and even when there are restructures in the bank, the not so serios portfolios are given to females even at exco level, we saw that recently, you know what hmm talking about*" – **Participant J**

Another contributor is that some of the hiring roles are still sitting under male managers who do not believe women are capable. A good example was given by Participant B in terms of the time it takes to validate a female candidate if she happens to make it through the interview, the restructure that is then put in place to ensure that she performs,

> *"So I acted in the role for 12 months, And after 12 months, when I asked to say, OK, it's been 12 months, I will centrally been doing the role. When am I going to be officially in the role then I was told Yeah, you know, we just need to make sure that we've taken care of the risk. So, the 12 months was managing the risk in case I mess up or in case I'm not equipped or I don't. Yeah. Yeah. And then officially, I was given the role, but even then what I found is that, you have the title of Head of technology running entire platform. So I ran an entire messaging platform which is the platform that sends out messages to clients whether it's e-mail, SMS or in app, So, I had to get the approval from this person before I could enhance any of the my platforms. You know any make, any, any major decisions on the strategy of your platform. So whilst I was head of technology I had no input in the strategic direction of my platform".* **– Participant B**

In another example a female IT- lead had to shadow a male for 12 months before officially getting appointed. This is someone with some experience at the required level and even better than some of their male counterparts. Was not trusted and given full autonomy or power. This then say, she is being appointed for the statistics but not yet fully trusted to head up an IT department irrespective of her qualifications, exposure and experience, simple because she is a female.

Participant C also highlights a similar point:

> *"They claim to have females in their succession planning, but when that time comes to execute on that, it is fairly received in a welcoming fashion, which means it's either shunned or other decisions and priorities take precedent, which means even though you may have been groomed as a successor, you don't necessarily get the role. Or alternatively, given the restructuring and the moves and change"* **– Participant C**

This goes to show that even when the skill is there, proven and accessed, there is still some resistance from the male managers to let go and fully trust a female IT lead to run with the responsibilities fully, something not observed with male counterparts. However Participant A has a different opinion as quoted below:

> *"I've never experienced any issue in the company where male managers are not wanting women in the technology space. Providing the women with the right skills. Most of the male managers are, yeah, very willing"* **– Participant A**

Another point that came out is that the nature of IT roles has not been conducive for females in the past. This includes long hours in the office and some of the maintenance had to be done after hours when business is closed, and customers are away. Some historic set up and cause of parity is due to the IT roles involving heavy duty work, very much hardware specific, server rooms maintenance, network points needed manpower, it involved going to data centres, physically fixing a PC. It was highly technical, and women were not interested or able to do that. Participant K says:

> *"Previously, a server is too heavy for a woman to carry on her own in the data centre, so they always needed a man to go with it. And it was also seen traditionally to be too expensive to have a man and a woman to do a job that one person can do. But all of a sudden now, because of cloud, there's no physical equipment that you have to carry. So, all of a sudden all we need from each other is brain capacity. So, if you can think I can think if you can study, I can study we are all equal now. And so, technology has brought us all to realize".* **– Participant K**

By this statement, we would assume that the change is happening, digitalisation has levelled the playing ground and roles are being filled equally, but it is not the case, the change is slowly happening, but there is still some resistance from male managers. Participant J says:

> "*They were being compared to the male candidates during interviews. I think the male candidates always had an upper hand in that they can decide whom they hire, you know, also from an experience point of view and the exposure into the industry they had that long and it helped, I think with the government*

laws that, you know pushed companies to try and bring more females into this space because when they came on board, they proved". **– Participant J**

The participants expressed what they see as the outlook in getting more females into IT roles as the years progress. The general feeling was that it was happening slowly than the opportunities are opened. The bank is not using the opportunities to close the gap. A lot is being done from policies, work-from-home arrangements, and women's upskilling programmes like **Ignite Her** and **Women in Technology,** to name a few in the bank, as well as more female applicants with STEM qualifications coming through but the absorption of females into the roles is not happening at a pace that is promising for the future and not closing the gender parity soon. Some participants even quoted recent examples of appointments into senior IT roles where they were all filled by males. An opportunity continuously being missed by the bank. Participant C as previously quoted commenting on available roles for females but the hiring mangers looks the other way; participant C is quoted saying:

"*So in that instance they is an example not too well. Last year as well as this year 2 senior females that I personally looked up to were actually side-lined in that way. It left me feeling quite unnerved purely because it kind of sent out the same sentiment me as an employee is that well, if that's how they are treated, what's gonna happen to me, which left me questioning as to what my potential growth in the space is going to be". – Participant C*

"But if that's still being driven, I'm not sure. And there's also the Ignite herd training program. So, these two that I know of that is specifically designed for women only, it's Girls in Tech and Ignite Her. It looks like we fail somehow somewhere even with these initiatives because we don't see a lot of girls coming into the tech roles after completion, I'm not sure why is the case noni" – Participant G

Another sentiment from the participants is that new graduates are coming in from university with STEM qualifications but as females they are not placed in the right roles, and they end up settling for any role in order to earn an income. Participant C says:

"*There is a very high percentage of females in STEM, but they're not employed in those capacity, that have got formal qualifications as in degrees*

on as they've got PhD, but they are not employed in the capacity that they've studied". **– Participant C**

Participant D, however, thinks there is a shortage of women skilled in the field of technology. A study by (Van Broekhuizen & Spaull, 2017) agrees to this and his reason is that females shy away from stem and it is because they do not access these traditionally 'male' programs rather than due to lower completion rates. This is contradictory to what is observed by participant C's comment above.

"That is currently concurrent jobs then to go into group for women outside because there's not, like I said, there is still a shortage of woman in the market Which is because of the old ways of working obviously". **– Participant D**

Participants also feel that the succession planning for technology-related roles does not incorporate women as many of the roles and management roles are currently filled by older males who, in their stereotypes, are still resistant to fully trusting women to take on such roles. Participants thus feel that until female managers occupy the hiring positions, it will still be a battle to incorporate females into technology roles. Participant C says,

"*They claim to have females in their succession planning, but when that time comes to execute on that, it is fairly received in a welcoming fashion, which means it's either shunned or other decisions and priorities take precedent, which means even though you may have been groomed as a successor, you don't necessarily get the role. Or alternatively, given the restructuring and the moves and change, and if there is a woman that's next in line, you often find this school".* **– Participant C**

This speaks to the point of male managers still not ready for females to take on IT roles and thus participants are seeing the future not looking so good for females.

Participant C further says:

"*So is it about the role I'm gonna say to not about the role? It's not about that. They can't do the job. It's not about the long working hours, but at the same time, you've got the other side of the female that literally has put everything*

into their careers, but still don't make it to where they need to, even by the age of 35 or 40. But yet her male counterparts already there. So again, is it about the role or is it about the fact that the change is not transpiring as to creating a fertile ground for women to be able to succeed" **– Participant C**

Interestingly, participant F commented on the productivity of females when allowed to be hired in technology roles, this shows how the bank is missing out on what could be bringing efficiencies and diversity of skills in this IT roles. He comments as follows:

"If you put it female on the job, he contradicts the stereotypes. The females happen to be more productive and more reliable than the maids who were sitting in those positions for some time and they are more aggressive because they are hungry to prove the point that they're not just the face, they actually an equivalent or even better so they've got more to prove than they mainly still caught napping". **– Participant F**

Participant L shared how the younger generation and how their perceptions are different and hopefully will be the pipeline into fading away the gender parity, their stereotype is different or non-existent at all, they are more forceful and aggressive, they have been raised in a technology dominated era from schooling to social media:

"So *I think the younger generation of females are a lot braver and it may be that they weren't subjected to those historic perceptions that wouldn't want to correct unless if I just look at the intake from our Cyber Academy students that graduated on the 19th of September, 17 of them are female and they shot the lights out. The top two students were both female"* **– Participant L**

Another comment on the effect of the pandemic on levelling the ground and making it easier for females to be attractive in being hired in previously long hours jobs like technology which could help in the future hiring of females, participant L comments:

"*Here. So I think the whole pandemic has levelled this the playing field a little bit. Umm so you will see a lot more man declining early morning meeting because they now actually drop off kids etcetera, etcetera. So I think there's hope and the pandemic has sort of levelled the playing field for me. So we I have certainly seen a shift you know just by our you know organization where*

you ask for meetings etc. They try. Women are quite, you know, flexible. Say I can do a 7:00 o'clock where men, Paul. So I think there's a realization now that these historic role of women, you know, having to first and foremost look after the kids and the household etcetera has shifted. And that's where the pandemic actually helped with that because you'll find a lot, lot more main, you know, during lunch hours, making lunch etcetera, etcetera. So I think it's level the playing field and I think because. Of women inherently being very detailed orientated and mostly or more risk averse compared to men". **– Participant L**

4.3.4 Changes in women to men ratios in banking roles

Participants expressed how they feel the rate of females entering IT roles is changing or improving compared to the new roles and technologies being rolled out. Most participants agree that they can see a few more females in IT roles than 15 years ago. However most say the rate at which this is changing is slower than the rate at which the opportunities are opening up. Participant A says:

"*It has changed a bit, more females in managerial roles than 5 years ago, more in tech roles than 5 years ago even though I still think there's a lot more males in technical roles so than females, I think it has changed, but I still dominated by more males in those roles".* **– Participant A**

"Yeah. I've seen a big increase in women applying for these roles, and I think obviously it's driven by the organization, And it's happening, but maybe not fast enough. As fast as I would really, I think, yeah. I think first, enough is good work" **– Participant E**

When managers were asked if they were receiving enough STEM applicants from the female side, the participants said there is a positive change compared to 10 years ago. The challenge is them landing on the roles themselves, the success rate is still a low hit of females compared to males and thus the increase is slower. Participant L says:

"*Journey of digitalization, whether it's internal to the bank or it's, you know, start-up companies, et cetera, they actually embrace digitalization and they're*

actually doing pretty well in it. And I think that is seen as shift in the numbers that historically they still a gap, let's not kid ourselves about that. They are still big agenda parity gap. We are closing it, but we are not closing it as fast as we want to or as is required" **– Participant L**

A similar comment was said by *Participant C:*

"The transformation is not happening quick enough because the types of roles opening up for females are still around those administrative HR strategy, sustainability. It's the fluffy stuff. It's not serious roles. It's not serious roles like how many women have PNL, how many women are doing more than just managing the team because women are better at it and relationships. So from that perspective, hence I'm saying it's lean, a transition very early stage and I think that's industry wide, not necessarily only in banking I think" **– Participant C**

A comment from Participant E commenting on the rate of women coming, the feeling is that even though there are applications from females, they do not eventually materialise into roles and as such the gender parity gap is not closing fast enough. They do not get absorbed as much as men are hired:

"Yeah. I've seen a big increase in women applying for these roles, and I think obviously it's driven by the organization, And it's happening, but maybe not fast enough. As fast as I would really, I think, yeah. I think first enough is good work" **– Participant E**

Participant G commenting on the graduate program that is meant to bring in fresh skills and put them on an internship, working closely with the company strategy to balance out gender parity says:

"So definitely still not seeing enough females coming through. It's definitely not, you know, I think there's a program that takes in 300 graduates every year. So from the graduates that we've received in our environment as grad student. You know to work with us and do their physical work, you know, while they complete their studies or, you know, some of them have already completed their studies and just looking for that first piece of work before they

carry on. And it's definitely still male dominated. There's definitely not a lot of female names on the list". **– Participant G**

Participant I also commented on the slow rate of changing the gender parity, whilst everyone is acknowledging that digitalisation is happening at a fast pace, the bank is not responding to women hiring into IT roles at the same pace or anywhere close to that:

"We are very, very, very slower than the rate of digitisation is happening because digitisation is happening at an agile. Where you need to catch up to. So yes, in terms of that versus the, the, the, the, the gender and pay parity, we are far, far, far behind." **– Participant I**

4.3.5 Women 's views about opportunities in technology roles

In as much as all genders were asked the same question on how they perceive women have experienced, more focus on this point was paid to women to elaborate on their personal experiences and how they have experienced growth and opportunities within the technology space.

Participant I mentioned:

"it was more men upskilled and later on they started introducing women, they would put the learnership, but more men come forward, so women till rate themselves low, so it is a self-sabotage, men go there by chance, women self-doubt". **– Participant I**

This could also be driven by the fact that women do not have enough experience for some of the roles being advertised and thus the job requirements make it difficult for women to apply, also mentioned by Participant *J:*

"Even though on the job specification, when they advertise, they don't say they want males, they end up appointing males, except females. Where will females get experience from if they were not given that opportunity before. So in a way, I think going back to my previous answer where I say even though they don't stipulate that they want ladies, but they make it difficult for them to qualify.

Because if, yeah, if they're saying I'm a 7 experience and I've never had an opportunity to do that job, where would I get experience from" **– Participant J**

Another feeling from females is that they are intimidated by the male workforce who have dominated the industry for so long. They feel that even when they do eventually land a role, they are not allowed to make decisions as they are not fully trusted for a long time while in the role. They will either be shadowed by another male and the decision power is taken away from them, Participant C says:

"and if there is a woman that's next in line, you often find this very predominant and big male workforce that is unsupportive of women, so it makes it increasingly difficult for women to show up to a meeting or be present in order for them to be able to make decisions. And if women are there, their decision-making capabilities are taken away from them". **– Participant C**

4.3.6 School subject choices for boy's vs girls and their role in gender parity

Another theme that transpired from the participants was influence from a much younger age on schools' subject choices. The change in freedom to choose subjects has a lot with how young girls have viewed technology careers now. In the past some subjects were reserved for boy while some were channelled to girls. Participant A commented on how teachers channelled boys by into some subject choices:

"*At schools years ago, some subjects were marketed more to females than males; it was considered females would do typing and males physics*". **– Participant A**

Participant D also mentions the importance of universities to fully be inclusive in accommodating female students into computer studies:

"*No female applicants, not enough women in the market, it should start with universities in technologies, due to long hours so they don't apply, it keeps them away from studies, not enough from varsity level, more into HR and support functions".* **– Participant D**

Participant I commented on the young age group's lack of knowledge of the technology field in some areas of the country. Children from poor backgrounds who do not have access to technology from a younger age are not aware of the opportunities in the field.

> *"Less privileged people do not have access to the internet to research and find information, some women still do not have digital access, and these are contributing factors".* **– Participant I**

4.4 Conclusion

The participants all agree that there is an obvious gender parity in the bank within technical roles. They notice that even though the number of women is picking up and much better than they noticed more than 15 years, they still feel the bank can do better than what the numbers are currently showing. They appreciate the new roles that have been brought about by digitisation by they say they do not see enough females into those roles. They also notice that most of the jobs that were impacted by digitisation were those of women due to their nature being admin but then the new roles are still not accommodating women as much and the hiring process still favours men. The participants also comment on the programmes that the bank has put in place to upskill women but not resulting in them being hired and thus not yielding the expected results.

The themes have been grouped and linked to the research questions as shown in Table 4.1 and will be discussed in chapter 5

Table showing the themes linked to Research Questions

Research Questions	Theme
• What is the extent of gender disparity in the banking sector?	• The extent of Gender Parity in the bank • Women views about opportunities in the bank
• What is the role of digitalisation in bridging or perpetuating gender parity in the banking environment?	• Jobs affected by digitalisation in the last 5 years

• How has the gender parity rate changed in Bank A in the last 5 years, and what has influenced the change?	• Changes in women to men ratios in the bank • Perception of managers on women's skills • School subject choices for boys and girls and their role in gender parity

Table 4.2: Summary of themes linked to research questions.
Source: Author's own work

CHAPTER 5. DISCUSSION OF FINDINGS

This chapter summarises and discusses the findings as presented in chapter 4. The responses from the interviews are collectively summarised and discussed in this section. It was noticeable that most participants responded with statistics to prove their points and personal experiences from both genders and more detailed from the females where the questions touched some experiences that they have gone through themselves. These findings address the 3 main questions that the study is trying to address as discussed below:

5.1 Discussion of findings in relation to Research Question 1

Question 1 - What is the extent of gender disparity in the banking sector?

The participants largely agreed that gender parity in the technology roles and the bank at large is very obvious and apparent to everyone. They all share different views as to why they think the reasons are over the years while appreciating the slight change that has been observed over the past 10 -15 years. As mentioned in chapter 4, the average years the participants have been with the bank is about 15 years which has given a substantial comparison and observation, as the bank was transitioning into the digital space.

Participants were asked about gender parity from the past and how it has evolved and how they feel women are grabbing the opportunities. With the many opportunities and courses being made available by the bank, participants felt like women are still not grabbing them. Women are self-doubting themselves and the men in the bank are still coming in higher numbers to upskill themselves and thus move more into the roles. Women still require pushing and reassurance that they can perform in the roles due to probably how they have been treated and experiences from the past. This is in agreement with a study by (Colyar & Woodward, 2007), where they found that male students reported higher levels of self-confidence than females in all IT-specific content areas. This seems to be still an issue with women not feeling they are confident enough o take on roles and thus they miss out on opportunities.

The view from the participants was very clear that gender parity was apparent from all levels of the corporate grade (lowest being BA1 to Managing Directors/Principals) with some statistics even shared in some instances. The lack of senior females in top roles was also highlighted, with more females than males in non-technical roles that remained behind after the bank went through many restructures while rolling out digital platforms and replacing admin roles that females had occupied. In his study (Hill et al., 2010) found that the number of women in science and technology is growing but men still continue to outnumber women especially in top positions. The lack of females in higher-tech positions has resulted in a lack of support, role models, mentors and sponsors for the potential female candidates and employees to aspire to any top IT role since they cannot identify with any female up on top. In a study by (Jackson, 2013) on the impact of support students in STEM, the female students interviewed highlighted support systems on three different levels, being family, faculty and advisors, thus Jackson (2013) concludes that the availability of mentee-mentor relationship provide effective ways to increase the representation of women in STEM areas. The absence of such in the bank has demoralised some females even to think there is a career development in IT roles. It is in agreement with a study by Hewlett et al., 2008 as cited by (Ashcraft et al., 2016), that showed 40%, 47% and 84% of women in Technology reported lack of role models, lack of mentors and lack of sponsors respectively. In another study looking at the career challenges and response strategies of women in the advanced technology sector (Orser et al., 2012), the participants attribute the high proportion of challenges to gender and lack of mentors to be another biggest challenge. In some departments in the bank, the participants expressed that there are no females since there are technology dominated roles. Also (Roos et al., 2021) highlights female role models and mentorship and 2 other the 4 points of action for practitioners in dealing with digitalisation in the male-dominated bioeconomy sector.

From the views shared by the participants, the bank has always been dominated by males in tech positions and made it sound like it was a norm, as cited by (Wajcman et al., 2020) that feminist scholars researching the intersection of gender and technology examine the ways in which challenge gender identity within science and technology. The participants are however raising some observations as to how they see that norm and stereotype slightly changing even though it is still not easy to balance out the

numbers due to some reasons. One being self-sabotage from female employees themselves due to fear of failure and taking up challenge as well as male-dominated hiring managers who are still not open to hiring females into the IT roles. This could also be a result of feeling threatened by the potential female colleague as (Pathak & Intratat, 2012) comments that due to the nature of the IT industry being so competitive, some men see women as a potential threat.

In a study by (Ashcraft et al., 2016), he focuses on the recruiting process where there is a tendency to hire people like ourselves. Brown, Setren, and Topa, (2013), As cited by (Ashcraft et al., 2016) mentions a study by the Federal Reserve bank of New York where they found that 64% of employees are more likely to hire people like themselves and 72% prefer candidates of the same sex or ethnicity. Also mentioned by (Van Vianen & Fischer, 2002), is the issue of top management positions held by men who turn to hire other men like themselves. This then highlights the fact that as long as the managerial position of the IT is still male dominated, it will be a long process to get them to hire females as fair and fast as they hire males even when digitalisation is opening up opportunities for such. Further to this, still working against women, is that women are not as likely to encounter job opportunities via referrals as opposed to men (McDonald & Day, 2010).

5.2 Discussion of findings in relation to Research Question 2

Question 2 - What is the role of digitalisation in bridging or perpetuating gender parity in the banking?

Few questions were asked around the role that digitalisation has played in bridging or perpetuating gender parity in the IT roles within the bank. As much as this was expected to have jobs impacted by digitalisation over the last 5 years as per literature, it was very interesting to get the narrative from the participants that have gone through various job changes and some saw many of their colleagues impacted and leave the bank as systems replaced their roles. The participants agree that it was inevitable for the bank not to change and still remain profitable. It had to respond to the pressure on digitalisation and the trends in the latest banking products offerings that are now largely dominated by digitalisation.

Another point that came out on what the role of digitalisation has been in bridging or perpetuating gender parity in the bank, it seems like a lot has to do with resistance coming from the stereotype from both genders. (Wajcman et al., 2020) posit that when it comes to digital revolution, the focus should be on harnessing digital technologies for accelerating progress towards gender equality that perpetuating patterns of conscious or unconscious discrimination against women within the digital society. Opportunities presented by digital transformation of the bank are met with resistance and not changing the gender parity as they should due to the stereotype that has existed over time.

Even though gender discrimination did not appear to be an issue in terms of the roles targeted and eventually affected and employees laid off, it however, did affect more women than men due to the nature of the jobs that women occupied, admin-related jobs that were the first to be hit by digitalisation. This is in agreement with a study on the effects of Digitalisation on the gender Equality in the G20s economies, where (Sorgner et al., 2017) estimates about 40%-60% of jobs to be at risk of being digitalised and in as much as their risk prediction is not distributed evenly they predict that women will not benefit much from the opportunities presented by new digital technologies as they are the minority in the jobs that will benefit from digitalisation. This is the case in the banking Technology space, women numbers are already fewer than men. As concluded in a study on Gender Relations at the Digitalised Workplace: The Interrelation Between Digitalisation, Gender, and Work they mention that “that the distinction between reproductive and productive work and the subordination of work typically ascribed to be women’s work are the basic mechanisms behind the (re)production of gender inequalities” (Kohlrausch & Weber 2021, p24). They looked at digital work and how far the reorganisation of work affects gender relations. They further argue that the reorganisation of work in digital capitalism is aimed at the core of capitalist work organisation and that digitalisation consequently associated with gender dualism and gender inequalities. In a simple and obvious case where most bank branches closed down in South Africa in an attempt to minimise cash outlets and digitise transactions, a lot of the tellers were females (Kohlrausch & Weber, 2021). Thousands of branches closed down and a lot of females were laid off, more females vs men in proportion. While the narrative and observation are expressed in terms of females’ jobs lost due to their nature, another point that came out from the participants

was the fact that most laid of employees were female colleagues was also due to the fact that male colleagues were easily transferred to other departments the few that were impacted and coming from admin roles. They do however say that gender was not a factor in laying off employees due to systems being rolled out and the bank transforming to digital platforms, it was the nature of the roles that were largely occupied by females that got impacted. This then resulted in making the situation worse off than it was before. A recent study by Roos et. Al (2021) where they discuss the impact of history on today ‘s situation and gender inequality as a women’s issue. This study was done on “The digitalisation of the Nordic bioeconomy and its effect on gender equality”, and this goes to show that the gender parity cuts across industries and has been an issue of concern. In their recommendations they highlight role models, mentorship, networks for young professionals and incorporating gender bioeconomy-related education (Roos et al., 2021).

As jobs were made redundant due to digitalisation, this however led to new roles created as a result. The challenge again was how those new roles were filled. The feeling from the participants was again females were at a disadvantage. This did not help the gender parity as males were easily moved to other roles within the bank as opposed to females. This talks to the fact that females are still doubted to take on roles and managers would rather hire and train males as they are believed that they will perform better than their female counterparts. This confirms a study done by (Hatmaker, 2013) where he looks at how women in gendered profession construct their professional identity in response to interpersonal interactions that marginalise it. In a study on Gender dimensions and digitalisation in Venture Capitals Backed start-ups, Schillo and Ebrahim (2021) comments that in as much as digitalisation gave so much hope for greater opportunities and levelling the playing ground for women, there was a concern that it was raising the male dominated culture of software companies and thus reducing opportunities for women, this seems to hold true in the banking industry as far as opportunities for women are concerned. Their conclusion is that digitalisation is not levelling the playing ground for women and thus policies need to be proactively designed to be inclusive for a diverse work force (Schillo & Ebrahimi, 2021)

With the above negative impact on roles, there were however 3 opportunities identified by respondents that have come as a result of digitalisation that could have been used by the bank in bridging the gender parity.

Digitalisation has brought and enabled a change in ways of working – On a positive note, a point was raised a few times on how the recent pandemic **Covid-19** has levelled the playing ground in terms of allowing the work-from-home has now accommodated females who are thought to be struggling with work-life balance that the bank has had to put in place. Participants highlighted the positive outcome of Covid-19 for females. An article by (Cijan et al., 2019) looking at how digitalization changes the workplace, points out that amongst other benefits, it has brought about job satisfaction and work life balance. This can be celebrated more by females who are mostly needed at home to raise children, be partially home makers while still expected to fulfil the office hours. We cannot ignore the positive impact that it has brought in terms of flexible working hours and the hybrid model that the bank and many other industries have embraced. While the mention of long hours and the IT roles was viewed as an issue for managers not to have an appetite for females, ITC enforced by Covid 19 has brought a huge turn around by allowing people to work from home and balance the family responsibilities that previously discriminated females from some of the demanding IT roles. It has removed time and mobility restrictions and has allowed women to work from anywhere and anytime, this has been confirmed by a recent study on the effect of trade on the gender gap on labour markets by (Yin & Choi, 2022) . This has levelled the playing ground for both males and females. Even though this was not a direct result of digitalisation, it was enabled by digitalisation and the advancement of systems allowing people to connect and work from home. The change in the ways of working positively impacted female employees as long office hours (ranging from 14h -16h) are no longer an issue as it was in the past (Agarwal & Malhotra, 2016). In a study looking at ICT, Gender and the labour market Valberg (2020) agrees that ICTs have changed the ways of work and made them beneficial for women who were limited from working by time and mobility constraints (Valberg, 2020), he believes that it is narrowing the gender gap in labour market participation but unfortunately lower in developing countries versus developed countries.

New Technologies are replacing hard labour – As mentioned by some participants that some technology roles included lifting hardware in data centres, moving equipment within the back from desk to desk and setting up connections. Some technologies like cloud-based storage has also allowed females to be considered for roles where there are no more manual and heavy technology machines and data centres to be taken care of or require heavy-duty man power, with the introduction of cloud storages, females can do troubleshooting from home without being physically present in the data centres and to lift heavy machinery which used to be the case and thus automatically exclude them from such tech roles. Cloud computing has eliminated the need to duplicate some computer administrative skills related to set up, configuration and support (Boss et al., 2007). This is an opportunity that the bank could have used to train and hire females that were previously discriminated due to requirements of heavy manpower. This also includes 24/7 call centres that allow troubleshooting from home or office using the hybrid system. This has opened opportunities for females to be involved in the IT service desks here they can troubleshoot and reroute incidents while working from home. Studies focusing on the replacement of hard labour in the banking industry are lacking, studies are also limited to show how women were excluded due to lack of physical strength to carry some duties in the technology department.

New Jobs created and new skills required – Most participants agreed to the point that digitalisation took away jobs while more jobs were created at the same time. New jobs require upskilling internal workforce or hiring from outside. As argued by Krieger and Sorgner, 2018, the new digital skills should be used more decisively to achieve the goal of gender equality (Krieger-Boden & Sorgner, 2018). That opened up an opportunity for the bank to upskill the females if they decide to ‘grow their own timber’. If they unfortunately go and hire from outside, that will be people who also do not have the experience as these were new technologies rolled out within the banking industry at large. A comment was made by most of the participants in terms of how the bank is trying to upskill females by providing programmes to upskill females into the required skills. The feeling is that the older generation above 40 is not so much interested in

upskilling and taking on the challenge thus it is termed self-sabotage irrespective of the other challenges and resistance that might still be existing.

The other point on the IT programmes currently introduced and are used to encourage female technology leaders is that the program themselves are sponsored by only females. There is no visibility of male EXCO members in the forefront to show their buy-in into the programmes, as a result the graduates or candidates after the completion of the women upskilling programmes do to get absorbed or placed in the relevant jobs but end up in similar non-technical roles. This agrees with a survey done in 2013 by Anderson et al., 2013 as cited by (Ashcraft et al., 2016) where about 36.4% of women felt that the company's support does not match the vocal support. This is seen in the effort that the company is putting in these programmes, a lot of them coming in different forms to upskill women in technology, but the final outcome does not match to the numbers.

On theory and paper, the company statistics and responsible hiring managers can prove to be empowering women and upskilling them for technology roles. Implementation and output of that is not comparable to the effort put in training if the women will still go back to the same old admin roles. This speaks to the point of having more males in the Technology roles, who still retain hiring and decision power as to who comes into the IT roles. If the bank can start to empower female IT executives on top and given real IT roles with full decision-making powers, it would change the perception and the succession planning where other women would start training and mentoring other females for the roles.

Vaz Cidre (2019) in his study on challenges of integrating women in leadership positions in the Technology industry makes reference to the point of men not being supportive to women and in her research, this is attributable to men feeling threatened by the capabilities of women and thus holding back on sharing information so as to hinder women career enhancement. This goes on to explain the difference in the top 5 Technology positions occupied by women vs men as shown in Table 5.1. (Kawamoto (2013), as cited by (Ashcraft et al., 2016) in his research found that the annual salary in the top 5 position for men and women differ significantly. This then leads to job dissatisfaction even for those females that make it into the IT industry. Agarwal and Malhotra (2016) posit that there is a concentration of women at low levels in the IT

sector, pushed more into the IT enabled services sector. While 39.6% of men are in high end jobs and only 7,3% men are in IT enabled jobs , there are 21.3% of women are in high end jobs and 21.3% in IT enabled jobs (Rothboeck et al., 2000) p.35.

Top Tech Positions	
Female	**Male**
1. Project Manager	1. Software Engineer
2. Business Analyst	2. Systems Administrator
3. Other IT	3. Project Manager
4. QA Tester	4. IT Manager
5. Technical Recruiter	5. Applications Developer

Table 5.3: Top 5 Tech Occupations for women and men
Source: Kawamoto, 2013as cited by *(Ashcraft et al., 2016)*

5.3 Discussion of findings in relation to Research Question 3

Question 3 - How has the gender parity rate changed in Bank A in the last 5 years, and what has influenced the change?

The participants shared that for someone coming in new to join the company, they would still comment on the gender parity that is still so obvious in the tech roles but for someone who has been in the company for more than 10-15 years they do notice a slight positive difference. Both genders agree that they are seeing a slight difference but not matching the roles that have opened up due to digital transformation meaning the rate at which women are placed on IT roles is slower than the rate at which opportunities are opening up. In fact some studies even indicate that the gap is growing wider despite the number of different interventions and policies being put in place to achieve gender quality, largely driven by deficit in digital literacies among women (Wajcman et al., 2020). A few examples were quoted by participants in terms of new technologies that have been rolled out by the bank and opened up new jobs. As mentioned by one participant, they are not seeing the women in those new jobs. A few of the one taken up by females is largely due to new graduates coming from university. Different generation coming in and applying for the roles. They are being absorbed but still at a slower rate than they should. One hiring manager agreed that they do see females' applicants with STEM qualifications coming in but do not end up in the roles. An argument from (Correll, 2017) accepts the "small wins", in this case the slow rate as a building block to larger organisational transformation and eventually reduce

gender biases by inspiring long run changes. This however lacks a time frame and might be open ended to run for decades if not measured and targets tracked by companies.

Another point mentioned on the changes in gender parity is that if it was not the company strategy and enforcing transformation, the situation would be worse that it currently is. The female intake resulting from the programmes and upskilling is all driven by the company transformation strategy more than it is coming in as a result of digital transformation by the bank. Ly-Le (2022) in his research on Hiring for Gender Diversity, confirms that most companies still display conscious or unconscious gender biases which could be overcome by expanding recruitment efforts intentionally. He highlights a danger in companies that are failing to pursue a diverse workforce in that they might experience lags in Innovation and find themselves left behind (Ly-Le, 2022).

The exclusion of females in the technology space does not only disadvantage the females but the companies as well. The bank could be benefiting more in technology related products from the creativity side of women, attention to detail, risk aversion, etc. It would expand the range of technology applications, products, standards and practices as quoted by (Fountain, 2000). In an article by (Ashcraft et al., 2016), they mention that 88% of patents from 1980-2010 were inverted by male only teams and only 2% were inverted by female only teams. Powell and Chan (2016) also mention how including females would benefit the IT industry and they are increasingly becoming active users of IT products. The participants in this study were asked on the inclusion of females on IT projects within the bank and the response was that when females are included, they do not take the lead role and are not allowed to make decisions. This shows how much the world has been missing out on problem solving, creativity and innovation from women and on systems and inventions that would benefit everyone and women the most. This talks to the absence of diversity in the technology systems and that it is only concentrated on a homogenous group of people, the male species (Powell & Chang, 2016).

One participant even mentioned that as more roles were taken away that were occupied by females, they see more opening but do not see the females into the new roles, but more males are coming in numbers. These technologies are new, and these men would need to be trained and skilled as well, but women are not fully trusted to

learn new Tech roles. The numbers have not grown because there were no roles to be occupied by females but due to the fact that females were not given the opportunity, largely by the male hiring managers who have the stereotype still strongly engraved in them.

Even though going forward, the banks seem to be setting itself for equal opportunities for the future, where it will be much more skilled based than gender based and can only be attributed to the younger generation, the current change is happening very slow. The gender aspect will not play a bigger role as men are also doing house chores just like females are doing the same, but this is coming in at a slower pace than most participants would like and slower than the digital opportunities avail themselves.

Another point to note from the participants was the age of the female applicants coming with STEM qualifications being fresh from university. This has been a concern globally, it features in a study by (García-Holgado et al., 2020), where they find that there has been lower number of female students on STEM and pose the challenge to universities to steer new conceptions and understanding of the females in STEM. There is no visibility of women in mid 40s and above, thus explaining the point that the older ones do not have much appetite for getting into tech roles. This shows that the change is quite recent and comes from universities with the Y generation, also known to be the digital natives. (Wajcman et al., 2020) comments about the effect of limited access for girls in under developed economies to educational opportunities with technologies and gender inequalities in digital literacy, they posit that the digital gender divide is more about deficit in learning and skills. They further comment that the rise and widespread dissemination of digital technologies shapes gender inequality in the education sphere in a multiple of ways throughout the education life course (Wajcman et al., 2020). This seems to be changing in South Africa but left to wonder what the situation is in other parts of the African continent in less developed economies. This could mean that gender parity will fade away with time as this younger generation takes over the working space with pipelines from universities and the older ones go on retirement than it will happen due to the rate of digitalisation with the current employees and the demand for more IT skills. This is linked to how schools' influence from having an appetite for technology can shape one's career. Participant commented on her experience from Europe, a well-developed country where she grew up and even then,

was forced to choose female-suited subjects, as they called them, as opposed to the science subjects for boys. This was driven by the teachers who they themselves believed that boys and girls should chose certain subjects that are gender aligned and STEM subjects were for boys. A point raised by (Yau & Cheng, 2012), where in their study found male students to have more confidence in using technology for learning than female students. This led to university courses that eventually excluded some girls as they did not meet the entry requirements and the cycle went on to impact job choices with qualifications required. This is in agreement with a conclusion by the study from the Human Sciences Research Council , where as one of the proposed digital skills strategy that will be required for developing countries to break out of the digital divide trap incorporate a holistic digital skills development strategy into national education programmes (Chetty et al., 2018). A study on Science faculty's subtle gender biases that favours male students, confirms that the stereotype does not only start at the workplace but from tertiary, where females are viewed as less competent to be even hired and absorbed back as employees in the science faculty at the university and that the subtle biases played a role in providing less support for women (Moss-Racusin et al., 2012).

The appetite for women in tertiary has however changed slightly across the world and especially in South Africa, as mentioned by the participants, there are more female STEM graduates entering the work force. The same observation has been noted by (Vaz Cidre, 2019) in her study where she mentions the discrimination and underestimation of girls starting from school level until university. This links to a conclusion done on a study in Malawi by (Mbano & Nolan, 2017) on Increasing Access of Female Students in Science Technology, Engineering and Mathematics (STEM). They recommended that bridging courses at two different levels, being year 11 and pre-entry course for female students at university, had positive impact, lasting effect on performance in STEM subjects and improvement in motivation on female students.

Boys are known to be generally more inquisitive and even in areas where the digital divide is so strong and obvious, more boys than girls are exposed to technology. This is in agreement with an article by (Erete et al., 2021) where they look at an approach to encourage the Participation of Black and Latina Girls in Computing. They suggest engaging communities in addressing local histories of injustice, creating inclusive and

safe spaces to counter the narratives and negative stereotypes and also building sustainable computational capacities in communities (Erete et al., 2021). In another article by (Scott et al., 2017) they conclude that within race, gender differences exists in early interest in computing, which proves the importance of technology studies at an early stage and the fact that if females are discouraged from such at a young stage, it becomes difficult to grow the interest at a later stage.

The school problem is, however changing in South Africa, where the government is intentionally addressing the digital divide that is so strong in rural and remote areas. Even globally the change is being noticed (Ashcraft et al., 2012) in their study, show that even though 56% of girls take Advanced Placements at schools, 46% are AP calculus takers, only 19% are AP Computer Science test-takers, meaning there is still a low intake of computer studies by females. In another study by (Scott et al., 2017) on Broadening Participation in Computing, they found that gender is a significant predictor in majoring in computer Science in college with male students more likely to take it than female students.

In another study by (Makarova et al., 2019), where they look at the impact of the gender stereotype of Math and Science on Secondary students' career aspirations, they found that the gender-science stereotypes of math and science can potentially influence young women's and men's aspirations to enrol in a STEM major at university and if the masculinity of science subjects is less pronounced, it can increase STEM career aspirations. They further look at ways of changing the image of STEM subjects at secondary schools in order to overcome the disparities between male and female in STEM.

5.4 Discussion of findings in relation to the Theoretical framework

As the theme of domination prevails in the feminist theory as much as that of unjust power relations that affect women (Allen, 2018), from the views shared the presence of too much power on the male managers has had a huge impact in the gender parity in the bank. According to (Wajcman et al., 2020), the early feminists responses to the digital revolution were very optimistic about the potential of digital technologies to

empower women and transform gender relations. This however does not seem to be reaping the anticipated benefits. To this day, the participants are highlighting how the power relations have resulted in women not being considered for tech roles even when they qualify, being doubted even when they get appointed to the roles, unjust interview process, and the intimidation as they get interviewed due to the male dominance in the panel in some set ups. This is a real example of the male control over women's labour power and the hierarchical between genders as noted by (Kohlrausch & Weber, 2021) when discussing the strand of feminist theory and the interrelationship between capitalism and patriarchy. This goes a long way as Wajcman et al., 2020, posit that research suggests that technologies are gendered by association and design, where it refers t the gendering of work environments and the technology stereotype.

Raised as a concern is the high presence of males in hiring positions. Participants highlighted the fact that when a female candidate is being interviewed, the questions are sometimes changed and made stricter to ensure that the panel is comfortable with the potential female candidate even when she has answered the same questions as a male counterpart and when she has the right qualifications and on rare occasions has the same experience as a prior male candidate. This is also highlighted by Cidre (2019) in her study on females being discriminated against and regarded as underqualified (Vaz Cidre, 2019). This may be a result of unintended or subtle biases, and the fact that most of the people in the panel are males, triggers some threat to the potential female candidate. This highlights the fact that males still have power over women.

This has led female employees, for a long time to remain in the "comfort zone" and accept the fact that they have been classified as not tech employees, no one wanted to challenge that or push their boundaries to change the narrative or situation and it has been accepted as a status quo that females are not clever enough and staying in non-technical roles, some feminists refer to this as gendered division of labour (Kohlrausch & Weber, 2021) and suggest that women need to obtain more bargaining power to change the status quo and allow digitisation to create a more gender equality in the labour market. Kohlrausch and Weber (2021) study was focusing on the gender relations at the digitalised workplace and changes that labour market are undergoing in digital capitalism. The challenge in the banking industry under study is that the women have empowered themselves by upskilling so they could use that as a

bargaining power but is not working as they had hoped it would. The bank has grown over time, sustained by the women who filled the “non important” roles then, and the same narrative seems to be embraced even in the digital era.

Another point raised by the participants is that of females not being fully trusted even when they are given roles in the technology space. If it does happen that females are given an opportunity, they will be interviewed for longer, changes in interview questions, given a role but without being trusted or given fill autonomy to make decisions or shadow a male colleague for long in order to “minimise risk’ as one participant says, which contradicts a study on gender differences and risk taking where they found that males generally take more risk than women. The study looked at a number of risks types and found that intellectual risk-taking produced larger gender differences than other risks types studied, and that was pointing to men being the highest risk takers (Byrnes et al., 1999). It is not clear why some male managers would be so cautious to hire women and not give them full autonomy in an excuse of minimising risk. This still makes women feel marginalised and is in agreement with a study by (Vaz Cidre, 2019) where women female participants mention how lack of recognition affects career advancement. How women always need to prove their competence and ability to perform a role in different ways while men are not required to do the same and thus identified as another issue impacting the advancement of females in the IT industry (Vaz Cidre, 2019). In her study (Vaz Cidre, 2019), further says, where she discusses gender discrimination, that a woman has to prove her competence and ability in a number of ways in order to achieve a certain position. This shows how managers marginalising women and are struggling with fully trusting female employees to take on IT roles especially coming in from an IT non-specialised role but would rather train a male employee for the same, a struggle that has been fought by feminist for a long time. This could be attributed to the power they have, and they position they hold that allow them to still subject women under a forced subordination due to the inequalities of power. It is therefore difficult to say women have it in their power to resist oppression especially in this case thus agreeing to Stewart (1994) view that gender parity would not have carried on for so long if it was in the women’s’ powers to change it. Though to the contrary, some scholars disagree with that, saying women accept oppression and turn to endorse it as a norm (Hay &

Hay, 2013), this is all a result of stereotype in the men who are holding power to change gender parity in the bank.

This shows how much it takes for a stereotype to change, as it can run over multiple generations. It takes us back to the question, can stereotype really change? Researchers are trying to understand some perspectives of changing gender stereotype as per a study by (Priyashantha et al., 2021). Some researchers are even questioning if stereotype does ever change, as per a study done on the dynamic of gender stereotype in Spain by (Lopez-Zafra & Garcia-Retamero, 2012). They found that stereotypes in Spain include dynamic aspects and that their content is rooted in social roles (Lopez-Zafra & Garcia-Retamero, 2012). Another study also trying to unpack and understand the changes of stereotypes over time by (Bhatia & Bhatia, 2021), they looked at the changes in gender stereotype over the course of the 20th century and mention that stereotype traits have negatively influenced academic performance of women and women have underperformed compared to men as a result and has been known to impede women's ascension to leadership roles. In their study, Priyashantha et al., (2021) posit that gender stereotype has not changed as it is supported by some theoretical foundations and inherent nature of social interpretation. One of the three perspectives they look at in terms of changing gender stereotype is who gets the advantage in gender stereotype change (Priyashantha et al., 2021). In this case if males are still having power and influence to change the stereotype yet it will work to their disadvantage, they will be resistant to it. One male respondent even comments to say if the employment of women are pushed too much, the bank will end with a scenario when women take over and the bank and other companies will have to work hard to undo the balancing again. This is in agreement with a study by (Capelle-Blancard & Reberioux, 2021) where they conclude that large gender inequalities are a result of socialisation and self-fulfilling stereotype.

There seem to a challenge in terms of getting women into the roles irrespective of skills and qualifications over men. The main driver being the issue of stereotype and still believing that IT roles are for males, as mentioned by Larson and Viitaoja, (2019), changes in behaviour, attitudes and habits has a lot to do with changes in the situation of gender divide. The Stereotype engraved in men, especially, is so strong and overpowers the opportunities and everything that has come with digitalisation. The

issue of stereotype highlighted and it taking too long to fade away is in agreement with a study by Wang & Degol (2017) they summarise six explanations as to why women are underrepresented in STEM fields, and of the six, they mentions field-specific ability beliefs, and gender-related stereotypes and biases as some of the factors affecting the underrepresentation of women in STEM (Wang & Degol, 2017). This has manifested itself in the narrative of the participants. As part of the study, it was also interesting to understand if it is in the power of women to change the stereotype as the argument existing in the reform feminism, if the inequalities in technical roles within the banking industry are due to personal choices self-imposed by women themselves or structures that are not changing from history. From the responses of the participants and even examples shared, it seems like the older generation within the bank has accepted defeat due to the male counterparts not willing to change and give them an opportunity to take up these roles, which can be seen or misinterpreted as personal choices, while the younger generation is coming in full force, embracing STEM from schools, tertiary and even applying for STEM related roles, even though the success rate is also not pleasing in terms of the numbers.

As Stewart (1994) argued, in explaining his point on the reformist theory, he argues that women have the power to resist oppression and make choices which he says is not necessarily the case because they would have changed it long time ago. It shows that it is not so much in their power to change the stereotype if the people with influence and holding the roles and power are the ones not willing to change. Women are still being marginally discriminated as per the gender reformist theory.

5.5 Conclusion

In this chapter, we have discussed the participants' views in responding to the research questions. The existence of gender parity in the bank is obvious from the participants' views and they blame it on a few different reasons; also highlighted is the absence of senior females on Tech roles who could be sponsors for younger aspiring tech females. Digitisation has taken away jobs (more from females) and created some, but the view is that the new roles created were not given to females as much as they were impacted by the roles replaced by digitalisation and as a result can be seen as having perpetuated gender parity in this particular bank. Gender parity has slightly changed

over the past 15 years even though newcomer may not observe it in the bank. The slow rate has largely been due to stereotypes from male managers still not giving women opportunities. New applicants having appetite have been the younger ones coming from university enrolling on Tech training programs even though the final output has not been much due to resistance largely from hiring managers.

The next chapter provides a conclusion and recommendations given the results and how they can be used to close the gender parity and address it at a root level than when it is overly late in the corporate world. It is being done to tick the boxes without fully believing in it.

CHAPTER 6. CONCLUSION

6.1 Introduction

The study aimed to look was to look at the role that digitalisation has played in either perpetuation or bridging gender parity in a South African Bank. 12 employees were interviewed from the different departments of the bank from both genders to get a fair perspective of the views without some biases. The participants shared their historical and current views of the situation with the narration of how they have observed digitalisation's impact on the bank and the employees.

6.2 Conclusion in relation to research question 1

Gender parity - The issue of gender parity has been confirmed by the participants that it exists and is very obvious to a new person coming into the bank but those who have been with the bank for a while are seeing some slight improvements from where it was about 20 years ago, even though it is still not where they think it should be. The common narrative for what has driven it over the years is the stereotype from the male managers and unfairness on women making it into the IT roles even when they possess the required qualifications and skills. The participants have confirmed this that there is a younger generation coming in and applying for roles compared to the older generation but is met with some resistance and discouragement and they eventually settle for other jobs so as to earn an income after university. A study on Digital divide, skills and perceptions on digitalisation concluded that age does matter in terms of digital tech skills, it concluded that young people 15-24 years and 25-39 years are 2.2 times more likely to poses the digital skills than those over 55 years of age (Vasilescu et al., 2020). This has been true for the bank under study, but the absorption of those few younger female graduates has also been met with some resistance. If Indian, being the second fasted growing economy in the world is still impacted by discrimination women from tech roles and is impacting its GDP by a growth of 16% (Agarwal & Malhotra, 2016), South Africa could be impacted more, an area of further study to see what is the impact.

6.3 Conclusion in relation to research question 2

Role of Digitalisation on Gender parity - In answering the research questions, the participants acknowledge the existing gender parity that has dominated the bank for so long; they also acknowledge the impact of digitalisation, the roles impacted as well as new ones created as a result. Also acknowledged by the participants is that digitalisation has levelled the playing ground for both genders in 3 different ways, firstly women can now do jobs that were previously physically demanding for women, secondly, the advancement of technology has allowed women to be able to work from home and removed the barriers that made some jobs not suitable for mothers due to the long office hours demanded. Lastly, digitisation has opened up new opportunities and skills that did not exists before. Unfortunately, with all the opportunities presenting themselves, the bank has not utilised them to balance our gender parity in the IT roles. It does however seem like the younger generation of women with technology adopted and embraced from schools at a younger age by both genders, is more powerful in changing gender parity vs the corporate world making the transformation effort and thus more effort should be put in, in addressing any digital divide and stereotype from school subject choices. Whilst the older generation does not see any future in trying harder to push to get into IT roles as they seem to have accepted defeat.

6.4 Conclusion in relation to research question 3

Change in Gender parity and what has influenced it - Gender parity has not changed much in the IT roles banks, not at the rate digitalisation is happening within the bank but due to a pipeline of younger females entering the working space, even though met with some resistance. The recent applications were seen to be coming from a younger generation coming from universities. This could be because of late, more girls are choosing STEM subjects from an early age than before, they are exposed to it from a younger age even though the digital divide is still an issue in south Africa. The younger generation is tech savvy, fear no gender boundaries, believe all genders are capable and also driven by them being users of technology from a very early age. As mentioned earlier, changing a stereotype mindset has sparked an interest in researchers of late more than it had in the past as it plays a huge role in influencing the advancement of women in the workplace a society despite the policies

and legislations that have been put in place trying to address gender stereotype. The policies have been put in place for compliance with legislation and to tick the boxes by management, but some people do not necessarily believe that women really deserve to be in the roles and can get in and make a difference as much as a male employee. So as a hindrance to gender parity, stereotype is a major contributor to women not getting opportunities in IT roles in the bank and as a result the change in gender parity is slower rate than digitalisation is giving opportunities. Gender parity in the bank technology roles is slightly changing due to but still not fully believed by male managers and thus not changing at the rate at which digitalisation is opening opportunities.

6.5 Conclusion in relation to Limitations

As mentioned in section 3.8, there were some limitations to the study that could have enhanced it further.

The access to senior managers mainly EXCO proved to be a challenge. This was due to access and availability of their time even using the online meetings. It would have been important to get their views and how these perceived biases are viewed from their side and if there is an intention to address them. As highlighted by the participants, the absence of sponsors, participation, and visibility on female tech programmes from top is a major concern, the buy in from the top is thus highly doubted. This was also exacerbated by the work from home. In as much as it had some advantages to get hold of most participants online, the office environments sometimes allow a random walk-in into the EXCO members and some unofficial discussions that eventually opens up an opportunity for discussion if we were still working from the office. The online interviews also prevented a face to face that helps the researcher see the gestures and emotions from the participants and they express themselves either by hand, body language or even facial expression as some of the interviews were done without cameras due to the effect of bandwidth, data and quality protecting the quality of the audio if cameras are on.

The other limitation was the lack of participants from the regions outside of Gauteng (less developed regions) and well as in Africa countries as most of the targeted areas in technology are in the Gauteng region. This would have added insights in comparing

the strength of the biases and how normal it is viewed in the outside of the urban areas to those that are less developed as well as other African countries where women are still viewed as less important, and their place is still more in the more making environment.it would have been interesting to see the extent of the biases outside of South Africa as it is ranked among the developing countries and is also adopting the western culture more and faster than many African and poor countries. This would have also allowed a comparison within the Technology leading countries (in Africa) being Nigeria, Kenya and South Africa, (Schelenz & Schopp, 2018)

6.6 Recommendations

Younger generation with technology adopted and embraced from schools at a younger age by both genders is more powerful in changing gender parity vs the corporate world making the transformation effort and thus more effort should be put in, in addressing any digital divide and stereotype from school subject choices.

As the Technology industry is more knowledge and intellectual based versus physical or on the job training, thus education is more critical to succeed in the industry. There needs to be more focus on improving the education system to encourage more females into Technology subjects. The government and Universities should start a drive on female Tech students who graduate to feed into the internships in companies. Women only internships tech roles that can be tracked on output. These can first be rolled out in government departments to give women some experience as the private sector is reluctant to hire fresh from varsity, implement something similar to articles done in the accounting (CA) profession to provide practical experience and that can be tracked on output. Private sector providing such should be incentivised in tax rebates to motivate to intake of females training.

How India has succeeded in the being the leader in the IT resources has been through investing in educational institutions (both formal and non-formal) to catch up with the demand of the IT sector globally. With new banking products and FINTECS flooding the banking sector, the demand for banking and financial experts the demand is expected to pick up. Thus, if the gender parity is left unattended in South African Banking, women might be left far behind and eventually impact the economy as

discussed earlier that excluding woman from the ITC sector and workforce does hamper socio-economic development of a country.

Government policies need to be firmed up on stem related hires and assign scores to roles to be used as a measure of AA and not just numbers. This is due to the observation from India, that even though it has the largest number of computer educated people, there is still a gap between the female graduates and the absorption in the labour market (Agarwal & Malhotra, 2016), so in as much as there can be more training centres and drives to produce more female graduates, it that is not tracked well there will still be gender parity as the hires will still favour men than women. The number of female Science students seems to be increasing, their prospect in terms of employment and career advancements is still a concern if they are not eventually absorbed into the right roles. Thus, increasing the education training centres on its own will not be sufficient if tracking of the women IT employment policies is not enforced. This should be done in both private and public sectors. Gender policies have been studied in the G20 countries and they found that they differ widely from each other not only in magnitude but also in scope of the programs and initiatives to address these gender gaps, not is proving to be a winner, so they all need to be reviewed (Sorgner et al., 2017).

6.7 Suggestions for future studies

A gap in the research on gender parity is how the exclusion of women in IT roles is impacting the South African Economy and GDP. This could lead to the study and understanding on social grants and state funded grants on women and how it could be reduced if women would not be discriminated against in IT roles and get more employment to sustain themselves and the children.

Another area of study is the link on STEM women university graduates and the employment rate in a period of 5 years compared to men. How that links to the digital divide and if it is more pronounced in women versus men due to their inquisitive nature are not impacted as much. How digital divide impact IT related skills in men vs women in the future in both urban and rural backgrounds.

It would also be interesting to understand the comparison of industry female tech hires versus men to understand which industry is in the lead and why and its link to economic contribution of the country. Matthess and Kunkel (2020) posit that it is debatable whether the economic development of a country brought about by digitalisation in a developed country is the same as that in developing countries (Matthess & Kunkel, 2020). It may be interesting to understand if in South Africa, digitalisation is indeed benefiting the economy at large or only a certain percentage and the majority are left without employment given the high rate of employment in the country.

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APPENDIX

The below are appended at the bottom

a. The participant Consent form
b. Participant Information sheet (blank)
c. Actual instrument (interview guide)
d. Letter of permission from company has been removed to protect company identity

Participant Consent Form

Title of project: The role of digitalization on gender parity in a South African Bank

Name of researcher: Nonhlanhla Magagula

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

I agree to the following:

(Please circle the relevant options below)

The research study was explained to me. I understand what this study is about.	YES	NO
I understand that I can volunteer to take part in the study	YES	NO
I agree that the interview/focus group/other activity may be audio recorded	YES	NO
I agree that direct quotations from my interview/focus group/other activity may be used by the researcher in their research report/ manuscript/book chapter	YES	NO
I agree that my participation will remain anonymous (my name will not be used by the researcher in their research report/manuscript/book chapter)	YES	NO
I agree that other researchers may use the information I provide in my interview/focus group/other activity (depending on their own ethics clearance being obtained) but my name and any personal information will not be used or passed on	YES	NO

…… (signature)

…… (name of participant)

…… (date)

…… (signature)

…… (name of researcher/person seeking consent)

…… (date)

Participant Information sheet

Good day

My name is Nonhlanhla Magagula. I am a Masters student in the field of Digital Business at the University of the Witwatersrand, Johannesburg. My supervisor is Ms Ayanda Magida. I am conducting a research study about the impact of Digitalisation. The study title is “The role of digitalization on gender parity in a South African Bank”

I am inviting you to take part in an interview. If you decide to take part, your participation in this research study will last about 20 minutes The interview will take place as per the accepted invite based on your availability on MS Teams

With your permission, I would like to audio record the interview. This data will be stored in MS teams for 1 year and deleted after 1 year. Only the researcher will have access to the data.

The interview will be confidential and anonymous. When I share the results of the research study, I will not include your name or anything else that could identify you. With your permission, other researchers may use the data collected from this research study, but your name and any personal information will not be used or passed on.

If you decide to take part in the research study, it should be because you want to volunteer. You do not have to take part. You can stop being in the study at any time. You do not have to answer any questions if you do not want to. You will not get any direct benefits if you choose to join the research study. You will not lose any services, benefits or rights you would normally have if you decide not to join. Taking part in the research study will not cost you anything. You will not be paid for being in this research study.

This research study will be written up as a research report. The report will be available on the university library website. If you would like to receive a summary of this report, I will be happy to send it to you.

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

Yours sincerely,

Researcher:

Nonhlanhla Magagula, 511475@students.wits.ac.za, 0731863396

Supervisor:

Ayanda Magida, ayanda.magida@wits.ac.za, 011 717 3953

Research Instrument

Topic: The role of digitalization on gender parity in a South African Bank

Research Questions:

- What is the extent of gender disparity in the banking sector?
- What is the role of digitalization in bridging or perpetuating gender parity in the banking environment?
- How has the gender parity rate changed in Bank A in the last 5 years, and what has influenced the change?

Introduction and Ice breaker question

- Gender
- Age
- Race
- How long have you been with the company?

Questions

- How many females vs males do you have in your team? What is the percentage of women in your organization?
  - In the admin and non-technical roles, how many are occupied by women vs men?
  - What percentage of STEM professionals in your organization are women?
  - Is there a gap you notice and what do you think has driven the gap over the years?
- What has been the appetite for females applying for the roles, do you get enough applications for females?
  - Do you specifically ask for females in the advertised roles
  - Have you interviewed any recently and how did the interviews go?

        - Generally, at what stage do they get disqualified from the interview and why?
        - What are ages of the applicants
    - Has digitisation opened more roles that before in your area?
    - How much experience do the roles normally require?
    - Do you see a change in the applications coming through (male vs females) over the past 5 years?
    - Has the mentality and stereotype changed within the technology industry in your opinion
    - How has the gender parity rate changed in Bank A in the last 5 years, and what in your opinion has influenced the change?
    - Have you noticed any changes over the last 5 years in terms of women uptake in technology roles and what is driving that?
    - Give some details on the speed of Speed of Technology adoption in the company (low, medium, high) - define each
    - How many major systems have been implemented as a result of digitisation in the past 5 years?
    - How has the company responded to digitisation in terms of jobs being replaced by systems? Were the any impacted?
        - How has the impact been in terms of female's vs men?
        - How many new jobs have been created if any?
        - How many were filled with men vs women?
        - How many new skills have been required that were not existing before?
    - Can you comment on new graduates' intake, more upskilling internally, leveraging of prior women skills, internal moves, etc.)
    - What are the recently introduced technologies (IOT, big data analytics, robotics, cloud computing, Augmented and virtual reality, Block chain, Machine learning, etc.)
        - Reasons for introducing technology
    - At what level were most of the skills replaced by digitisation
    - What is the bank doing in terms of encouraging upskilling to maintain the rights skills for the future?

- What is the skill set of the current employee's vs who you had in the past 5 years?
- How have male managers responded to women and open roles in the technology space
  - Was the perception from the employees themselves or managers also played a role in having less appetite for women?
  - Has the number of women had anything to do with the long hours required at work and women's responsibilities at home, does your organization provide telecommuting, work-from-home, or flexible work options to your employees? How is hat affecting women?
  - How has the stereotype of believing that women are less capable of IT roles manifested itself?
  - What would be the percentage of women assigned to IT projects
- What is the outlook in terms of opening more roles that would accommodate women and work life balance so they cannot be excluded due to long hours demands in the roles?
  - What do you notice about the applicants and the qualifications from universities between men and women, what is the outlook like?
  - Is there a program to upskill women for future roles in the bank?
- What is the banks preference in upskilling vs hiring new qualified employees, do employees have opportunities to be trained in or refresh skills in new and upcoming technologies and programming languages?

Research Questions to be covered in the interview

- What is the extent of gender disparity in the banking sector?

- What is the role of digitalisation in bridging or perpetuating gender parity in the banking environment?
- How has the gender parity rate changed in Bank A in the last 5 years, and what has influenced the change?