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Women's Career Advancement in the South African Mining Sector

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0606620R

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

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DECLARATION

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



Signed at ……Alberton in ..Johannesburg…

On the ..30th …. day of …May……2023

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ABSTRACT

The number of women working in South Africa’s mining industry has increased dramatically over the last 15 years or so, with women now accounting for 12% of the industry's workforce. Although mining companies have improved in general, they continue to struggle to attract, advance, and retain women at all levels of employment, more especially in core positions. Mining companies, government and several organizations in South Africa made some efforts to increase the number of women working in the mining industry with the goal of attracting more women to the mining industry and keeping those who are already there to achieve a gender inclusive industry. The efforts made yielded minimal results mainly due to insufficient data on challenges that prevent women from advancing their careers in the industry. Such efforts are guided by data, therefore a survey was conducted to understand what interventions are required from the mining companies and government to assist in advancing women careers in this sector. The survey sought to uncover the strategies that are effective and sustainable in advancing women careers in the South African mining sector within the context of support systems opportunities at individual, companies and government perspectives.

The study adopted qualitative research design with open ended questionnaires administered through online platforms. The responses were analysed qualitatively using thematic analysis. A total of 23 respondents were obtained with 13 females and 10 males. Results showed that effective and sustainable strategies to advance women’s careers in the South African mining sector are categorized into personal, corporate and governmental. Themes developed are: individual initiatives, education, support systems, experience, attitude, cultural management, acceptance in workplace, policies, regulations and rewards. Furthermore, effective support systems opportunities are training, mentorship, succession planning, women representation, audits and equity strategy. To ensure that effective support systems opportunities are implemented and sustained, sub-themes that emerged are education and training.

The study revealed that it is a collaborative effort, amongst individual, companies and government to advance women's careers in the South African mining sector. However, personal initiatives (self-development, qualifications and awareness) were the main strategy that worked for many women to advance their careers in the South African mining sector.

Keywords: Career advancement, gender, women career, support systems opportunities, mining sector, women

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Chapter 1: Introduction

1.1 Background

The number of women working in the mining industry has grown dramatically, but the percentages mask a wide range of gender inequalities because there are still barriers to career advancement based on gender, despite South Africa's impressive equity policy regime. Despite the difficulties faced by women in the mining industry, uncertainty surrounds how those women in core mining positions managed to rise so high up the hierarchy.

The world is evolving as a result of the development of various programs, regulations, and legislations globally to promote and encourage gender equity in society, particularly in the workplace (Botha, 2017; Kaggwa, 2020). These developments aim to address the long-standing gender inequality that has been passed down through generations. Both men and women are found to be valuable assets in the economy of a country and increasing the number of women working in a country's formal sector is both economically and morally sound. Women make up about 51% of the population in South Africa, according to (Stats-SA, 2020) therefore women's participation in the country's primary economic activities is critical to the country's objective of becoming an all-inclusive developed society (Botha, 2017).

Women have long had to overcome barriers in the workplace (Botha, 2016). For many emerging countries, the gendered nature of cultures is a source of problems. Due to a variety of cultural, religious, and belief systems, women were prevented from working in patriarchy countries (Scott, 2007). In certain cultures, a woman’s primary job is still seen as that of caretaker of the home, and women are sometimes conditioned not to be aggressive in their job search outside their own area, especially if they have family commitments (Lo, 2002).

What this suggests is that, in some cases, the workplace structure and economy as a whole may be hostile to female employees.

Women's unrestricted work in the mining industry is relatively new to South Africa. Prior to 1996, women were not allowed to work underground (Matshingane, 2017). The movement to open formal employment for women in all industries gained traction following South Africa's democratic transition in 1994. The new democratic government enacted rules and regulations to assist women to obtain formal employment.

The South African government intended to use legislations to address discrimination and inequalities left over by the apartheid era. Legislation acts include the 1996 Constitution of the Republic of South Africa, the Employment Equity Act 55 of 1988, the Promotion of Equity and Prevention of Unfair Discrimination Act 4 of 2000, and the Broad-Based Black Economic Empowerment Act 53 of 2003 (BBBEE) (RSA, 1996, 1998, 2000, 2003). In addition, the Mineral and Petroleum Resources Development Act 28 of 2002 (MPRDA) and the Broad-Based Socio-Economic Empowerment Charter of 2004 in particular, required mining companies to significantly and purposefully recruit and increase the number of disadvantaged people. Amongst the disadvantaged people are women, who are required to join the mining sector and profit financially from the extraction of the nation's natural resources (RSA, 2002, 2018).

The amended 2010 BBBEE Mining Charter set new employment equity targets that had to be met by the end of 2010 (RSA, 2010). Furthermore, the targets called for a 40% representation of historically disadvantaged people, including women at all levels of executive management (EXCO), senior management, middle management, junior management, and women with core and vital skills. The Charter was created to reflect the mining industry's demographics, to benefit all citizens equally, and to provide opportunities for women to work in the industry. The BBBEE Act of 2003 has incorporated women to actively participate in main

economic activities which resulted in women gradually occupying leadership positions in all male-dominated sectors (DMR, 2017).

The 2004 mining charter specifically set a target of 10% female representation in the mining industry to reiterate the legal approach to increasing women's employment and participation. South Africa appears to be lagging behind other mining countries like Australia and Canada, which have slightly higher female participation rates in their industries, at 17% and 16%, respectively (M.C.oS.A, 2020).

The number of women working in South Africa's mining industry has increased dramatically over the last 15 years or so, with women now accounting for 12% of the industry's workforce (M.C.o.S.A, 2017). Furthermore, percentages of women in top management, senior management, and skilled technical professions are found to be 16%, 17%, and 18% respectively. The revised mining charter stipulated that women must make up 25% of the board of directors and executive management roles in mining companies (Kaggwa, 2017).

In addition, Kaggwa (2017) alluded that women should make up 30% and 38% of senior and middle management positions, respectively, and 44% of junior management positions. The Canadian Mining Industry Human Resource Council (MiHR) published a 2018 report on gender equity, asserting that women made up 19% of mining, quarrying, and oil and gas extraction in 2017 while accounting for 48% of the overall labour force (Gilles, 2019). This is in agreement with the work of Kansake, Sakyi-Addo & Dumakor-Dupey (2021), stating that less than 20% of women are appointed to leadership positions in mining countries around the world, with Australia leading the way at 16.1%, followed by Canada at 16%, Mexico at 14.9% and South Africa at 13.2%.

Only one out of every twenty global companies are led by a woman (Forbes, 2019). Women make up only 19.4% of business owners in South Africa, according to the Mastercard Index of Women Entrepreneurs (MIWE, 2020). This puts South Africa in 45th place in the world when it comes to female-run

businesses, trailing Uganda, Botswana, and Ghana, which have 39.6%, 38.5%, and 36.5% respectively (MIWE, 2020).

Although women's representation in South Africa's mining sector has risen slightly in recent years, it is still far from parity. Similar patterns can be found all over the world (Perks & Schulz, 2020). Several organizations, such as Women in Mining (WIM) and Women in Engineering (WINE), have been formed to increase the number of women working in the mining industry. The main goal of these organizations is to provide training, mentoring, networking, and research to attract more women to the mining industry and keep those who are already there (Kansake, Sakyi-Addo, & Dumakor-Dupey, 2021). Women's inclusion in the mining sector has numerous advantages, however, it is difficult to achieve these advantages (Gilles, 2019). Furthermore, Gilles (2019) mentions that there are also compelling business reasons in favour of implementing gender inclusion policies, such as retaining talent, developing a local workforce, and fostering a productive workplace culture.

According to M.C.o.S.A (2017), once women are employed, they are forced to leave the industry due to on-the-job challenges. In addition, women who are in the industry are subjected to various barriers preventing them from advancing their careers and ending up exiting the mining industry (M.C.o.S.A, 2017). With this realisation, effective and sustainable strategies for advancing women's careers in the South African mining sector within the context of support systems opportunities with the aim of retaining and attracting women will be reflected on the findings and discussion section of this study.

1.2 Purpose

The purpose of this qualitative study is to uncover the most effective and sustainable strategies for advancing women's careers in the South African mining sector, within the context of effective support system opportunities. An open-ended survey for data collection is used to reveal effective support system

opportunities for advancing women's careers from the perspectives of individuals, corporations and governments. Key variables under investigation include women's exclusion, discrimination and gender inequality. Practical recommendations and interventions required to ensure that these strategies are effectively implemented and sustained to advance, recruit, and retain careers of upcoming young women in the South African mining sector are established.

1.3 Problem statement

Given that post-apartheid legislation in South Africa was enacted nearly two decades ago, one would expect a body of work focusing on attempts to address gender inequality in the workplace, among other issues, to have emerged. Furthermore, given the Mining Charter's 2002 adoption, with targets directly linked to the renewal of all mining companies' mining rights, one would expect women to be fairly represented at all levels of management. However, the mining industry is still perceived as male-dominated, with the percentage of female representatives declining significantly as they advance to the top tier of management levels (Kansake et al., 2021).

Furthermore, according to a 2009 review of the Mining Charter targets, the majority of South African mining companies did not meet the set 10% Women in Mining target (Sector, 2011; Shabangu, 2011). Although women's participation in South Africa's mining sector has increased since the implementation of the Broad-Based Black Economic Empowerment (BBBEE) Mining Charter and Mineral and Petroleum Resources Development Act (MPRDA) in 2004, gender inequality remains a significant issue, with management struggling to find suitable female candidates for core mining positions, as well as advancing and retaining female talent (Botha, 2017; Botha & Cronje, 2015)

Although women have made advances into the mining sector, the majority of women face the "glass ceiling" effect, in which they rarely advance due to a lack

of advancement opportunities presented to them, and only a few are able to advance (Kansake, Sakyi-Addo & Dumakor-Dupey,2021). Botha (2017) argues that, while lack of women's career advancement in the South African sector can be attributed to a variety of factors, including personal, corporate, and governmental, the dominance of advancement opportunities in the form of support systems exacerbates the problem. Gilles (2019) argues that the Employment Equity Act 55 of 1988 created visible cracks in the "glass ceiling" effect, making it difficult for women to advance their careers in the sector; however, only a few women were able to overcome the cracks.

Moreover, despite the integration of women into traditionally male-dominated workplaces, a variety of workplace challenges and risks are created, including those related to career advancement (Botha, 2017). If advancement opportunities are not presented to women at all level in the mining sector, the risk of women leaving the industry will be significant.

The lack of women career advancement in the mining sector, primarily due to insufficient support systems opportunities, will have a negative impact on companies' creativity and strategic resilience. This, undoubtedly, will impact the financial viability of the mining companies, mining sector and South African economy as a whole.

Previous studies focused on the social, physiological, structural, and employment barriers that women face in the mining industry (Botha, 2017; Kaggwa, 2020).There is also literature indicating an increase in interest in women's career development and advancement in mining; however, there is a lack of studies on effective strategies for advancing women's careers in the mining sector in the context of support system opportunities. This study will address the issue of women's career advancement in the context of support system opportunities by identifying effective support system opportunities to advance women's careers in the South African mining sector, as well as recommendations to improve support system opportunities to ensure that they are effectively implemented and

sustained. This will assist mining companies' management in recruiting, advancing, and retaining women in the sector and ultimately narrowing the issue of gender gap in mining sector as a whole. In doing so, the government will be bound to transform the mining sector by achieving its target of female participation. This will make the mining industry a more diverse and inclusive workplace environment.

1.4 Research questions

This research project seeks to address the following questions:

1) What are the most effective and sustainable strategies for advancing women careers in the South African mining sector?
2) What are effective supporting systems opportunities in advancing women's careers in the perspective of individual, corporate and government in South African mining sector?
3) What are practical recommendations for support systems opportunities to advance, recruit and retain the careers of upcoming young women in the South African mining sector?
4) What interventions are required to ensure effective support systems opportunities for advancing women careers in the South African mining sector are implemented and sustained?

1.5 Significance of the study

The study will uncover the most effective and sustainable strategies for advancing women careers in the mining sector, within the context of effective support system opportunities to advance women careers in the mining sector. This will assist mining companies in recruiting and retaining women, as well as the government to achieve its gender inclusion and diversity goals in the mining sector. The study's findings may necessitate changes to mining companies' and the

government's policies, procedures, systems and regulations to ensure women's career advancement in the mining sector, and that more women are attracted and retained in the mining sector. The findings will assist to address lack of support system opportunities to advance women careers and gender disparities in the mining sector. If the research findings are implemented and sustained by mining companies, women's participation in the mining sector will improve. Government intervention will be required for the study's findings to be effectively implemented and mining companies' policies, procedures and systems will need to be revised to accommodate the study's recommendations. Finally, government officials will need to closely monitor the progress of women advancement in the mining companies.

1.6 Limitations

As with most studies, this study had some limitations. The majority of the sample (about 50%) was drawn from one mining company, which may not be an accurate representation of South Africa's mining sector (Botha, 2017). However, the participants' experiences from various mining industries normalized the sample presentation. Women participants had an advantage over men because they have faced personal career advancement challenges, and more especially in terms of support systems opportunities, however, this does not diminish the value that men brought to the study. Participants on Linkedin professional media were more likely to have strong positive or negative perceptions of the research topic, and the researcher had no way of pre-screening the participants for objectivity. The data was gathered using an open-ended online survey questionnaire, which resulted in less detailed information. Thematic analysis of the data, led to inconsistency and lack of coherence because of its flexibility (Holloway & Todres, 2003).

1.7 Delimitations

The study focused primarily on women's career advancement in the South African mining sector, within the context of effective supporting system opportunities to advance women's careers in South African mining sector. Other African and national countries were not covered due to time constraints. All study participants were in positions that require responsibility and accountability in the mining industry and the population of retirees was not sampled due to accessibility issues. Because the goal of this study was to gain insights from participants as well as explanations of their experiences and perceptions, the qualitative method was deemed unsuitable. Statistically valid results were not going to do the study justice.

Because the data was gathered solely in the South African mining sector, the findings of this study may not be applicable to women's career advancement in mining sectors in other countries.

1.8 Assumptions

In accordance with women's documented career advancement strategies in the mining sector, the assumption is that men may be unaware to some of the most effective and sustainable strategies that women have personally experienced. According to Moalusi & Jones (2019), males used strategies that marginalized the female voice, negatively affecting their confidence in their own abilities and self-concept, thus maintaining male dominance and control.

As a result, there is no reason to believe that the South African mining sector's career advancement response strategies are limited to women.

Chapter 2: Literature review

2.1 Introduction

This chapter provides a literature review on the predicament of women in South African mining sector and their opportunities for advancement in the industry. It provides background information on: the professional status of women in the mining sector, barriers that women face in the mining sector, along with their recommendations, history on women's career advancement in the mining workplace and lastly relevant theoretical framework that supports advancement opportunities of women in the mining sector.

2.2 Professional status of women in mining

Kaggwa (2020) argues that regardless of the country, mining has historically been a male-dominated industry. Despite the fact that women's involvement in the labour market has increased in recent years, primarily to expanded economic prospects and equal employment opportunity legislation, women continue to face and suffer discrimination in the workplace (Botha, 2017). Women's participation in all levels of management and in most industries has increased dramatically over the last generation, as is widely acknowledged by (Orser, Riding, & Stanley, 2012). Furthermore, Orser, Riding & Stanley (2012) suggest that women's recruitment, retention, and advancement in advanced technology sectors are in stark contrast to such progress.

Similarly, it was found that in the mining sector, despite the fact that women's participation has improved since the MPRDA and BBBEE mining charter were introduced in 2004, gender disparity continues to be a challenge (Kaggwa, 2020).

Furthermore, gender policies and regulatory reforms to encourage diversity and promote gender balance in the mining industry were highlighted by (Kaggwa, 2020). In light of progress, Botha (2017) and Kaggwa (2020) argues that efforts to promote gender equality and advancement in core mining positions, the aforementioned challenge continues to exist. Therefore it is noted that specific country demographics and dynamics may play a role in the lack of progress seen in increasing women's participation and advancement in the mining sector.

Not only are women underrepresented in core mining activities, they are also underrepresented across all levels of management (Kansake et al., 2021). In comparison to other industries, the mining sector has the lowest number of female board members (Mining.com, 2014; PwC, 2013). Furthermore, the study pointed out that women occupied only 8% of all board seats in the top 100 mining companies, with only four female executive directors among them. Similarly, it was estimated that 8% of women work in management positions (Mining.com, 2018) and women make up less than 4% of the top 101-500 mining companies. In the study, 'The New South Wales Women in Mining,' indicated that the percentage of women in the mining sector decreases as they move up the organizational ladder (Insights, 2014).

Kaggwa (2020) indicated that women's work experience can either stimulate or demotivate other women to join and work in specific areas of male-dominated environments whether communicated directly or indirectly so. In addition, Kaggwa (2020) further argues that it is necessary to conduct periodic assessments of problems faced by women who have successfully obtained employment in the mining sector to preserve the momentum of women's employment in this sector.

In addition, the author also recommends that evaluations could help determine the success of government and other stakeholders' policies to encourage women to work in the formal economy.

Overall, it is worth noting that in South Africa, progress has been made in employing women in the mining sector, which was previously dominated by men (Moalusi & Jones, 2019). Moalusi & Jones (2019), posited that this is primarily due to progressive workplace equity legislation and to a lesser extent, changing attitudes toward women workers among mining companies and advancement opportunities presented to women to move up the organisational ladders.

2.3 Barriers faced by women in mining sector and recommendations

Literature on women's involvement in mining in countries such as China, Australia, Papua New Guinea, and South Africa indicates that women still face various barriers in the mining sector (Botha, 2017; Kaggwa, 2020). In South Africa, prior studies performed around gender inequality in mining sector revealed challenges women still face are mostly the same.

Botha (2017) indicates that key challenges women face in core mining positions may be classified into four categories: social, physiological, structural, and employment barriers. Furthermore, Botha (2017) argues that male employees were given employment, promotion preferences and racism played a role at one point, with black women being assigned difficult jobs while white women were accommodated in light-duty positions. Based on this premise, the author continues to recommends that mining company executives should create and implement strategies and plans to successfully handle women's issues. Botha (2017) further posits that executive should also design and implement diversity initiatives in order to foster a work climate in which employees are appreciated and valued for their contributions, regardless of their differences. Finally, Botha (2017) asserted that women employed in the core positions of mining, should get access to the essential support systems such as female representatives, mentors, work-life balance, etc.

Similarly, challenges that women face in the construction industry which influence their career choices in male-dominated industries are similar to those in the mining sector (Haupt & Madikizela, 2009). Challenges faced by women in the workplace were further asserted in the technology sector by (Orser, Riding & Stanley, 2012). These two studies in the construction and technology sectors posit that women faced a high proportion of gender-based challenges, which they were most likely to resolve through personal solutions. These authors further recommend mentoring as an effective strategy for women to address career challenges and role models from successful women in the industries. However, Haupt & Madikizela (2009), argue that legislation alone will not be able to address the low representation of women in construction, as well as the promotion and encouragement of construction careers for women. Therefore it was pointed out that gender relations must change, and the industry must make a visible and concrete commitment to empowering women at all levels by providing equal opportunities for women (Haupt & Madikizela, 2009).

Kansake, Sakyi-Addo & Dumakor-Dupey (2021) specifically highlighted that women experienced a glass ceiling (resistance to women aiming for top positions) as a de-motivator for engaging in mining. This was also asserted in a report conducted by the Mining Industry Human Resources Council (MiHR) on Canadian mining companies, which indicates women face barriers such as the "glass ceiling" and unconscious bias and it can be difficult for them to be considered for promotion (Gilles, 2019). Similarly, Haupt & Madikizela (2009), posited a lack of support to succeed in the mining sector, which includes a lack of mentorship resulting from not having enough female representation at higher positions. Kansake, Sakyi-Addo & Dumakor-dupey (2021) further contends a lack of confidence by women, as they tend to fear taking up challenging roles and get intimidated by male counterparts as well as a common goal which prevents women from occupying higher positions as other challenges women face in the mining sector. Kansake, Sakyi-Addo & Dumakor-dupey (2021), urges government interventions and companies to play their part.

However, Gilles (2019) argues that mining workers' mentalities be changed, which would necessitate training and awareness raising and that changing attitudes about women's rights be viewed as an opportunity to improve workplace culture, recruit more women, and retain talent.

Ledwaba & Nkomo (2021), focused on a different angle to investigate the reasons for women working in the mining sector. The study indicates that unemployment, lack of further educational opportunities, better living wages, and availability of mining bursaries are the top four factors motivated women to find themselves working in the mining sector. Therefore, future research purposes should investigate the growth and development plans for women in the mining sector (Ledwaba & Nkomo, 2021).

According to Kaggwa (2020), women in the mining sector worked as general workers (39.3%) whose work responsibilities were not core to mining activities. Furthermore, Kaggwa (2020) highlighted other categories of respondents were operators (27%), professionals (9%), technicians (7%), engineers (1%), and Managers (5%). Therefore as a result of women occupying these low-ranking positions, it can be concluded that they are poorly paid and underrepresented at the top tier of leadership positions. Kaggwa (2020), further argues that women are less represented in managerial and professional positions in the mining sector as compared to secretarial, cleaning, and supporting positions, and women in low-ranking positions is a result of unequal access to opportunities which tends to limit their progress and personal development.

Finally, Kaggwa (2020) posited that it is vital for forums to be established where women in the mining fields can freely share their experiences with other women as this can work as a motivator for more women to enter the mining sector.

To sustain these recommendations, Kaggwa (2020) recommends that progress made in integrating women into the mining sector should be evaluated regularly to guarantee progression of women’s liberation is kept in the spotlight.

2.4 Career advancement within the workplace

Career progression is explained as the vertical or horizontal advancement of individuals both inside and outside the organisation (Matthews, Monk-Turner & Sumter, 2010: Faugoo, 2011). Similarly, career advancement is described as the ascension of a person's career by transitioning from one occupation to another and progressing from entry level to management positions (McKay, 2018). The realization of career advancement as an important strategy in empowering women and changing the workplace subsequent to apartheid in South Africa was included in the Mining Charter (Kaggwa, 2017). The charter enforces mining companies to include human resource development expenditure, with a focus on more previously disadvantaged women in South Africa (RSA, 2018). As per the expenditure, relevant workplace training and experience would be provided to enhance women's career advancement (RSA, 2018).

According to Kaggwa (2010), lack of career advancement was mainly due to women not being provided opportunities to grow resulting in them feeling stagnant in their work position. In a milestone study, Kaggwa (2010) posits that black women, in particular, were not prioritised and when it came to promotions, white women were favoured and black women were overlooked regardless of their abilities. Furthermore, the study revealed a crucial point of career gender discrimination with men said to have an advantage in career development and training (Kaggwa, 2010). Therefore, what this means is that women were denied certain positions based on their gender.

According to Kaggwa (2020), women who had worked for mining companies for a long time, age discrimination was also found as a career growth barrier with young women being said to have the most opportunities for career advancement. However, Kaggwa (2020) further posits that some women noted that there was not always a link between positions held, qualifications, and advancements in their careers, which deterred some of them from seeking training aggressively. This is worth noting that women regarded the process of obtaining training to be

inconvenient and discretionary, discouraging them from pursuing career advancement through training (Kaggwa, 2020).

Kaggwa (2020), further posits that the above-mentioned challenges are attributed to immediate supervisors and company policies and these points to the need for women to be facilitated and given the skills they need to go up the corporate ladder. Lastly Kaggwa (2020), asserted that while skills are provided to women, this should be done in conjunction with providing opportunities for women to take positions with greater responsibilities.

Moalusi & Jones (2019) limited study focused on a small sample size with three main themes that emerged. The key implication drawn from their study is the essence of being a woman in a mining organization. Moalusi & Jones (2019), significantly posit that organizations should train managers to create conditions that minimize barriers and maximize performance and advancement, as well as align retention strategies.

On the contrary, challenges faced by women in the technology sector in advancing their careers are comprised of personal, organisational and industrial barriers (Orser et al., 2012). Orser et al., (2012), highlighted personal barriers perceived as gender influenced self-efficacy, performance expectations, lack of social capital, networking opportunities, and sense of belonging. In addition, organisational issues were perceived as lack of organisational leadership, challenges in handling company growth, limited marketing knowledge, and lack of training and resources (Orser et al., 2012). Similarly, industry-related issues reflected working conditions and culture, industry volatility, the pace of change and intense competition. Orser et al., (2012), emphasized that women in this sector addressed the above-mentioned challenges by applying individual-level strategies such as a change in ones behaviour, actions, credentials, and work ethic, and also the use of mentors or networks was highlighted as psychosocial support to overcome career challenges. Some women had overcome challenges by leaving the job (gave up and changed jobs) or ignoring barriers and these

include women who left after trying to find a compromise, ignored the issue without being angry and left for higher positions (Orser et al., 2012). Therefore it is evident that other sectors, not only mining fail to attract, retain and advance women in this male-dominated environment, or rather the progress in doing so is quite slow.

Similarly, Gauci, Elmir, O'Reilly & Peters, (2022) agree that gender discrimination does exist in nursing with an extensive body of literature detailing the career path of male registered nurses and the benefits they receive. Their study revealed the three themes of gender inequality as gender pay, career progression, and equality in the workplace (Gauci et al., 2022). It was found that there is still a gender gap in favour of male nurses in some countries, as well as faster career progression regardless of experience or qualification. It is worth noting that career interruption results in female nurses' career progression being stagnant. Therefore, Gauci et al., (2022) indicated that policies that support female nurses' career advancement and workplace equality should be embedded into clinical practice.

Botha (2017) further indicates that there are uncertainties about advancement opportunities and, more specifically, career paths to take to advance within mining companies. According to Botha (2017), training opportunities, mentoring systems, career guidance, and financial support are among the identified challenges for advancement opportunities. Therefore, a need for more opportunities to obtain formal qualifications as well as clear and effective guidance in terms of employee training methods in order to support advancement opportunities is required (Botha, 2017).

Finally, Botha (2017) posits that it is vital for mining companies to provide financial support for training, together with bursaries to enable women to obtain formal qualifications. Botha (2017), calls attention to the perception that women are not capable to do what men can do in mining still persist, women experience difficulties in progressing up the organisational ladder with male employees

showing some resistance to taking instruction from women in leadership positions and women feel unwanted, and got appointed in such positions not because of their abilities however to simply satisfy legislative requirements.

In addition, Botha (2017) further revealed that women felt not recognised, not involved in decision making, and felt skills and career development opportunities are in favour of male employees and also some women progress faster than the others mainly because the mining environment is still perceived as a male-dominated environment. Botha (2017) further mentioned that some women felt severely discriminated against in terms of ability to perform a task in the mine, with them reaching glass ceiling, quota appointments and recognition. address It was suggested that companies should develop and implement strategies and plans to effectively and sustainably resolve women's issues and provide necessary support systems for women working in the core mining business to be developed, promoted, and maintained (Botha, 2017).

2.5 Theoretical framework

This study was influenced by the subordination of women in the workplace in order to improve understanding of the interplay between support system opportunities, women underrepresentation and women's career advancement in the mining sector, which can be explained by three theories: Human Capital Theory, Catherine Hakims Preference Theory, and Feminist Theories (Botha, 2017).

Russell (1998) described the Human Capital theory as the differential resources that women and men bring into the labour market resulting in gender inequalities. In his explanation with regards to Human Capital theory, Botha (2017) argues that women are being undervalued by employers and compensated less than men due to less human capital- experience, qualifications and training (Hakim, 2004; Russell, 1998).

Catherine Hakims reference, insists on the diversity of women's lifestyle preferences (Hakim, 2004). Based on this premise, once women of all levels and social classes have a choice, they choose one of three lifestyles: adaptive women (60 %) prefer combining work and family life, work-focused women (20 %) focus on careers sports, and politics and home-focused women (20 %) prefer to marry and prioritize home and family life (Hakim, 2004; Watson, 2012). The theory further contends that men will continue to dominate the work-centred lifestyle because only a small percentage of women choose this path.

Lastly, Feminist theory states that women continue to be socially disadvantaged by men (Lorber, 2011). Furthermore, men and women should have equal opportunities in all aspects of life, asserted (Barkan, 2012). Lorber (2011) argues that women should have equal legal rights, education, and work opportunities as men. In addition, Lorber (2011) continues to contend that gender differences are not based on nature; therefore men and women are not different and should not be treated differently.

Feminist discourse theory, in particular, has a number of theoretical underpinnings that all acknowledge that gender norms have resulted in oppression and unequal resource distribution between men and women in society (Samkange, 2015). Similarly, Lorber (2010) stated that Liberal Feminist theory, in particular, assumes that gender inequality is embedded "in the structure of social order" and that gender prejudice is frequently self-inflicted, so those affected must accept responsibility for their desire to change in order to achieve equal rights and freedom (pp. 390-392).

The mining sector has been disempowering women, with male superiority reinforced while women are consigned to subordinate positions (Lahiri-Dutt & Macintyre, 2006). The theory is critical for promoting women’s empowerment in various settings by advocating for their ability to reclaim control over various aspects of their lives and removing structures that undermine their integrity (Lindsey, 2010).

None of the theories mentioned above can explain women’s subordination in the workplace in great detail because they all have their own limitations.

2.5.1 Application of the framework

Subordination of women was used in this study to better understand the Human Capital Theory, Catherine Hakims Preference Theory, and Feminist Theories in relation to support systems opportunities that are effective in advancing women's careers in the mining sector.

Human Capital theory is the most relevant in this study because it is the primary driver of women's career advancement in the mining sector, due to the emphasis it places on men and women bringing different resources to the labour market, resulting in gender disparities. Furthermore, Human Capital theory focuses on the barriers that women face in the mining industry, and as a result, most employers view women as undervalued. As a result, mining companies face challenges in recruiting, retaining, and advancing women in the mining industry. According to Human Capital theory, the study would uncover opportunities for support systems to advance women in the mining sector. Also, determine how will these opportunities be implemented and sustained for future young upcoming women in the sector.

Catherine Hakim's Preference Theory would help this study in understanding the underrepresentation of women in the mining sector, resulting in a male-dominated environment. As a result, the study will uncover strategies for advancing the careers of upcoming young women in the mining industry.

Feminist theory promotes for gender equality in the workplace. Regardless of gender, all opportunities must be presented in an equal manner. This study will discuss advancement opportunities in terms of effective support systems for women's careers in the mining sector. These opportunities will be available to both men and women.

2.6 Conclusion of literature review

Despite legislative changes and support introduced in the mining sector, women workers continue to face acceptance issues and structural disadvantages (Benya, 2009). It is important to note that the majority of the literature available explored and identified challenges for women entering the mining sector, but the emphasis has been on recruitment rather than advancement opportunities.

In this study, the lack of women's career advancement will be addressed by providing support systems opportunities for women to grow, resulting in advancement in their work positions. Following apartheid, the South African government recognized career advancement as an important strategy for empowering women and introducing women into male-dominated environments, normalizing this strategy in the Mining Charter (Kaggwa, 2017). Following the mining sector's progress in hiring women, mining companies are struggling to recruit, advance, and retain women as they leave the industry due to numerous barriers. According to Hakim (2004) and Russell (1998), factors such as work experience, training, and qualifications play an important role in women's career advancement in any working environment.

Chapter 3: Research methodology

3.1 Introduction

This chapter discusses methods of the study, including research approach and setting, sample, data collection and analysis, reliability and validity and ethical considerations.

3.2 Research approach

A qualitative research design was used in this study to uncover the most effective and sustainable strategies in advancing women's careers in the mining sector within the context of support systems opportunities.

According to Babbie & Mouton (2001), qualitative research aims to investigate human behaviour from the perspective of insiders. Rather than producing statistically valid results, the primary goal of qualitative research is to comprehend, gain insights into, and produce explanations (Ghauri & Grønhaug, 2005).

On the other hand, Creswell (2007) posits that qualitative studies seek to construct a framework or picture, particularly when the inquiry embraces meanings, personal responses or values. In addition, Creswell summarizes the usefulness of qualitative approaches as follows: "We conduct qualitative research, because we need a complex, detailed understanding of the issue, by talking directly with people and allowing them to tell their stories unencumbered by what we expect to find" (Creswell, 2007, p. 40).

The study operated from the premise that effective and sustainable strategies to advance women's careers in the South African mining sector will best be understood from participant's viewpoint and not that of the researcher.

3.3 Research setting

Almost 50% of the research participants are from one of the largest gold refining mining company in South Africa and other respondents from various mining companies reached out via online professional platform. The choice of the setting was done through purposive sampling which is a non-probability technique that purposely chooses who is relevant to the study according to the researchers

perspective (Sarantakos, 2013). The respondents were invited through emails and Linkedin professional platform to complete an online google forms survey.

3.4 Sample

The sample for this study is made of a combination of males and females in core mining positions in the mining sector in South Africa. Around 48% of the sample is participants from gold mining company, followed by 30% from platinum mine, coal and Ferro-alloy mines both on 9% and lastly 4% from vanadium mine. The sample was selected using the purposeful sampling method to identify a more closely defined group of which the research questionnaire was relevant. The selected participants had to be in core functional positions in the South African mining sector, leading from above and had the ability to make decisions, set goals and control the outcomes, and lastly employed. A total of 23 responses were obtained, with 13 females and 10 males, with mining commodities distribution illustrated on figure 1 below.

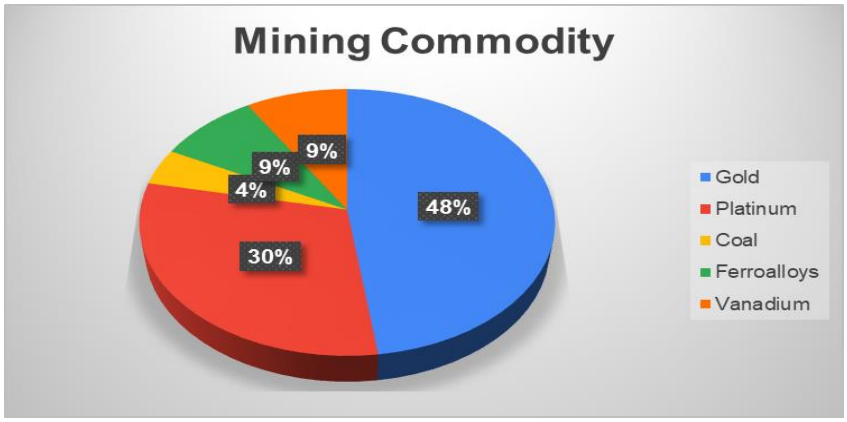

Figure 1: Distribution of mining commodities of respondents.

3.5 Data collection

Data were collected through structured and open-ended survey in a written format via an online survey tool (google forms). Participants were required to respond to

questions in text to explain their perspectives or experiences. The questionnaire took approximately 20-30 minutes for participants to complete. The choice of media was made primarily because of its cost effectiveness, convenience and ability to reach a wider audience (Minnaar & Heystek, 2013). Again, the method was preferred based on its opportunity and convenience as people in positions of responsibilities have hectic schedules and limited availability.

The questionnaire was reviewed several times before being distributed to the selected participants. The final questionnaire addressed some of the following critical issues:

- Most effective and sustainable strategies assisting women to advance their careers in the mining sector.

- Strategies worked in one's favour to advance their careers in the mining sector.
- Company strategies used to assist women in advancing their careers in the mining sector.
- Governmental strategies used to assist women in advancing their careers in the mining sector.
- Recommendations for advancing careers of upcoming young women in the mining sector.
- Interventions required ensuring that effective strategies are implemented and sustained in the mining sector.

Prior to completing the survey, participants were emailed the title, nature, and purpose of the study, as well as the survey link, to obtain their informed consent to participate in the study.

3.6 Research process

There were two approaches to the research process. Firstly, permission was granted by management of one of largest gold refining mining company in Africa to conduct research on its employees holding core mining positions. Secondly, individuals who are working in any mining sector in South Africa holding core positions were targeted on online professional platforms (LinkedIn). A snowball sampling technique was applied by selected individuals who recruited their acquaintances for survey participation. This aimed to eradicate the issue of bias as high response rate will ensure research results are representative of the targeted sample. Data quality was guaranteed within an ethical framework that includes informed consent before survey participation, voluntary participation, and the right to withdraw, as well as anonymity, confidentiality, and ethical clearance from the university ethics research committee.

3.7 Data analysis and interpretation

Thematic analysis, which is defined as "a method for identifying, analysing, and reporting patterns within data" (Braun & Clarke, 2006, pp. 77-101), was used to analyse the data collected. The method involves familiarization with and immersion in the data. The method complements the research approach and design because it allows for the identification of recurring themes from the data collection in relation to the experiences of women and men in core roles in the South African mining sector.

The interpretation analysis includes line-by–line examinations of statements and statements coding on a sentence and then a concept basis. A set of coding categories were established (themes) and further coded according to the sub-themes which emerged.

The responses were exported from Google forms to MS Excel® for further processing and analysis. The responses were categorized into quantitative and

qualitative data and analyzed quantitatively (summary statistics) and qualitatively (thematic analysis). The responses to close-ended questions generated the quantitative data while responses to open-ended questions resulted in the qualitative data. Analysis of the quantitative data was performed using charts in MS Excel® to extract relevant summary statistics. Thematic analysis was used to analyze the qualitative data. Responses were thematically analysed and identified themes and sub-themes for the most effective and sustainable strategies in advancing women careers in the mining sector.

3.8 Reliability and validity of research

The ability of a measurement to produce consistent results is considered to be reliable (Sarantakos, 2013). As a result, Sarantakos (2013), continues to emphasise that a method is considered reliable if the story's results can be replicated regardless of the researcher, research conditions, or respondents.

On the other hand, Ghauri & Grønhaug (2005) mentioned that validity is the extent to which an empirical measure accurately reflects the true meaning of a concept in question. In qualitative research, different types of validity are considered, such as descriptive, theoretical, interpretive, and generalizability (Ghauri & Grønhaug, 2005).

For this study, to enhance triangulation which is the reliability and validity of qualitative research (Babbie & Mouton, 2001), the following was conducted: a literature review, data collection method was used within qualitative research design: structured online survey questionnaire.

Respondents purposively selected are both men and women in core positions of various mining companies (different commodities). To obtain different perspectives, other professional platforms such as Linkedin were used to reach a broader research audience. As the above-mentioned was conducted, the validity and reliability of the research was achieved.

3.9 Ethical considerations

Data quality was guaranteed within an ethical framework that included obtaining permission from the management of Africa's largest mining refinery company. Rand Refinery Limited provided written permission to conduct the research and to utilize their resources, such as work emails. Prior to starting the study, ethical clearance was obtained from the Wits Business School ethics research committee to ensure that the study would be conducted with human rights considerations.

Before starting the survey, participants would read about the study's purpose, how their decision to participate in the survey was voluntary, how their responses would be kept anonymous and confidential, and how they had the right to withdraw without fear of victimization or penalty.

Participants were given information about the researcher's identity, the supervisor's and researcher's association with the institution, and their contact information.

Chapter 4: Research findings

4.1 Introduction

This chapter provides the results of the research, with each theme introduced and demonstrated with quotes obtained from the data in support of the theme. Below is a summary of the profiles of respondents based on demographic data.

As per figure 2 below, a total of 57% of respondents were females and 43% were males. Figure 3 and 4 indicate that about half of the respondents were between the age of 40-49 years and 90% reported to be black. Approximately half of the respondents were married (figure 5). Figure 6 shows that year of experience for the respondents resulted in 22% each for age groups of 20 years and above, 5-

9 years and 0-4 years. Approximately 67% of respondents had 4 years of managerial experience (figure 7). Figure 8 indicate that majority of respondents were in positions of manager/senior manager and foreman/supervisor. Lastly, figure 9 show that 60% of respondents hold honours degree or diploma qualifications in various fields.

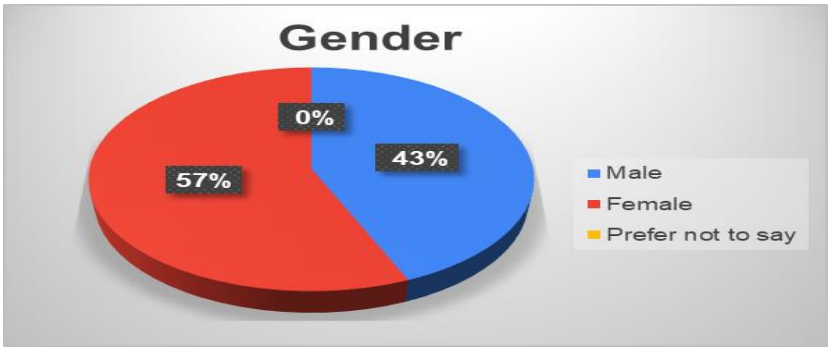

Figure 2: Gender distribution of respondents.

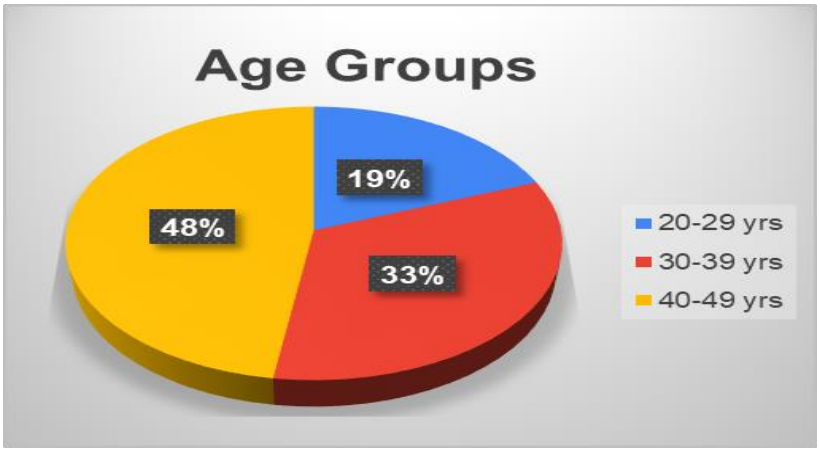

Figure 3: Age distribution of respondents.

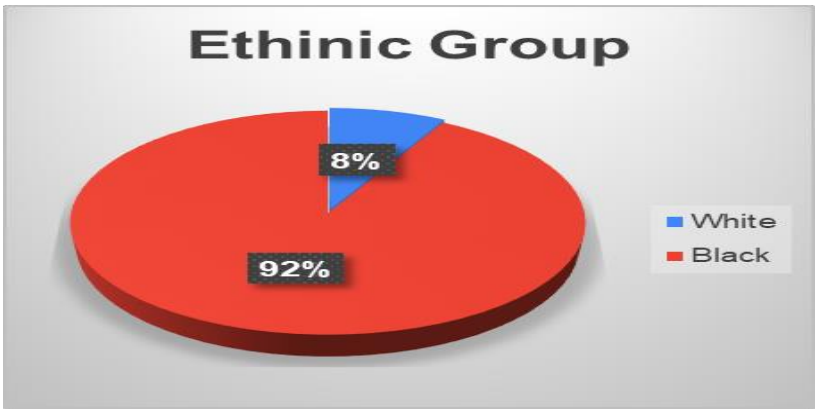

Figure 4: Respondents' ethnic group.

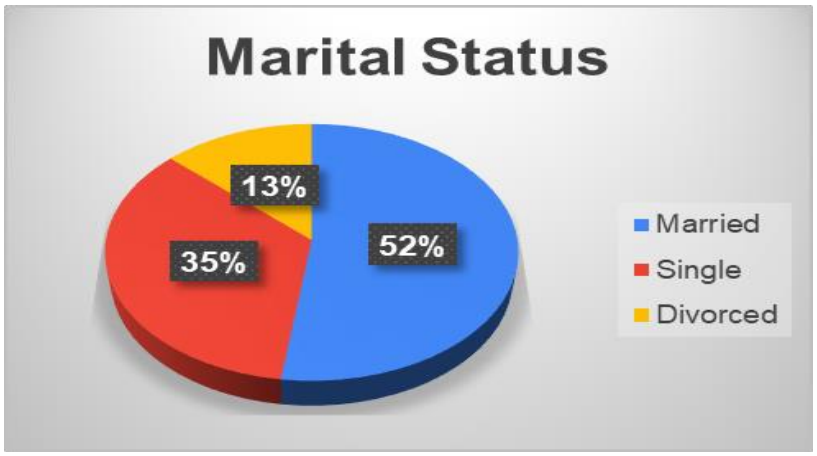

Figure 5: Respondents' marital status.



Figure 6: Respondents' years of experience in the mining sector.



Figure 7: Respondents' tenure in leadership positions in the mining sector.

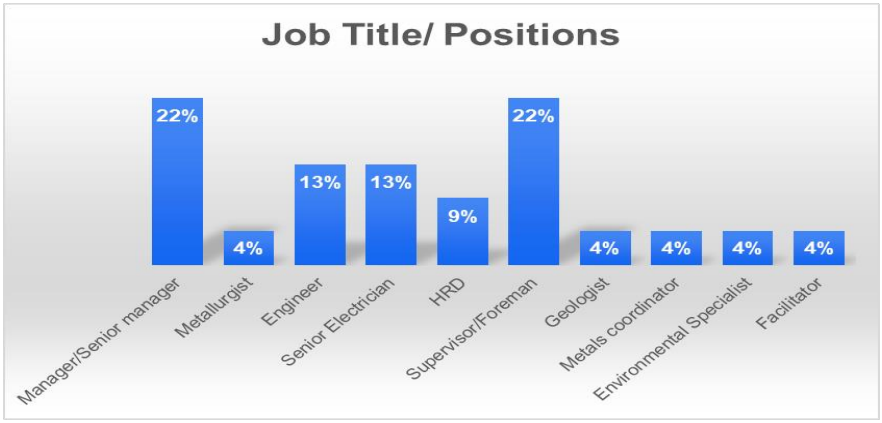

Figure 8: Respondents' job positions in mining sector.

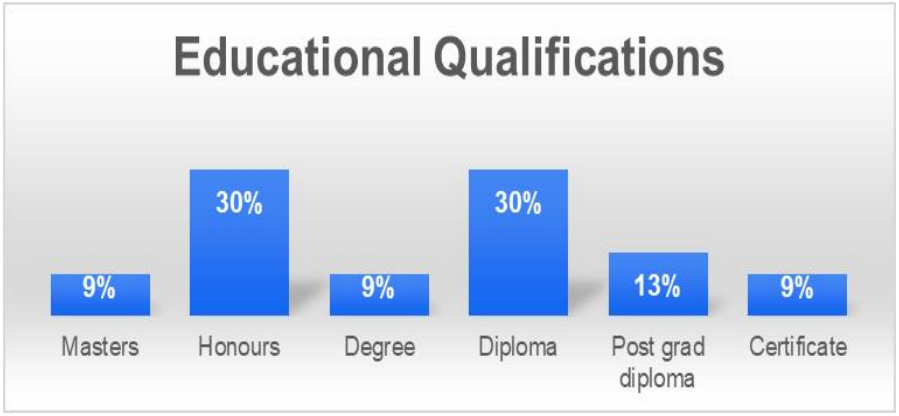

Figure 9: Respondents' educational level.

4.2 Analysis of themes

A detailed line-by-line analysis of the participants' responses was performed in order to provide a detailed account of women and men's experiences and perceptions of effective and sustainable strategies used to advance women's careers in the South African mining sector, as well as effective support systems opportunities to advance women from the individual, corporate, and government perspectives. Following the completion of the analysis of all participants' responses, emerging patterns were sought across responses, resulting in the tables 1 through 6 below of themes and sub-themes from all responses. Only the most important themes were included in the final report, and those that were not well supported by the data were removed (Maunders, 2012).

An in-depth presentation of the research findings has been centred on themes and sub-themes developed for effective and sustainable strategies to advance women's careers in the South African mining sector, as well as effective support system opportunities from the perspectives of individuals, corporations, and governments to advance women's careers, and finally practical recommendations for support systems to advance the careers of upcoming young women, as well as interventions required in the mining sector.

4.2.1 Most effective and sustainable strategies for advancing women's careers in the South African mining sector.

Effective and sustainable strategies to advance women's careers in the South African mining sector resulted in two major categories (personal and corporate). Table 1 below shows a summary of themes and sub-themes, as well as the corresponding quotes for each category.

4.2.1.1 Personal category

This refers to factors that women personally take on as initiatives to advance their careers in the mining sector without any support from corporate or government.

There are two themes that emerged from the personal strategies category, thus individual initiatives and education.

4.2.1.1.1 Individual initiatives

The study's findings revealed that, women take the initiative to advance their careers in the mining sector. Two strategies have emerged: self-development and workplace awareness.

Self-development - At first, mining companies were known to hire people with no experience or qualifications in the hopes of developing and exposing them to a working environment. Companies are increasingly looking for well-educated individuals to fill core mining positions as the world revolves. This is evident from the respondents' statements that, in order to advance in their careers, they needed to develop themselves personally rather than rely on the companies. One female participant in senior managerial position responded in support of this, saying that for women to advance in their careers, they must focus on:"*Personal development and allowing career coaching to woman from leadership".*

Awareness - The mining industry is well-known for being dominated by men. Respondents emphasized the importance of raising awareness, particularly among male counterparts in all core functional positions, to address issues such as gender disparities and to promote inclusion and diversity in core mining positions. One woman in a management position stated that: "*I believe more males in high level leadership roles must raise an awareness about woman mistreatment and underrepresentation in leadership power roles and they should support and promote inclusion".*

4.2.1.1.2 Education

Respondents clearly recognize education as one of the most important strategies for advancing women's careers in the mining sector. Certain knowledge and skills are required to be able to lead and assume positions of responsibility.

Qualifications - Respondents emphasized the importance of upskilled women attending training and furthering their studies in order to obtain relevant qualifications, which allows them to advance in their careers. A black man from mid-managerial position stated that*: "They get upskilled by attending courses and through studies".*

4.2.1.2 Corporate category

This refers to factors that women undertake with the assistance of mining companies or the government as a whole in order to advance their careers in the mining sector. Under the corporate strategies category, four themes that are effective in advancing women's careers were developed: support systems opportunities, workplace acceptance, a positive attitude and systems.

4.2.1.2.1. Support systems opportunities

Companies' support systems, such as trainings, mentoring and coaching, have been shown to have an impact on advancing women careers in mining sector, particularly when provided by one woman to another.

Coaching, mentoring and training - According to respondents, exposing women to workshops, mentoring processes and coaching of women to women about leadership challenges helps them prepare for positions of greater responsibility and advance faster. It was also mentioned that one of the strategies used by companies is to train women from the moment they enter into the system until they reach the top of the organizational ladder.. A black women and black man in their four years of experience in the mining field stated:

"*Trainings and mentorship's, mentoring between women, coaching" and*

"All companies must be compelled to put in place some leadership development programs which must include taking all graduates through a development program of 2 years starting from operator level up to the shift general foreman level including positions like shift leader".

4.2.1.2.2 Acceptance in the workplace

Women's unrestricted work in the mining industry is relatively new to South Africa. Prior 1996, women were not allowed to work in mining sector, especially underground. Formal employment for women in all industries gained traction following South Africa's democratic transition in 1994 following rules and regulations that were implemented.

Support - Research finding revealed that, top management plays an important role in supporting and encouraging females, as well as recognizing them for their work and value in the workplace. Respondents revealed that women who receive emotional support advance in their careers. This strategy prepares women for positions of greater responsibility. One female respondent with less than four years of experience in the field emphasized this point, stating that women require:

"Support and encouragement from top management",

Another male respondent in middle management shared the same sentiments about supporting this strategy, stating that women require:

"Boost them emotionally first and teach them dictatorship lessons to enhance their leadership skills".

One male respondent strongly expressed his opinion, stating that women must be supported by top management and not rely on company procedures to advance their careers, as this may give the impression that they are incompetent to hold certain positions and lack the necessary skills. A male respondent highlighted his point of view, which stated:

“Giving acknowledgement to a women's work from top management will give more credibility than to implement all types of HR strategies to only employee females etc. By following this strategy, the belief is then that you have only achieve advancement in your career because of the HR strategy and not because of your skill”.

Fair opportunities - Respondents revealed that, women who are appointed to meaningful positions (core functional positions) as they are recruited have a better chance of advancing in their careers. One male respondent in a managerial position with more than ten years of experience supported this strategy, stating that:

‘The most effective and sustainable strategy is to ensure that women are assigned meaningful positions with clear progression and succession plans. The development plans assigned to women should be supported by mentorship with practicable and achievable goals’.

4.2.1.2.3 Positive attitudes

Confidence - confident women who have been given opportunities and additional responsibilities believe in themselves more and are more likely to advance in their careers. A black female respondent with over 5 years of managerial experience stated:

“Encourage them more and give them opportunities to be more competent, let them gain more confidence in believe that also women can do it”.

4.2.1.2.4 Systems

Companies use a variety of systems to help women in the mining sector to develop and advance in their careers. However, these systems are not thoroughly implemented and maintained because they are only done to comply with government legislation.

Integrity - Respondents revealed that companies that recruit females not only for BBBE status, but also for the mutual benefit of both parties and companies that recruit females on entry positions, retain and advance them through succession planning systems, end up in progressing within the system. Two male respondents from the survey asserted that:

"When companies are doing it from a perspective of dual benefit and not as a paper exercise", and

"Companies should normalized hiring women at lower position so that men will not feel that women just come to mining sector just for advancement opportunities".

4.2.2 Individual effective supporting systems opportunities in advancing women's careers in the South African mining sector.

Effective strategies used by women in the mining sector to advance in their careers have resulted in personal and corporate category themes. However, the primary focus of this study will be on support systems opportunities strategies. Other personal strategies that women as individuals have expressed to be effective include education in the form of qualifications, individual initiatives such as personal development, dedication, and self-awareness.

The two main themes that emerged from the corporate category were support systems opportunities and experience. Relevant work experience and continuous learning are the sub-themes developed under experience. Table 2 shows a summary of the themes of support systems opportunities for women in the mining sector.

4.2.2.1 Support systems opportunities

Mentorship and training are two sub-themes that emerged on support system opportunities that women as individuals highlighted as effective.

Mentorship - Female respondents stated that having a mentor to guide them through their career path helped them advance in their careers. They also stressed the significance of having female mentors, especially for young females entering the industry. This was also supported by a male respondent, who was brief and to the point in his response, stating that women require:

"Exposure to the environment and mentorship (having a mentor)"

Training programmes – More than two respondents emphasized the significance of graduate programs and leadership training courses in enhancing leadership skills and preparing women to advance up the organizational ladder. One of the oldest male respondents, with over 15 years of mining experience, expressed his views as follows:

"Graduate training programme are the best to train and enhance leadership and work readiness".

Furthermore, a female respondent who worked her way up the corporate ladder and into management positions stressed the importance of starting from the bottom and advancing her career with company support by attending relevant trainings. In her response, she replied openly and said:

"Attending leadership trainings and having worked on the shop floor from operator to general foreman level that gave me the confident to manage the operations shift people".

4.2.3 Corporate effective supporting systems opportunities in advancing women's careers in the South African mining sector.

The study's findings revealed four themes in which respondents expressed their views on the strategies used by South African mining companies to advance women's careers: support systems, remuneration systems, inclusion, and cultural management. As the study focuses on the corporative effective support systems

opportunities to advance women in their careers, support system opportunities will be discussed in depth, among other themes. Table 3 summarizes these themes.

4.2.3 Support systems opportunities

The sub-themes that emerged from the support systems opportunities used by mining companies to advance women's careers are presented below.

Training and development, and female representation - Graduate training programs, succession planning, women mentorship, and personal development plans were mentioned as effective systems for advancing women's careers in the mining sector by respondents. One young respondent between the ages of 20 and 29 was specific and stated:

"Management/graduate training programme can assist women to advance their career in the mining sector".

A male respondent with extensive mining experience, more than 15 years in positions of responsibility, was specific in mentioning trainings required to advance women's careers as:

"Training and development, female mentors, succession plan, women empowerment with education, PDP, graduate programme".

Women empowerment - Respondents emphasized that mining companies, in collaboration with various stakeholders, empower women in a variety of areas, including educational, social, and mental well-being. This strategy was found to be effective in advancing the careers of women in the mining industry. A black male in a managerial position with a degree expressed his views and stated:

"The mining industry engages with various other stakeholders and allocates their resources to directly and indirectly empower women to various educational, health and social schemes".

Succession planning - Respondents emphasized the significance of companies utilizing succession planning and women exposed to these programs improved their skills. Women were also discovered to have taken management courses as part of their succession planning strategy. This strategy has been shown to be effective in advancing women's careers in the mining industry. This strategy was supported by a male respondent in a senior management position, who stated:

"Succession planning and leadership courses. Send them to women leadership and to advanced management programs that will assist them in building exceptional levels of strategic, high performance and self-aware leadership skill".

Mentorship - One of the strategies identified as effective and frequently used by mining companies by respondents is placing women in mentorship programs. Companies purposefully cast women in acting roles to prepare them for more responsible positions as they advance up the organizational ladder. A white female respondent agreed completely with this strategy, emphasizing her point by saying:

"Deliberately supporting women by affording mentorship programmes, job shadowing, acting positions, practical and achievable Personal Development Plans, further studying".

4.2.4 Governmental effective supporting systems opportunities in advancing women's careers in the South African mining sector.

The research findings revealed four themes, summarized in table 4, that describe effective governmental strategies used to force South African mining companies to advance women's careers as policies, regulations, equity and rewards. The two themes that emerged for support system opportunities are policies and regulations.

4.2.4.1 Policies

South Africa's government enacted policies that accelerated economic transformation and increase citizens' economic participation in their country's economy. BBBE, EE, and AA quotas are among the policies mentioned by respondents. Respondents stated that the government monitors mining companies, reviews employment equity status, and audits companies' BBE strategies to help women advance in their careers. To ensure compliance, mining licenses are subject to certain conditions that promote women's inclusion and advancement in the industry. One female respondent with ten years of experience in the mining sector emphasized this strategy, highlighting that companies should:

"BEE strategies for business - Businesses to submit their BEE/equity strategy and department of labor inspects to verify whether the employees are real through audits".

Another black female respondent with four years of experience in her position expressed her support for this strategy, saying:

"Government should continue putting pressure to the mining industry to comply with EE & AA quotas. Certain conditions should be attached to the mining license to ensure that mining companies comply to the women empowerment".

Finally, a male respondent with over ten years of experience in the mining industry shared his views and was direct in his response, saying:

"By enforcing companies to review their EE Policy ensuring that there is balance"

11.4.2 Regulations

Audits - Respondents stated that the mining company's recruitment and advancement processes are regulated to ensure government compliance.

This strategy requires mining companies to hire and promote women in the mining industry. A black female respondent was direct and simple in her response, saying:

“Regulate mining recruitment numbers”.

Another male respondent in a managerial position with over 15 years of mining experience seconded this strategy, stating:

“*The government is putting an effort to level the playfield, rules and regulations have been legislated in an attempt to reduce bias and eliminate discrimination”.*

Frequent reporting – Respondents emphasized that this strategy is effective in advancing women's careers in the mining sector because the government requires mining companies to publish their employment equity data in order to track the progress of employment equity. A female respondent in middle management with four years of experience was direct in her response, saying:

“The government must ask all companies to publish public Employment Equity statistics Equity of the firms”.

4.2.5 Practical recommendations for support systems opportunities to advance, recruit and retain careers of upcoming young women in the South African mining sector.

The study's findings revealed two themes: cultural management, which included sub-themes such as practice and support, and support systems opportunities, which included sub-themes such as education, training, and mentorship. Table 5 depicts these themes.

4.2.5.1 Support systems opportunities

The findings of the study revealed that upcoming young women require education and training. They must also plan for career and leadership development. Respondents advocated for a yearly survey of women in the mining industry to be conducted.

Education - Respondents emphasized the importance of recruiting women from higher educational learnings and that mining companies should sponsor these female students. Furthermore, respondents suggested that mining be included in the high school curriculum. This will assist young aspiring women in developing confidence and self-awareness. A young female respondent between the ages of 20 and 29 recommended:

“Mine must start recruiting females from higher education institutions and also sponsor colleges and ensure their qualification registered with QCTO have higher numbers of female students”.

Another male respondent in his forties emphasized the importance of mining education, particularly at the early stages of learning, and stated that:

“Mining should be part of high school syllabus to help build confidence on young females and how one should handle themselves in the mining environment”.

Training and mentorship – More than seven respondents mentioned the importance of training and mentoring in ensuring that effective support systems opportunities advance upcoming female mining careers. With these responses, it is clear that respondents strongly believe that this strategy can advance young females without a doubt. The following are the highlights of the respondents' effective recommendations for this strategy:

"Allow women to work in mining doubting their abilities, give them more training if possible especially in areas where men perform better",

"Pair a young women with a women that has experience as their mentor to guide and assist in a male dominated industry",

"More workshops organized by women in the mining sector",

"Allow them to attend conferences/meetings where needed in their area of expertise",

"There should be programmes aimed at encouraging women in mining and being followed by placement in respective companies" and

"Women training on equality, women also develop the notion that certain jobs are not for them applying the gender disparity where it suits them, training on equality and what does it mean for the organization".

4.2.6 Interventions required to ensure effective support systems opportunities for advancing women careers in the South African mining sector are implemented and sustained

Table 6 summarizes three themes that emerged from the research findings regarding the interventions required to ensure that effective support system strategies are implemented and sustained. These are cultural management, support systems opportunities and governance.

4.2.6.1 Support systems opportunities

Policies - Respondents emphasized the importance of boards and shareholders including women's representation in leadership positions as a key performance indicator (KPI). The importance of DMR enforcing some of the effective strategies that mining companies must implement was also emphasized. One female respondent with more than 5 years of managerial experience raised an important

intervention, particularly for top management to carry out in order to force commitment, by saying:

“Boards and shareholders should include women representativeness at leadership role as one of their KPI so that executives can actively implement”.

A black male respondent with more than ten years of industry experience suggested how the Department of Minerals can intervene and play a role in ensuring that these strategies are implemented and sustained, and stated that:

“DMR should enforce some of the strategies that will enforce mining industry to absorb female leaders”.

Education - Respondents expressed an interest for a career development process, with females being specifically targeted to study and complete the programs. This allows for succession planning and ensures that the strategies are implemented and maintained. In her early years in the mining industry, one female respondent was direct and to the point, saying:

“School, and career volunteers” and “Career development process, where you identify employees with ability to study using your criteria to ensure that you have people who'll complete the programs”.

Training - Respondents stated that management training programs should be open to both men and women. Furthermore, more leadership courses are required to empower women in this field and prepare them as they advance up the organizational ladder. For effective strategies to be implemented and sustained, a middle management respondent shared the following interventions:

“Workshops and more courses and Management training programmes in the mining sector should be also open for women not only men”.

Table 1: Most effective and sustainable strategies assisting women to advance their careers in the mining sector.

What would you say are the most effective and sustainable strategies applied to assist women in advancing their careers in the mining sector?			
Category	**Theme**	**Sub-Theme**	**"Quotes" from responses**
Personal	Individual initiatives	Development/ personal growth	*Personal development and allowing career coaching to woman from leadership*
		Awareness	*I believe more males in high level leadership roles must raise an awareness about woman mistreatment and underrepresentation in leadership power roles and they should support and promote inclusion.*
	Education	Qualifications	*They get upskilled by attending courses and through studies. By presenting they work through pool talent they will get recognized*
Corporate	Support systems	Training, mentorship and Coaching	*Trainings and mentorship's, mentoring between women, coaching*
			All companies must be compelled to put in place some leadership development programs which must include taking all graduates through a development program of 2 years starting from operator level up to the shift general foreman level including positions like shift leader.
			Further education, workshops on women in leadership challenges and how to overcome, workshop on male colleagues on respecting women for their trade and knowledge not focusing on gender
	Acceptance in workplace	Support	*Support and encouragement from top management*
			Boost them emotionally first and teach them dictatorship lessons to enhance their leadership skills
			Giving acknowledgement to a women's work from top management will give more credibility than to implement all types of HR strategies to only employee females etc. By following this strategy, the belief is then that you have only achieve advancement in your career because of the HR strategy and not because of your skill.
		Fair opportunity	*The most effective and sustainable strategy is to ensure that women are assigned meaningful positions with clear progression and succession plans. The development plans assigned to women should be supported by mentorship with practicable and achievable goals.*
	Positive attitudes	Confidence	*Encourage them more and give them opportunities to be more competent, let them gain more confidence in believe that also women can do it*
	Systems	Integrity	*When companies are doing it from a perspective of dual benefit and not as a paper exercise.*
			Companies should normalized hiring women at lower position so that men will not feel that women just come to mining sector just for leadership positions.

Table 2: Strategies worked in one's favour to advance their careers in the mining sector.

As a woman/man what do you think are strategies that worked in your favour to advance your career in the mining sector?			
Category	**Theme**	**Sub-Theme**	**"Quotes" from responses**
Personal	Education	Qualifications	*Perseverance and willingness to start from the bottom while learning and upgrading both my educational qualifications and skills required for leadership roles.*
	Individual initiatives	Personal growth/ development	*Self-development, learn other skills that can complement and enhance your current skills.*
			Personal growth - not focusing on male colleagues and competing with them *SWOT analysis to work on my weaknesses* *Results driven*
			Continuous self-development through further studying and networking.
			I had to gain the knowledge and develop my expertise to becoming an expert
		Dedication/determination	*Determination and Commitment to advance in my career having to meet people who guided me with my career path*
		Self-awareness	*I think understanding my abilities and believing in my potential*
			Learning from the ground up, resilience and good emotional intelligence
Corporate	**Support systems**	**Mentorship**	***Exposure to the environment and mentorship(having a mentor)***
		Training programmes	***Graduate training programme are the best to train and enhance leadership and work readiness.***
			Attending leadership trainings and having worked on the shop floor from operator to general foreman level that gave me the confident to manage the operations shift people
	Experience	Work experience	*Work experience*
		Continuous learning	*Opening up to learning by acting in all possible positions that came my way*

Table 3: Company strategies used to assist women in advancing their careers in the mining sector.

What company's strategies do you think are used to assist women in advancing their careers in the mining sector?		
Theme	**Sub-Theme**	**"Quotes" from responses**
Support systems	**Training and development, Women representation**	***Training and development Management/graduate training programme can assist women to advance their career in the mining sector***
		Training and development, female mentors, succession plan, women empowerment with education, PDP, graduate prog
	Women empowerment	***The mining industry engages with various other stakeholders and allocates their resources to directly and indirectly empower women to various educational, health and social schemes***
	Succession plan	***Succession planning and leadership courses. Send them to women leadership and to Advanced management programs that will assist them in building exceptional levels of strategic, high performance and self-aware leadership skill***
	Mentorship	**Deliberately supporting women by affording mentorship programmes, job shadowing, acting positions, practical and achievable Personal Development Plans, further studying.**
Remuneration systems	Retention bonus	*Remuneration (retainment bonus)*
Inclusion	Equity	*There are legal obligations to have women in leadership position, most of companies take women external for leadership positions, I think it's basically for respect from their subordinates. However they still have opportunities for internal women to be trained and be equipped*
		Not really one but they're pushing equity percentage
		Employment equity committees
Cultural management	Exposure	*The path is still blurry, however they must be exposed to different aspects of the business*
		Allowing woman to take more responsibilities and assigning a mentor

Table 4: Governmental strategies used to assist women in advancing their careers in the mining sector.

What governmental strategies do you think are used to assist women in advancing their careers in the mining sector?		
Theme	**Sub-Theme**	**"Quotes" from responses**
Policies	**BBBE**	***BEE strategies for business - Businesses to submit their BEE/equity strategy and department of labor inspects to verify whether the employees are real through audits***
		Government should continue putting pressure to the mining industry to comply with EE & AA quotas. Certain conditions should be attached to the mining license to ensure that mining companies comply to the women empowerment.
		By enforcing companies to review their EE Policy ensuring that there is balance
Regulations	**Audits**	***Regulate mining recruitment numbers***
		The government is putting an effort to level the playfield, rules and regulations have been legislated in an attempt to reduce bias and eliminate discrimination
	Frequent reporting	***The government must ask all companies to publish public Employment Equity statistics Equity of the firms***
Equity	Gender balance	*They enforce gender equality*
		Legal obligations for companies to employ female in Leadership position
		They used the equity plan and broad based black economic empowerment
		Promoting Equal opportunities for all genders without being biased
		Employment equity and reporting as per each committee per site or mine
		Equality based policies assist women to advance into leadership positions.
Rewards	Incentives	*Companies that directly dealing with government, they get certain incentives.*

Table 5: Recommendations for advancing careers of upcoming young women in the mining sector.

What practical recommendations do you have for advancing the careers of upcoming young women in the mining sector in order to recruit and retain them?		
Theme	**Sub-Theme**	**"Quotes" from responses**
Cultural Management	Practices	*I would say exposing graduates more on field to assist their problem solving strategy when they are on leadership positions*
		To have more female leaders in the mining sector so that they can become role models for the young ones
	Support	*One on one sessions between upcoming and experienced women*
		Understand their needs in balancing work/life i.e. allowance to work flexible hours
		Support them when they want to develop a certain skill set
		Training them emotionally, physically, mentally and strengthen their resilience
Support systems opportunities	**Education**	***School and training will better everything***
		Create leadership and professional development pathways
		Conduct yearly surveys on women for entropy and develop a strategy on how to address the key issues that are common across all departments
		Mining sector should recruit young women at lower position and allow them to grow in the sector.
		Mine must start recruiting females from higher education institutions and also sponsor colleges and ensure their qualification registered with QCTO have higher numbers of female students
		Mining should be part of high school syllabus to help build confidence on young females and how one should handle themselves in the mining environment
	Training and mentorship	***Allow women to work in mining doubting their abilities, give them more training if possible especially in areas where men perform better.***
		Pair a young women with a women that has experience as their mentor to guide and assist in a male dominated industry
		More workshops organized by women in the mining sector
		Expose them to a formal operations and leadership development program of at least 2 years and do regular performance checks
		Allow them to attend conferences/meetings where needed in their area of expertise
		There should be programmes aimed at encouraging women in mining and being followed by placement in respective companies.
		Employ and retain the talent of young woman, career mentor and personal development through further training
		Women training on equality, women also develop the notion that certain jobs are not for them applying the gender disparity where it suits them, training on equality and what does it mean for the organization
		Career promotions and also encouraging, giving them opportunities to study further than their current positions

Table 6: Interventions required ensuring that effective strategies are implemented and sustained in the mining sector.

What interventions are required to ensure that effective strategies are implemented and sustained in the mining sector?		
Theme	**Sub-Theme**	**"Quotes" from responses**
Cultural Management	Practices	*Strategy session between women and management of companies/government where women can tell what worked for them and what did not. To prevent reimplementation of strategies that have failed in the past.*
		Include them in all aspects of projects and not only in data collection and desktop studies but also in the field work components and areas that are deemed too heavy for a female. Have them trained for these projects so they can work effectively
		Strong competent leadership and consequences for those who don't comply with the those policies
		Conduct Consultation with different mining industry stakeholders including the government.
		EE reporting and Fulfillment of the Personal development charter
Support systems opportunities	**Policies**	***Boards and shareholders should include women representativeness at leadership role as one of their KPI so that executives can actively implement.***
		DMR should enforce some of the strategies that will enforce mining industry to absorb female leaders
	Education	***School, and career volunteers***
		Career development process, where u identify employees with ability to study using your criteria to ensure that you have people who'll complete the programs
	Training	***Workshops and more courses***
		Management training programmes in the mining sector should be also open for women not only men
Governance	Regulations	*Frequent auditing of strategies implementation by third party*
		Proper KPI planning and management. Something that is relevant and SMART and can actually be tracked data rather than perceptions
		Companies to be audited
		Audits by government and external independent companies
		Interventions that speak to Governance, Leadership and Coaching and Mentoring
		Regular follow-up by inspectors I.e. DMRE
		Through auditing for compliance and offering incentives like tax reduction to companies that promotes females development into higher leadership positions
	Discrimination and equity	*Short, medium & long-term interventions. Proper positions with market related & competitive salaries, mentorship, realistic & achievable personal development plans, enforcement of the systems where women discrimination is picked-up, further development and studying opportunities.*

Chapter 5: Discussion

5.1 Introduction

The purpose of this research is to uncover the most effective and sustainable strategies for advancing women's careers in the South African mining sector, within the context of effective support systems opportunities.

The main support system opportunities themes identified to advance women's careers are mentorship and training, education, succession planning, women representation, women empowerment, policies, audits, and frequent reporting. Three theories guide the discussion in the chapter: Human Capital Theory, Catherine Hakims Preference Theory and Feminist Theories that influenced women's subordination in the workplace.

5.1.1 Most effective and sustainable strategies for advancing women's careers in the South African mining sector.

Effective and sustainable strategies for advancing women's careers in mining sector are identified as individual initiatives (self-development and awareness), education, support systems opportunities (training, mentorship and coaching), acceptance in the workplace (support and fair opportunities), positive attitude, and systems.

The research findings revealed that the above-mentioned strategies are effective in advancing women's careers in the mining sector. Participants, however, emphasized individual initiatives and education as the two most effective strategies for advancing women at the moment. This means that mining companies and the government are no longer putting more effort into facilitating women's career advancement in mining. As women enter this industry, they educate themselves and obtain additional qualifications to ensure that they are

relevant and ready when opportunities for advancement arise. This finding contrasted with Kaggwa's findings on women's career advancement in the workplace literature review, in which he clearly stated that, while some women noted discrepancies in linking qualifications and career advancements, this discourages some women from furthering their studies (Kaggwa, 2020).

Consistent with Human Capital theory, qualification is important in women's career advancement because it affects their remuneration, as women are undervalued by employers (Botha 2017, Hakim, 2004; Russell, 1998).

Kaggwa (2020) highlighted that, unequal access to opportunities limits women's advancement, resulting in women occupying low-ranking positions. As observed in this study and consistent with literature on barriers faced by women in the mining sector, when women in the industry face various barriers that prevent them from advancing into leadership positions, they end up leaving the industry or opting for administrative roles (M.C.o.S.A, 2017). Consistent with literature in career advancement in the workplace, Kaggwa (2020) highlighted that women found the process training to be inconvenient and available to certain individual, thus discouraging them from attending training.

Again, awareness among male counterparts in positions of leadership aids women's advancement. Men appeared to be becoming more involved in women's inclusion and diversity, recommending that women take on leadership roles to balance the genders. This is consistent with the literature review on barriers faced by women in mining, in which Gilles (2019) asserted that mining workers' mentalities must be changed through awareness. This finding will help to shift attitudes toward women's rights, which can be viewed as an opportunity to improve culture, recruit, advance, and retain women.

An important finding from the study was the significance of education. Consistent with literature review on barriers faced by women in mining, Ledwaba and Nkomo (2021), highlighted that one of the reasons women end up working in the mining

industry is a lack of educational opportunities. Women who further their education and obtain relevant qualifications have been shown to advance in their careers. During their time in the system, these women gain relevant skills that will be needed for higher-level positions. This will encourage more women participation in the sector and ultimately will improve gender disparities across core functional positions in mining. What this means is that if additional education is available and accessible to everyone, it can lead to job opportunities. Therefore a formal education is seen as a means of escaping poverty and gaining access to better job opportunities that help women advance in their careers.

The research findings revealed that opportunities for support systems such as coaching, mentoring, and trainings are effective strategies for advancing women's careers. This finding is consistent with existing literature on women's career advancement in the workplace, indicating that women in core mining positions require necessary support systems such as mentors and women representation, which should be developed, promoted, and sustained (Botha 2017). Women in this sector prefer support systems provided by women in positions of leadership, such as female mentors who serve as role models. This is also consistent with Orser, Riding, and Stanley (2012), who recommended mentoring as an effective strategy for women to address career challenges, as well as having role models from successful women in the industries.

Study's findings revealed that, women's acceptance in the workplace in terms of support and equal opportunities aids in career advancement. This finding is consistent with the findings of Kaggwa (2010), who discovered that women who are not given opportunities to grow feel stuck in their jobs and are unable to advance in their careers. Men are said to have an advantage in terms of career advancement in mining, while women are denied opportunities or positions because of their gender.

Consistent with Feminist theory, men and women should have equal opportunities in all aspects of life, asserted (Barkan, 2012). This is also consistent

with Lorber (2011), who stated in theoretical framework literature review that women and men should have equal legal rights, education, and employment opportunities.

Botha (2017) stated in his review of the literature in career advancement recommendations that executives should implement diversity initiatives in which employees, regardless of differences, are appreciated and valued for their contributions. Women seek credibility, acknowledgement and encouragement in this type of support. This process will assist the government to reach its gender inclusion and diversity goals I the mining sector.

The study's findings revealed the importance of women having a positive attitude in the form of confidence. Women are prevented from advancing in their careers because they are afraid of taking on challenging roles and are intimidated by their male counterparts. Men continue to marginalize women in the workplace, and male strategies used to marginalize female voices have a negative impact on their confidence, thereby maintaining male dominance and control in leadership positions (Moalusi and Jones, 2019). This is one of the reason we still seeing the gender disparities in core mining position not improving.

Concerns have been raised about the integrity of mining companies' systems. This finding is consistent with a review of the literature on career advancement in the workplace by Botha (2017), who found that men continue to be resistant and believe that women are appointed to leadership positions not because of their abilities but to meet legislative requirements. Companies are encouraged to develop a system for attracting and recruiting young women, as well as moving them up the ranks.

5.1.2 Individual, corporate and governmental effective supporting systems opportunities in advancing women's careers in the South African mining sector.

5.1.2.1 Individual support systems opportunities that have worked for women as individuals include mentorship and training programs.

Research findings revealed that, most women use mentorship and training to advance their mining careers. In line with the literature review on workplace career advancement, Haupt and Madikizela (2009) agree that women need support to succeed in the mining sector, including mentorship from having enough female representation at higher levels.

Again, the study's findings are consistent with literature on workplace career advancement, which stated that relevant workplace training and experience would be provided to improve women's career advancement (RSA, 2018). Human Capital theory is consistent with the study findings as women feel undervalued and remunerated less than men due to less training. As a result, women feel stuck in their mining careers and leave the industry. Consequently, there is always an issue of underrepresentation, and the mining industry continues to struggle to attract women. It is worth noting that Botha (2017) identified training opportunities and mentoring systems as among the identified challenges for mining advancement opportunities.

5.1.2.2 Corporate support systems opportunities, such as training and development and mentorship, have already been identified as effective ad discussed in detailed. The following support systems opportunities such as women empowerment will be discussed,

The 2004 Broad-Based Socio-Economic Empowerment Charter required mining companies to actively recruit and increase the number of disadvantaged people, including women. This is in contrast to the findings of Lahiri-Dutt and Macintyre (2006), who argued that the mining industry has disempowered women by

reinforcing male superiority and relegating women to subordinate positions. As a result, mining companies must adopt and foster the culture of women empowerment in their employees so as to encourage women participation in core positions in the sector.

5.1.2.3 Governmental support systems opportunities strategies revealed in this study and to be discussed are policies, regulations, audits and frequent reporting.

The BBBEE Act of 2003 required women to actively participate in major economic activities, resulting in women gradually advancing in male-dominated sectors (DMR, 2017). To reiterate the legal approach to increasing women's employment and participation in the mining industry, the 2004 mining charter established a 10% female representation target in the mining industry. This is consistent with the South African government's use of policies and regulations to put pressure on mining companies to hire more women. This will help the government ensure that mining companies comply with its gender inclusion and diversity goals, and thus more women will be able to participate in core mining positions.

Research findings revealed that audits and frequent reporting are government support systems opportunities used to enforce women's career advancement in the mining sector. Inspectors and independent auditors are employed by the government to monitor gender balance, inclusion and advancement in career. Mining companies must also provide the government with regular reports and share employment statistics. The government also uses tax breaks to reward companies that comply with regulations.

12.3 Recommendations and interventions for support systems opportunities to advance, recruit and retain careers of upcoming young women in the South African mining sector.

The research findings revealed that the recommendations for support systems opportunities for upcoming and young females in the mining sector, as well as interventions to ensure that effective strategies are implemented and sustained are not novel in this study and have already been discussed in other sections.

Support systems opportunities in terms of education, training, and mentorship are the sub-themes that emerged from the study as recommendations for young upcoming females. The following sub-themes were developed in order to implement and sustain these strategies: policies, education and trainings.

Participants recommended education, training, and mentoring as effective support systems for advancing the careers of upcoming young women in mining. Consistent with literature review on career advancement within the workplace, Botha (2017) highlighted that more opportunities are required to obtain formal qualifications as well as clear and effective guidance in terms of employee training methods in order to support advancement opportunities. Botha (2017) adds to these findings by stating that mining companies are to provide financial support for training as well as bursaries to enable women to obtain formal qualifications. Respondents urge mining companies and the government to re-enforce these strategies to ensure that young and upcoming female miners are recruited, retained, and advanced in their careers.

Consistent with Kaggwa's (2020) recommendations, it is critical to establish forums where women in mining can freely share their experiences with other women, as this can serve as a motivator for more women to enter the mining sector. Mentorship between women is also recommended by the participant. As a result, Kaggwa (2020) recommend that progress in integrating women into the mining sector be evaluated on a regular basis to ensure that the advancement of

women's liberation is kept in the spotlight. This will necessitate government intervention.

Interventions required ensuring support systems opportunities are implemented and sustained are policies, training and education. Participants revealed that in order for women's careers to advance in the mining sector, governments must play an important role in firming up policies that will compel mining companies to comply. Frequent reporting of female representation statistics, as well as visits by department of minerals and energy inspectors, are highly recommended.

Consistent with literature review on career advancement within the workplace recommendations, companies should develop and implement strategies and plans to effectively and sustainably resolve women's issues and provide necessary support systems for women working in the core mining business to be developed, promoted, and maintained (Botha, 2017).

These recommendations are consistent with the findings of Kaggwa (2020), who stated that in order to maintain the momentum of women's employment in the mining sector, periodic assessments of problems faced by women who have successfully obtained employment in this sector are required, and that evaluations could help determine the success of government and other stakeholders' policies to encourage women to work in the formal economy. Kansake, Sakyi-Addo, and Dumakor-dupey (2021) call for government intervention and companies to play a role.

5.2 Recommendations

The following recommendations can be made based on the following findings and conclusions:

The findings of the study provide an opportunity for women as individuals, companies, and governments to reflect on the strategies they are currently

employing. Key takeaways from this study's effective and sustainable strategies that can positively impact women's career advancement in the mining sector may be adopted. Interventions aimed at improving these strategies will only improve women's recruitment, retention and advancement in the mining sector if they are implemented effectively and consistently.

The findings of the study provide an opportunity for mining companies and the government to review their policies and procedures to ensure they are in line with good governance and legislation. Misaligned policies and procedures may result in underrepresentation of women at all levels of the employment, as well as difficulties in recruiting, retaining, and advancing them.

This study contributes to a substantial body of knowledge about women's career advancement in the South African mining sector, within the context of effective support systems opportunities, overcoming barriers that prevent women from advancing in the mining sector, effective support systems opportunities for advancing women’s careers, and interventions to improve strategies to ensure their implementation and sustainability.

The data presented above is valuable for women in core mining positions when viewed through the lens of Human Capital theory. This should help with the recruitment, retention, and advancement of women in the mining sector in South Africa.

Companies should structure women's representative committees to help women advance their careers by focusing on the implementation and sustainability of revealed effective support systems opportunities.

Companies should also establish systems (such as quota systems) to recruit, retain, and advance women’s careers and all employees should be given non-gender biased career paths. These career paths should be openly discussed with women in order to encourage them to stay in the mining sector.

To encourage female participation in mining, governments and companies should create platforms such as periodic conferences to share information on best practices.

Finally, companies and governments should establish processes and systems for real-time reporting, fair recruitment and advancement, and annual reporting on the company's diversity and inclusion performance.

5.3 Conclusion

The study contributed to efforts to encourage women's participation in the South African mining sector by uncovering the most effective and sustainable strategies for advancing women's careers within the context of support systems opportunities, and the recommendations needed to recruit and retain upcoming young females in the sector, as well as interventions to improve these strategies to ensure they are implemented and sustained. The study's inclusion of male participants to share their perspectives on women's career advancement in the mining sector is a unique contribution.

It is clear from the research findings that women's representation in the mining sector has increased in recent years. However, the number of women advancing up the corporate ladder in the South African mining sector remains low. It is also clear that, despite general improvements in the mining sector, mining companies continue to struggle to attract, advance, and retain women across all core functional positions. Despite the challenges that women face in the mining industry and the numerous strategies put in place by companies and the government to promote women advancement, these strategies have not been implemented effectively.

It is clear from this study that effective and sustainable strategies for advancing women careers in the South African mining sector are a combination of strategies implemented by individuals, companies, and the government.

The study's recommendations and interventions also suggested that mining companies and governments should place more emphasis on the strategies uncovered.

Key strategies for advancing women's careers in the mining sector include individual initiatives, education, support systems, experience, workplace acceptance, positive attitudes, remuneration systems, cultural management, inclusions, policies, regulations, rewards, and equity. Furthermore, key strategies for support system opportunities include mentorship, training, women representation, auditing and equity strategy updates. Individual, corporate and governmental perspectives include all these strategies. Among the recommendations and interventions revealed are cultural management, support systems opportunities and governance.

The findings clearly indicated that promoting women's inclusion, diversity, and representation in core functional positions in mining is a collaborative effort (women as individual, companies, and government).

The findings of the study were conducted on both men and women in core functional positions in the South African mining sector, so there is no reason to believe that career advancement strategies are only limited to women.

As a result, both men and women are encouraged to apply these strategies in order to achieve gender balance and a culture of women's inclusion and diversity in the mining sector.

As long as the mining sector is dominated by men, working conditions for women are likely to deteriorate. Women's reluctance to pursue careers in the industry is rooted in gender disparity and a lack of women's career advancement in core functional positions. This was discovered by uncovering effective strategies for advancing women's careers in the mining sector within a context of support systems opportunities. Despite efforts by the mining company to create a gender-sensitive working environment for all employees, more needs to be done.

This reiterates the need for women's collective efforts at the individual, corporate, and governmental levels to penetrate the mining industry in order to influence mining cultural management, policies and regulations, and overall structural organization of mining to ensure that women's recruitment, retention, and career advancement are prioritized.

6. References

Babbie, E., & Mouton, J. (2001). The practice of social research: South African edition. *Cape Town: Oxford University Press Southern Africa*.

Benya, A.P. (2009) Women in Mining: A Challenge to Occupational Culture in Mines. Unpublished Masters Dissertation, University of the Witwatersrand

Berg, N. (2005). Non-Response Bias. ENCYCLOPEDIA OF SOCIAL MEASUREMENT, Vol. 2, pp. 865-873, Kempf-Leonard, K., ed., London, Academic Press , Available at SSRN: https://ssrn.com/abstract=1691967. (Accessed: 15 May 2022).

Botha, D. (2016). Women in Mining: An Assessment of Workplace Relations Struggles. *Journal of social sciences (Delhi, India), 46*(3), 251-263. doi:10.1080/09718923.2016.11893533

Botha, D. (2017). Barriers to career advancement of women in mining: A qualitative analysis. *South African Journal of Labour Relations*, *41*(1), 15-32.

Botha, D., & Cronje, F. (2015). Women in mining : a conceptual framework for gender issues in the South African mining sector. *South African journal of labour relations, 39*(1), 10-37. Retrieved from https://go.exlibris.link/px46BJvn. (Accessed: 20 may 2022).

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77-101.

Creswell, J.W. (2007). Qualitative Inquiry and Research Design: Choosing among Five Approaches (2nd edition). Thousand Oaks, CA: Sage.

Davis, C. H., & Michelle, C. (2011). Q methodology in audience research: Bridging the qualitative/quantitative 'divide'. *Participations: Journal of Audience and Reception Studies, 8*(2), 559-593.

DMR, (2017). REVIEWED BROAD BASED BLACK -ECONOMIC EMPOWERMENT CHARTER FOR THE SOUTH AFRICAN MINING AND MINERALS INDUSTRY, 2016. Retrieved from www.bbbee.com/download/mining-charter-15-june-2017.pdf · PDF file. (Accessed: 10 May 2022).

Faugoo, D. (2011). The advancement of women to top management positions in the human resource management domain: A time for change?. *International Journal of Business and Social Science*, *2*(20).

Forbes. (2019). Why The Mining Industry Needs More Women. Retrieved from https://www.forbes.com/sites/woodmackenzie/2019/05/24/why-the-mining-industry-needs-more-women/?sh=3982dcad585c. (Accessed: 15 may 2022).

Gauci, P., Elmir, R., O'Reilly, K., & Peters, K. (2022). Women's experiences of workplace gender discrimination in nursing: An integrative review. *Collegian, 29*(2), 188-200.

Ghauri, P. N., & Gronhaug, K. (2005). Chapter 7: Datasources. *Ghauri PN, Gronhaug K, Research Methods in Business Studies: A Practical Guide (3rd ed.), Prentice Hall*.

Gilles, I. (2019). Building a gender-inclusive company culture. *Canadian Mining Journal, 140*(7), 6-7. Retrieved from https://www.proquest.com/trade-journals/building-gender-inclusive-company-culture/docview/2306441269/se-2?accountid=15083. (Accessed: 20 May 2022).

Hakim, C. (2004). Key Issues in Women's Work: Female Diversity and the Polarisation of Women's Employment (1st ed.). Routledge-Cavendish.

Haupt, T. C., & Madikizela, K. (2009). Why do South African women choose careers in construction? *Acta structilia, 16*(2), 46-68.

Holloway, I., Todres, L. (2003). The status of method: Flexibility, consistency and coherence. Qualitative Research, 3, 345–357. doi:10.1177/1468794103033004

Insights, I. (2014). Infographic: What are women's role in mining? Retrieved from https://www.informa.com.au/insight/infographic-what-are-womens-role-in-mining/. (Accessed:15 March 2022).

Kaggwa, M. (2017). 2017 Revised Mining Charter: Will women's voices be heard or silenced? Retrieved from https://africanminingbrief.com/2017/12/14/womens-voice-drowned-in-mining-charter-feud/. (Accessed:15 May 2022).

Kaggwa, M. (2020). Interventions to promote gender equality in the mining sector of South Africa. *The Extractive Industries and Society, 7*(2), 398-404. doi:https://doi.org/10.1016/j.exis.2019.03.015. (Accessed: 20 May 2022).

Kansake, B. A., Sakyi-Addo, G. B., & Dumakor-Dupey, N. K. (2021). Creating a gender-inclusive mining industry: Uncovering the challenges of female mining stakeholders. *Resources Policy, 70*, 101962. doi:10.1016/j.resourpol.2020.101962

Lahiri-Dutt, & Macintyre, M. (2006). Women Miners in Developing Countries: Pit Women and Others – By Kuntala Lahiri-Dutt and Martha Macintyre. *Gender, Work & Organization, 16*(2), 285-287. doi:https://doi.org/10.1111/j.1468-0432.2009.00442_1.x . (Accessed: 15 May 2022).

Ledwaba, S., & Nkomo, T. S. (2021). An Exploration of Motivations for Women Mine Workers to Work Underground. *SAGE Open, 11*(3), 21582440211032157. doi:10.1177/21582440211032157

Lindsey, L. L. C. (2010). 1. The Sociology of gender. *Gender Roles: A Sociological Perspective (англ.).-Pearson*.

Lo, K. (2002). [PDF] across the ocean: The impact of immigration on Hmong women: Semantic scholar. Retrieved from https://www.semanticscholar.org/paper/Across-the-ocean%3A-the-impact-of-immigration-on-Lo/cb1c8e31a894f15adbf7cdce17a4df92f8644161. (Accessed: 30 May 2022).

Lorber, J. (2011). Gender Inequality: Feminist Theories and Politics, 4th ed. by Judith Lorber. *Teaching Sociology, 39*, 390-392. doi:10.2307/41308970

Lumsden, J., & Morgan, W. (2005). Online-questionnaire design: Establishing Guidelines and evaluating existing Eupport. Retrieved from https://research.aston.ac.uk/en/publications/online-questionnaire-design-establishing-guidelines-and-evaluatin. (Accessed: 20 May 2022).

M.C.o.S.A. (2017). *Women in mining in South Africa: Fact sheet.* . Retrieved from Minerals Council of South Africa: www.mineralscouncil.org.za/industry-news/publications/.../424-women-in-mining. (Accessed: 15 May 2022).

M.C.oS.A. (2020). *WOMEN IN MINING. White Paper*. Retrieved from www.mineralscouncil.org.za › send › 1218-white-paper-women-in-mining. (Accessed: 15 May 2022).

Matshingane, L. (2017). Experiences of woman working underground at a coal mine in Mpumalanga Province from https://www.semanticscholar.org/paper/Experiences-of-woman-working-underground-at-a-coal-Matshingane/f58b1aa106aacd1e086ca88683fb5a99af49756e. (Accessed: 15 May 2022).

Matthews, C., Monk-Turner, E., & Sumter, M. (2010). Promotional Opportunities: How Women in Corrections Perceive their Chances for Advancement at Work. *Gender Issues, 27*, 53-66. doi:10.1007/s12147-010-9089-5

Maunders, J. (2010). How Do Therapists Make Sense of Their Reactions Towards Clients: An Interpretative Phenomenological Analysis. Unpublished Doctoral Dissertation, University of East London.

McKay, D. R. (2018). Career Advancement:" How to Move Up at Work" The Balance Careers. Retrieved from https://www.thebalancecareers.com/advancement-525653. (Accessed: 30 May 2022).

Mining.com. (2014). Let's talk about: women in the mining industry. Retrieved from https://www.mining.com/lets-talk-about-women-in-the-mining-industry-31775/. (Accessed:15 May 2022).

Mining.com. (2018). Only 13% of board members in the mining industry are women: Bedford. Retrieved from https://www.mining.com/13-board-members-mining-industry-women-bedford/. (Accessed:15 May 2022).

Minnaar, L., & Heystek, J. (2013). Online surveys as data collection instruments in education research: A feasible option? *South African Journal of Higher Education, 27*(1), 162-183.

MIWE. (2020). The Mastercard Index of Women Entrepreneurs 2020 Report. Retrieved from https://www.mastercard.com/news/media/1ulpy5at/ma_miwe-report-2020.pdf . (Accessed:15 May 2022).

Moalusi, K. P., & Jones, C. M. (2019). Women's prospects for career advancement : narratives of women in core mining positions in a South African mining organisation. *SA Journal of Industrial Psychology, 45*(1), 1-11. doi:10.4102/sajip.v45i0.1564

Orser, B., Riding, A., & Stanley, J. (2012). Perceived career challenges and response strategies of women in the advanced technology sector. *Entrepreneurship & Regional Development, 24*(1-2), 73-93. doi:10.1080/08985626.2012.637355

Perks, R., & Schulz, K. (2020). Gender in oil, gas and mining: An overview of the global state-of-play. *The Extractive Industries and Society, 7*(2), 380-388. doi:https://doi.org/10.1016/j.exis.2020.04.010. (Accessed: 20 May 2022).

PwC. (2013). Mining for talent: A study of women on boards in the mining industry by WIM (UK) and PwC. Retrieved from https://www.pwc.com/gr/en/publications/assets/mining-for-talent.pdf. (Accessed:15 May 2022).

Reja, U., Manfreda, K., Hlebec, V., & Vehovar, V. (2003). Open-ended vs. Close-ended Questions in Web Questionnaires. *Adv Methodol Stats, 19*.

RSA (Republic of South Africa). 1996a. Constitution of the Republic of South Africa, 1996. Available at: http://www.gov.za/sites/ www.gov.za/files/images/a108-96.pdf. (Accessed: 15 May 2022).

RSA (Republic of South Africa). 1998b. Employment Equity Act 55 of 1998. Available at: http://www.labour.gov.za/DOL/downloads/legislation/acts/employment-equity/eegazette2015.pdf. (Accessed: 15 May 2022).

RSA (Republic of South Africa). Promotion of equality and prevention of unfair discrimination act ... (n.d.). Retrieved from https://commons.wikimedia.org/wiki/File:Promotion_of_Equality_and_Prevention_of_Unfair_Discrimination_Act_2000.pdf. (Accessed: 20 May 2022).

RSA (Republic of South Africa). 2002. Mineral and Petroleum Resources Development Act 28 of 2002. Available at: http://www.dmr.gov.za/publications/summary/109-mineral-and-petroleum-resourcesdevelopment-act-2002/225-mineraland-petroleum-resources-development-actmprda.html. (Accessed 15 may 2022).

Mineral and Petroleum Resources Development Act 28 of 2002. (n.d.). Retrieved from https://www.gov.za/documents/mineral-and-petroleum-resources-development-act. (Accessed: 15 May 2022).

RSA (Republic of South Africa). 2003. Broad-based Black Economic Empowerment Act 53 of 2003. Available at: http://us-cdn.creamermedia.co.za/assets/articles/attachments/00983_brobasblaecoempa53.pdf. (Accessed: 15 May 2022).

RSA (Republic of South Africa). 2010a. Amendment of the Broad-Based Socio-Economic Empowerment Charter for the South African Mining and Minerals Industry. Available at: http://www.dmr.gov.za/publications/summary/108-mining-charter-downloads/128-amended ofbbseecharter.html. (Accessed: 15 May 2022).

RSA (Republic of South Africa). Mining charter, 2018: Broad-based socio-economic empowerment charter for Mining and Minerals Industry: Amendment. (n.d.). Retrieved from https://www.gov.za/documents/mining-charter-2018-broad-based-socio-economic-empowerment-charter-mining-and-minerals. (Accessed: 30May 2022)

Russell, M. (1998). POPENOE IN AFRICA: A review of SOCIOLOGY: First South African edition by D Popenoe, P. Cunningham and B.Boult (1997). Prentice-Hall South Africa. *Society in Transition, 29*(1-2), 73-83. doi:10.1080/10289852.1998.10520147

Samkange, W. (2015). The Liberal Feminist Theory: Assessing its applicability to education in general and Early Childhood Development (E.C.D) in particular within the Zimbabwean context. Retrieved from https://www.semanticscholar.org/paper/THE-LIBERAL-FEMINIST-THEORY%3A-ASSESSING-ITS-TO-IN-IN-Samkange/d3e544e4b487659cef4e1ea98cb00a84b22e27a7. (Accessed: 30 May 2022)

Sarantakos, S. (2013). *Social research* (4th ed.). Basingstoke: Palgrave Macmillan.

Scott, J. W. (2007). Gender as a useful category of historical analysis. In *Culture, society and sexuality* (pp. 77-97): Routledge.

Sector skills plan for the mining and - mqa. (n.d.). Retrieved from https://mqa.org.za/wp-content/uploads/2021/08/SSP-for-the-Mining-and-Minerals-Sector-Final-2011-Revised-on-17-May-2011.pdf. (Accessed: 25 May 2022).

Shabangu, S. (2011). *Expanding opportunities for women in mining: ownership and employment.* Paper presented at the National Woman's Conference. https://www.google.co.za/url?sa=i&rct=j&q=&esrc=s&source=web&cd=&ved=0CAQQw7AJahcKEwiYlO-Wk_v8AhUAAAAAHQAAAAAQAg&url=https%3A%2F%2Fukzn-dspace.ukzn.ac.za%2Fbitstream%2Fhandle%2F10413%2F13777%2FKhoza_Nompumulelo_2015.pdf%3Fsequence%3D1%26isAllowed%3Dy&psig=AOvVaw1YNt5YBg6KepUprNQBSfX5&ust=1675575300659022. (Accesssed: 20 May 2022).

Stats-SA. (2020). Improving lives through data ecosystems. Retrieved from https://www.statssa.gov.za/?p=13453. Accessed; 15 May 2022).

Watson, T. J. (2012). Sociology-Work and Organization. 6 th ed.Routledge, London, 22.