BOARDROOM GENDER DIVERSITY IN JSE-LISTED SOUTH AFRICAN MINING COMPANIES

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Abstract

Despite the socio-political, ethical and business case for female board membership, women remain underrepresented in company boards. Using theories that support the membership of women on boards, this article presents the case for gender diversity in the boardroom. By employing a sample of 506 directors from 56 JSE-listed mining companies this article reports on the demographic characteristics, percentage of women in mining boards, and attributes that are predictive of women's membership on boards. Results show that women serving on mining boards possess specialised knowledge in combination with advanced education. They either bring external support as outsiders, or are support specialists with financial, legal, arts and economics backgrounds. This study recommends the development of a talent management framework of women directors focused on their recruitment, development and retention.

Keywords: Board of Directors, Female Directors, Gender Diversity, Mining Sector

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Abbreviations

EC	Executive chairman
NEC	Non-executive chairman
DC	Deputy chairman
CEO	Chief executive officer
WoB	Women on Boards
ED	Executive director
NED	Non-executive director
FD	Financial director
CS	Company secretary
LINED	Lead independent non-executive director
INED	Independent non-executive director

1 Introduction

The mining or resources sector is reportedly the most male-dominated industry in the world at all hierarchical levels, especially the boardroom (Campbell and Minguez-Vera, 2008; PWC, 2014). Using a quota system in South Africa, targets were set to improve board representation of women significantly on all mining company boards by the end of 2014 (DMR, 2015; Rungan et al., 2005). This was important as the mining sector in South Africa is historically gender and racially defined (DME, 2009). Thus, by addressing gender in the boardrooms of this industry, gender imbalance and equity concerns would also be tackled. To this end, the South African government has shown dissatisfaction with the poor representation of women from all management levels up to board level in the mining industry (DMR, 2015).

The lack of women's representation in the boardroom is not only experienced in the mining industry; it has also been globally assessed that males continue to dominate boardrooms of companies worldwide (Catalyst, 2014; Hawarden, 2010). By the end of 2013 the census on *Fortune 500* companies statistics showed that only 20% of these companies had 25% or more female directors, while 10% had no women serving on their boards (Catalyst, 2013). It also showed that in 2013 women held 16.9% of board seats compared to 16.6% in 2012, indicating that female representation is stagnating as indicated by comparison to the 14.7% in 2005 (Catalyst, 2005; Catalyst, 2013). This is a cause for concern, as gender diversity has dominated governance research given the growing attention to greater gender diversity in board membership (CIPD, 2015; Fauconnier and Mathur-Helm, 2008;

Joecks et al., 2013) and the aim of improving the independence of boards. Furthermore, Campbell and Minguez-Vera (2007) noted that the arguments for gender diversity are both ethical and economic. As far as the ethical argument for gender diversity is concerned, they maintain that it is unethical and/or immoral for women to be discriminated against with regard to serving in the boardroom based on gender preferences. The economic argument for greater gender diversity supports a notion that having women on boards is a "business case". Scholars advocating for the business case for gender diversity have reported that a good representation of women on boards leads to wider perspectives, improved board decisions, innovation and unbiased decision-making; and these scholars corroborate that corporate boards should bring more women to the board table (Burke, 1997; Carter et al., 2003; Carpenter et al., 2004; Erhardt et al., 2003; Faku, 2014; Golden and Zajac, 2001; Goodstein et al., 1994; Ruigrok et al., 2007; Ruigrok et al., 2005; Stephenson, 2004). This stream of research has contributed to the emergent research and interest on women on boards (WoB).

Regardless of the benefits reported, the global progression of female representation on the boards is slow, as previously pointed out (Catalyst, 2013; Grant Thornton, 2013). This has led researchers to suggest that the dominance of males on the boards creates an inhospitable environment, which is unreceptive to the membership of women and that the few women appointed to boards are purely token appointments (Brandt, 2013; Scherer, 1997).

The "glass ceiling" is a prevalent research finding in WoB research in that women are prevented from being represented on board positions (Farrel and Hersch, 2001; Hawarden, 2010). This implies that although the prospects for women's development are evident, women are unable to penetrate the glass ceiling due to prohibitions created by a dominant male culture at board level (Arfken et al., 2004; Hawarden, 2010; Li and Wearing, 2004). This is due to excessive dependence on the "old boys' network for board appointments (Burke, 1997; Miller and Triana, 2009; Simpson et al., 2010), which is characterised by self-similar, robust and change-resistant networks typified by a male-dominated culture (Burke, 1997; Davidson, 2002; Hawarden, 2010; Strauss, 2002). In addition to the male-dominated "old boys' network" culture, other female board members provide difficulties for the development of women to be appointed for board membership, thus adopting "queen bee" behaviour (Hawarden, 2010:3). "Queen bee" behaviour and "old boys'" male-dominated culture pressures limit female networks and their productivity levels (Huse and Solberg, 2006), thus affecting the sustainable retention of women in board membership (Burgess and Thanserou, 2002).

In addition to the reported challenges women on boards face, little is known on what attributes are desirable for women to secure board appointments, specifically in South Africa. This study contributes to knowledge by identifying attributes that could be predictive of women's presence on mining boards. Thus, investigating demographic and gender profiles of women represented at board level in the most male-dominated industry globally with a focus on the South African context will indicate suitable attributes for women to obtain board appointments.

This article focuses on boardroom gender diversity regarding the representation of women on JSE-listed South African mining companies. Using descriptive statistics, this article reports on a descriptive analysis of gender diversity on the boards of 56 JSE-listed mining companies. The sample consisted of 506 directors. Through this analysis information is provided regarding the attributes that are possessed by women in mining boards. Such information can contribute to improving the entrance of women in male-dominated boardrooms of mining companies in South Africa.

The research on which this article is based sought to answer the following research questions:

— What is the percentage or number of female representation on the boards of JSE-listed South African mining companies?

— What are the profiles of women employed in boardrooms in terms of demographic background and career profiles?

— Which positions are filled by women on the boards of mining companies?

The article is structured as follows: first, an overview is given of the historical influence of gender in mining. Next, the theoretical background covers aspects in literature on women on boards. The following section covers the data collection process and the research methodology applied to analyse the data. After the section on the interpretation of results and the analysis of findings the conclusions are discussed and recommendations are made.

2 Literature review

This literature review provides a summary of the historical influence of gender in mining. It also discusses the theoretical background supporting women on boards, namely gender diversity and WoB research, agency theory, resource dependence theory, institutional theory, stakeholder theory, power perspective theory, and human capital theory. Furthermore, it contextualises corporate governance in South Africa and makes reference to the King III recommendations of the board structure.

2.1 Historical influence of gender in mining

The dominance of men in the mining sector was influenced by several events in the history of South Africa, mainly attributed to the apartheid basis of racial and gender seclusion (Rungan et al., 2005). Given the national importance of the mining industry, this industry was also subjected to the laws and priorities of the government of the day whereby policies were used to restrict women and black people from participating in major economic sectors such as mining (Rungan et al., 2005). After 1994, the new democratic country's main focus was on redressing gender and racial imbalances of black people and women in mining companies across all hierarchical levels (DMR, 2015). However, in March 2015 after the Mining Charter Review the government reported on the persistent gender inequality in the mining industry especially in boardrooms (DMR, 2015).

2.2 Gender diversity and WoB research

WoB research presented arguments in favour of gender diversity. One argument was for an "ethical case" and the other for a "business case" (Ingley and Van der Walt, 2003). On the one hand, the ethical argument maintains that members holding positions of economic power do not provide equitable opportunities to those historically excluded, such as women (de Cabo et al., 2012). Thus, compromising societal concerns of equitable opportunities that aim to challenge the exclusion of certain groups from the boardroom on the basis of race, gender or attributes are not related to board performance (Singh et al., 2001). On the other hand, the business case argument maintains that boardroom gender diversity possesses considerable benefits. These benefits include an increased diversity of creativity and innovation (Catalyst, 1995; Catalyst, 2014; Faku, 2014). Women also bring to the board table different skills, understanding, and values (Miller and Triana, 2009; Ruigrok et al., 2007). This results in improved strategies and improved decisions (Stephenson, 2004), which lead to an improved company reputation (Burke, 2003). Women were also reported to react faster to problem- solving (Carter et al., 2003). This improves communication, which leads to better overall financial performance (Catalyst, 2007). It is also generally accepted that women have a better understanding of the marketplace, which enables them to advise on market issues (Burke, 2003; Carter et al., 2003; Catalyst, 2013; Daily et al., 1999; Sweetman, 1996). Furthermore, several studies reported on the increased improved risk management and audit control due to women's ethical considerations (Faku, 2014; Hawarden, 2010; Stephenson, 2004). These aspects affirm the business case for gender diversity as it presents the benefits of improving the financial performance and sustainability of a company (Catalyst, 2007; Faku, 2014; Sweetman, 1996).

2.3 The agency theory

The agency theory aims to structure relations between managers and owners (Yeh and Taylor, 2008), following the separation of ownership and control of organisations (Rossouw et al., 2002). The agency theory views organisations as agencies, owners as principals and managers as agents (Eisenhardt, 1989). The agency theory thus enables shareholders to pursue internal and external systems to deter managers' self-interest. Internal systems view the board of directors as a fundamental internal governance mechanism (Ruigrok et al., 2007; Yeh and Taylor, 2008), which includes, among other aspects, having a structured board to assume the role of corporate control and monitoring (Carter et al., 2003; Company's Act, 2008; Donaldson and Davis, 1991; IoD, 2009; Yeh and Taylor, 2008). The agency theory seeks to protect shareholder interests by suggesting the appointment of directors to act as mediators between management and shareholders (Daily et al., 2003).

Fundamental to internal governance (Ruigrok et al., 2007; Yeh and Taylor, 2008) and achieving greater independence, the board has to be engaged with the external environment to keep the organisation in balance compared to the sole monitoring function of the agency theory. Hillman et al. (2002) showed how four agency roles of boards, namely a board as an insider, business expert, support specialist or community would respond to differing environmental conditions. Thus, the agency theory does provide an insightful consideration of different director demographics, such as the response of women on the board to different environmental conditions.

2.4 The resource dependence theory

The resource dependence theory complements the agency theory. It states that the prosperity of the organisation depends on the ability of the organisation to obtain and preserve resources vital for the organisation (Hawarden, 2010; Randøy et al., 2006; Yeh and Taylor, 2008) from the external environment (Ruigrok et al., 2007), and provides conjectural development of directors to expand the primary administrative function of control and monitoring (Miller-Millesen, 2003). This will enable the boardroom to decrease external uncertainty, obtain access to crucial information, and to gather resources, such as networks and contacts (Daily et al., 2003; Randøy, et al., 2006; Ruigrok et al., 2007; Mcnulty and Pettigrew, 1999; Yeh and Taylor, 2008). Other suggestions were the inclusion of outside directors from legal and finance backgrounds (Daily et al., 2003). The empirical study of Hillman et al. (2002) showed that most female directors did not possess business backgrounds, like male directors, but held advanced degrees, which may enable them to advise on other external issues (Daily et al., 2003).

2.5 The institutional theory

The institutional theory can be linked to the ethical case for gender diversity (Mensah, 2003; Young, 2010). The institutional theory recognises the need for organisations to be cognisant of the rules, regulations and restrictive organisational practices in the environments in which they operate (Lynall et al., 2003). Organisations are forced to conform to change and learn to adopt acceptable practices, rules and regulations, which benefit the society. These roles further require the organisation to adapt to change due to political and globalisation changes, and changing rules and regulations thereof. Other aspects include ensuring and adhering to governance principles (Miller-Millesen, 2003; Yeh and Taylor, 2008). In most instances, government will require organisations to adapt and comply with change, as failure to conform to institutional expectations may result in punishments, fines, and a loss of government support. As a result, and because of resistance to change, the board may just fulfil the mandatory paperwork (Yeh and Taylor, 2008) and cosmetically present compliance by appointing women as tokens (Luoma and Goodstein, 1999).

2.6 The stakeholder theory

The stakeholder theory identifies possible organisational stakeholders. This theory deems the organisation as a shared body that is responsible and accountable to a variety of stakeholders, such as owners or shareholders, suppliers, customers, employees, government and local communities (West, 2006:434). As a result, organisations have to find a way to meet the needs of all stakeholders' interests (Yeh and Taylor, 2008), and the basic role of the board of directors is to recognise, be aware of and meet the needs of each stakeholder (Carver, 1997). Two of the major stakeholders of the mining industry are the government and the mining communities. Through the Mining Charter, government has prescribed targets for female representation on all hierarchical levels in terms of quotas and has demonstrated its dissatisfaction with the low levels of female participation in mining (DMR, 2015).

2.7 The power perspective theory

The power perspective theory recognises the prospective variance of interests between shareholders, directors and managers (Daily et al., 2003). It is concerned about the relationships between the CEO and the board of directors. CEOs can practise power over the progression process by eliminating potential successor candidates. The period of director appointment on the board may also have an influence on power relationships between the CEO and the board (Daily et al., 2003). This relationship may stem from directors feeling indebted to the CEO as they were appointed at the same time, or from fear of contesting the CEO (Monks and Minow, 1991). Thus, it is important to determine how much power women have on the boards by determining the number of female CEOs.

2.8 Human capital theory

According to Shrader et al. (1997), diverse human capital is one of the key resources of organisations for maintaining a competitive advantage, which creates active problem-solving. These views are supported by Brown et al. (2002) and Robinson and De Chant (1997) who claim that diverse human capital on boards, in terms of gender, contributes to effective boards with regard to risk or audit management, as well as creativity and innovation (de Cabo et al., 2012). Burke (2003) challenged the assumption that women lack adequate human capital to assume the role of directors in boards (de Cabo et al., 2012). Terjesen et al. (2009) suggested that women are just as suitably qualified as their male counterparts especially with regard to important attributes,

such as education. However, they acknowledge that women might not possess the required experience at board level.

These theories underpin the rationale for the existence and roles of the board of directors in companies, specifically JSE-listed South African companies, where the board of directors is seen as a focal governance mechanism. It is not only a requirement for companies to have a board of directors and to report on their proactive participation, but the board must constitute of appropriate and qualified candidates who will act in the best interest on the company. It implies that directors should take responsibility and account for the company's actions or their behaviour. This requires the appointment of directors to be a carefully executed task. It can, therefore, be argued that given the business case for female representation on the board of directors, shareholder and stakeholder interests will be safeguarded.

2.9 Corporate governance in South Africa – King III

The collapse of apartheid in 1994 decreed transformation of corporate compositions to incorporate practices of accountability, transparency, and fairness to all stakeholders (Kakabadse and Korac-Kakabadse, 2002). The key principles underlying the King III are leadership, sustainability and corporate citizenship. It also stresses integrated sustainability and social transformation, two aspects that evaluate the impact of corporate activities on the economic life of the surrounding communities. It, furthermore, comprehensively recommends appropriate board structure, composition and board roles. In relation to this article, King III proposes that appropriate board structure and composition could play a role in providing good leadership, sustainability and social transformation in communities. The King Reports of Governance in South Africa specifically recognise the need for social transformation and commitment to national transformation and sustainability goals. These include adhering to employment equity plans and the Mining Charter to uplift the lives of previously disadvantaged individuals. To this end governments worldwide have instituted governance mechanisms using a gender quota system with the aim to improve gender diversity for listed companies as a regulatory measure. In South Africa, the Employment Equity Act 55 of 1998 and the Mining Charter aimed to improve the gender imbalance across all occupations in mining companies. The King III Report requires companies to report on how they create conditions and opportunities that enable female appointment on boards, as part of their disclosure (IoD, 2009).

3 Methodology

Descriptive research was used to analyse the profiles of the board members in the mining industry. A cross-sectional study was used to perform data analysis for the 2011 financial year-end (Churchill, 2001). Given the data resource limitation the period under analysis was informed by the accessibility and availability of published annual reports at the time of data analysis. A population parameter was used to limit the population to include all 59 mining companies that were listed on the JSE in that year. This provided an accessible sample since listed companies in South Africa should produce annual reports as part of standard listing requirements. Moreover, JSE-listed companies were expected to conform to 26% female representation on boards of mining companies as a mandatory requirement of the Mining Charter by year-end 2014.

Annual reports were regarded as a sound source of information as they contain demographic and career profiles of board members, which were suitable for data analysis as aligned to the research objectives. The JSE and Bureau van Dijk (Orbis database) provided a database of all companies that were listed on the JSE during 2011. A total number of 59 mining companies were listed. Altogether 56 mining companies produced 2011/2012 annual reports and they were included in the research. Each mining company's annual report was downloaded online from the company websites.

Data was captured on the profiles of the board of directors, in several capacities, for example, the chief executive officer, chairperson (executive and non-executive), chief operating officer, financial directors, executive directors, non- executive directors, lead independent non-executive directors and independent non-executive directors.

Board member profiles were analysed according to demographic profiles and career backgrounds. The demographic profiles of the directors are offered according to race, gender, nationality and age. The career backgrounds of female directors are offered by means of educational background and career experience. The educational background of female directors considered the qualification type and qualification levels of directors. The career background considers a director's board experience, years of experience on the current board and the mining experience of female directors.

4 Results

Table 1. Gender and racial demographic representation of directors (n=506)

Board positions	Females				Female total	Males					Male total	Valid %
	Black	Coloured	Indian	White		Asian	Black	Coloured	Indian	White		
CEO	0%	0%	0%	1 2.1%	1 2.1%	1 2.1%	3 6.4%	2 4.3%	0%	40 85.1%	46 97.9%	47 100%
CS	0%	1 16.7%	0%	1 16.7%	2 33.3%	0%	2 33.3%	0%	0%	2 33.3%	4 66.7%	6 100%
DC	1 11.1%	0%	0%	0%	1 11.1%	1 11.1%	2 22.2%	0%	1 11.1%	4 44.4%	8 88.9%	9 100%
EC	0%	0%	0%	0%	0%	0%	2 28.6%	0%	0%	5 71.4%	7 100%	7 100%
ED	1 1.8%	0%	0%	1 1.8%	2 3.5%	2 3.5%	12 21.1%	1 1.8%	0%	40 70.2%	55 96.5%	57 100%
FD	2 4.7%	0%	0%	3 7.0%	5 11.6%	1 2.3%	3 7.0%	0%	0%	34 79.1%	38 88.4%	43 100%
INED	24 14.2%	3 1.8%	2 1.2%	10 5.9%	39 23.1%	0%	41 24.3%	2 1.2%	4 2.4%	83 49.1%	130 76.9%	169 100%
LINED	1 8.3%	0%	0%	1 8.3%	2 16.7%	0%	2 16.7%	0%	1 8.3%	7 58.3%	10 83.3%	12 100%
NEC	3 6.4%	0%	0%	1 2.1%	4 8.5%	0%	15 31.9%	0%	0%	28 59.6%	43 91.5%	47 100%
NED	7 6.4%	0%	0%	2 1.8%	9 8.3%	4 3.7%	33 30.3%	1 0.9%	4 3.7%	58 53.2%	100 91.7%	109 100%
Valid %	**39 7.7%**	**4 0.8%**	**2 0.4%**	**20 4.0%**	**65 12.8%**	**9 1.8%**	**115 22.7%**	**6 1.2%**	**10 2.0%**	**301 59.5%**	**441 87.2%**	**506 100%**

4.1 Gender and racial profiles of directors

It is shown in table 1 that the total number of females on boards was 65 and that of males 441 (n = 506) implying that males dominated boards at 87.2%, compared to women at 12.8%. This result confirms the studies of CIPD (2015), Hawarden (2010), and the Catalyst (2013) and (2014) regarding continued male domination in boardrooms.

Table 1 also shows the cumulative racial demographics, and displays that the majority of board positions (63%) were occupied by the white racial grouping, followed by the black grouping at 30.4%. The remaining 6.2% was distributed among Indians (2.4%) and coloureds (2%), with Asians being the minority with 1.8% representation. Black women (39 directors) lead the total female representation at 7.7% followed by 20 white women at 3.9%, four coloured women at 0.7% and two Indian women showing the lowest representation of 0.4%.

Also shown in table 1 are various positions that female directors occupy. The results of each position are described as follows:

4.2 Chief executive officer (CEO) positions

Only one woman held the CEO position in the total CEO sample (n = 47), a white foreign woman representing 2.1%. This finding implies that 46 males held the majority of CEO positions at 97.9%. Whites male CEOs were 40 in total, representing 85.1%, followed by three black males representing 6.4% and two coloured males representing 4.3%. Only one Asian male held a CEO position, accounting for the lowest representation at 2.1%. No Indian male was appointed in a CEO position in the mining sector. It is demonstrated further in table 1 that there was no Asian, Black, or Indian female CEO in the mining sector. The finding that there was only one female CEO is concerning, and calls for investigation into whether there is any succession plan to include women as CEO, and to gain insight into the influence it would have on power relationships between the CEO and the board (Daily et al., 2003).

4.3 Company secretary (CS) positions

The majority of CS positions were dominated by males at 66.7%, that is there were four males (n=6). Women accounted for the two remaining CS positions at 33.3%; a coloured woman and a white woman at 16.7% each. Neither black nor, Indian or Asian women held CS positions. No Asians, coloured or Indians males occupied this position on the boards investigated. Of the four CS positions held by males two were black males at 33.3% and two were white males at 33.3%.

4.4 Deputy chairman (DC) positions

Deputy chairman (DC) positions (n=9) were dominated by eight males at 88.9%. Only one black woman, representing 11.1%, held a deputy chairperson position. In terms of male representation of this position one Asian male and one Indian male were represented at 11.1% each, two black males at 22.2% and four white males at 44.4%. No Asian, Indian or white women assumed a DC position in the mining sector. Similarly no coloured male was appointed in a DC position in the mining sector. This finding is a cause for concern as it indicates that there is no succession plan for these individuals to be appointed as DCs.

4.5 Executive chairman (EC) positions

No women featured in executive chairman positions (n=7), and male domination featured at 100%. White males held the majority of five positions accounting for 71.4%, while black males accounted for two positions at 28.6%. The other races namely Asians, Indians and coloureds were not represented in this position.

4.6 Executive director (ED) positions

Only two women, black and white, represented 3.5% of the total ED sample (n=57) of executive director positions. Male representation was predominant at 55 males or 96.5%. This comprised two Asian males holding 3.5% while 12 black males accounted for 21.1%. One coloured male accounted for an ED position at 1.7%, and 40 white males held the majority of ED positions at 71.9%. No Indians males or females were represented in these positions.

4.7 Financial director (FD) positions

Only five women accounting for 11.6% held financial director positions (n=47). Three FD positions at 7% were held by white women and two at 4.7% were held by black women. Financial director positions were dominantly male amounting to 38 or a total of 88.4%. One Asian male held a position at 2.3%, and three black males at 7%. A total of 34 white males held the majority of these positions at 79.1%. No coloured or Indian females or males were appointed as financial directors.

4.8 Independent non-executive director (INED) positions

The majority of positions held by women on boards of mining companies were as independent non-executive directors at 23.1%, a total of 39 positions (n=169). Altogether 24 INED positions at 14.2% were held by black women, three positions at 1.8% were held by coloured women, two positions at 1.2% were held by Indian women, and 10 positions accounting for 23.1% were held by white women. A total of 130 INED positions at 76.9% were held by males. A number of 41 black males occupied 24.2% of INED board seats, followed by two coloured males at 1.2%, four Indian males at 2.3%, and 83 white males at 49.1%. The representation of board members in INED positions supports the agency theory of internal governance on achieving greater dependence on the board by looking at members outside the organisation, as prescribed by Ruigrok et al. (2007) and Yeh and Taylor (2008). However, female representation remains low.

4.9 Lead-independent non-executive director (LINED) positions

For lead-independent non-executive director positions (n=12) only two positions were held by women at 16.6%; one by a white woman and another by a black woman accounting for 8.3% each. These positions were predominantly filled by 10 males at 83.3%. The black males were represented on two LINED positions at 16.7%, while Indian males were holding the minority at 8.3%, and white males represented the majority of these positions at 58.3%. No coloured or Asian female or male directors were found within this position.

4.10 Non-executive chairman (NEC) positions

Only four women accounted for 8.5% of the non-executive chairman (NEC) positions (n=47). These were spread across one white woman at 2.1% and three black women at 6.4%. NEC positions were dominated by 43 males at 91.5%. A number of 28 white males were represented at 59.6%, followed by 15 black males at 31.9%. No coloured, Indian or Asian male held this position. Furthermore, no coloured or Indian woman held this position.

4.11 Non-executive director (NED) positions

Nine women held non-executive director positions at 8.3% (n=109). This is spread across seven black women who accounted for 6.4% and two white women who accounted for 2.8%. No Asian, coloured or Indian woman served as an NED. Males dominated 100 NED positions at 91.7% , which included Asian males at 3.7%, black males at 30.3%, coloureds representing the minority at 0.9% (one male), Indian males at 3.7%, and white males accounting for the majority of male NED positions at 53.2%. This finding shows that mining companies have the potential to decrease external uncertainty, obtain access to crucial information, and gather resources, such as networks and contacts, as prescribed by a number of authors (Daily et al., 2003; Randøy, et al., 2006; Ruigrok et al., 2007; Mcnulty and Pettigrew, 1999; Yeh and Taylor, 2008). It remains a concern that only nine women held nine positions out of the 109 NED positions captured.

Table 2. Nationality demographic representation of directors (n=506)

Board positions	Female		Female total
	Foreign	South African	
CEO	1		1
CS	1	1	2
DC		1	1
ED		2	2
FD		5	5
INED	3	36	39
LINED		2	2
NEC	1	3	4
NED	2	7	9
Valid %	**8**	**57**	**65**

Board positions	Female		Female Total
	Foreign	South African	
CEO	100%	0%	100%
CS	50%	50%	100%
DC	0%	100%	100%
ED	0%	100%	100%
FD	0%	100%	100%
INED	7.7%	92.3%	100%
LINED	0%	100%	100%
NEC	25%	75%	100%
NED	22.2%	77.8%	100%
Valid %	**12.3%**	**87.7%**	**100%**

Table 2 shows the nationality demographic representation of directors. It illustrates that 57 female (n=65) directors were South African, representing the majority at 87.7%, while eight female directors were foreign at 12.3%. The total foreign female demographic representation was represented by one CEO, one CS, three INEDs, 1 NEC and two NEDs. These results show that the only female CEO represented across the sample (n=506) was foreign. Regarding CS positions one woman was foreign at 50% and one was South African at 50%. For DC, ED, FD and LINED positions all female directors were South African. This is a concern as Brown et al. (2002), as well as Robinson and De Chant (1997), argued that gender human capital on boards contributes to effective boards in terms of risk or audit management, as well as creativity and innovation. Three of the INED positions (n=39) were foreign at 7.7% while 36 were South African at 92.3%. Only one NEC was foreign representing 25% of the total female foreign representation while three were South African. Two of the nine NED female positions were foreign 22.2% while the remaining seven were South African, represented at 77.8%.

Table 3. Age demographic representation of female directors

Gender	Mean	Minimum	Maximum	Std deviation
Female	49.8226	33.00	68.00	9.51362

Table 3 shows that the average female director in the mining industry was 50 years old (mean = 49.82). The youngest female director was 33 years of age and the oldest female director was 68 years of age. The youngest female director was a 33-year-old black South African from a large mining company, who held a postgraduate degree in finance; she is also a certified chartered accountant who held an independent non-executive director position. She had one-year board experience and one-year mining experience. The oldest female director was a 68-year-old white South African from a mega- company who occupied an independent non-executive director position and held a postgraduate degree in business finance. She also had 13 years' board experience and 21 years' mining experience.

Table 4. Age demographic representation of female directors (n=62)

Board positions	AGE DISTRIBUTION OF FEMALE DIRECTORS				Total and valid %
	31-40	41-50	51-60	61-70	
CEO	0%	0%	1 100%	0%	1 100%
CS	1 50%	1 50%	0%	0%	2 100%
DC	1 100%	0%	0%	0%	1 100%
ED	1 100%	0%	0%	0%	1 100%
FD	2 40%	3 60%	0%	0%	5 100%
INED	9 23.1%	10 25.6%	14 35.9%	6 15.4%	39 100%
LINED	0%	2 100%	0%	0%	2 100%
NEC	0%	0%	2 50%	2 50%	4 100%
NED	2 28.6%	1 14.3%	2 28.6%	2 28.6%	7 100%
Total and valid %	**16 25.8%**	**17 27.4%**	**19 30.6%**	**10 16.1%**	**62** 100%

The ages of only 62 female directors could be captured. It was found during an analysis that female directors were fairly equally distributed across age groups (see table 4). Most women on boards of mining companies fell in the 51 to 60 years age group at 30.6%, totalling 19. The only identified female CEO was between 51 and 60 years of age. The finding that 25.8% of female directors totalling 16 in the mining sector were between 31 and 40 years of age showed that the sector allowed the representation of young women on the board.

4.12 Educational backgrounds of female directors

Table 5. Qualifications possessed by female directors (n=63)

Qualification category	Board positions									
	CEO	CS	DC	ED	FD	INED	LINED	NEC	NED	Valid %
Arts	0%	0%	0%	2 100%	0%	2 5.3%	0%	1 25%	2 22.2%	7 11.1%
Business	0%	0%	1 100%	0%	0%	3 7.9%	0%	0%	0%	4 6.3%
Business and Science	1 100%	0%	0%	0%	0%	0%	0%	1 25%	0%	2 3.2%
Economics	0%	0%	0%	0%	0%	3 7.9%	1 100%	0%	2 22.2%	6 9.5%
Education	0%	0%	0%	0%	0%	2 5.3%	0%	0%	0%	2 3.2%
Engineering Sciences	0%	0%	0%	0%	0%	1 2.6%	0%	0%	0%	1 1.6%
Finance	0%	0%	0%	0%	5 100%	16 42.1%	0%	0%	1 11.1%	22 34.9%
Law	0%	2 100%	0%	0%	0%	8 21.1%	0%	1 25%	1 11.1%	12 19.0%
Medical Sciences	0%	0%	0%	0%	0%	1 2.6%	0%	1 25%	2 22.2%	4 6.3%
Public Administration	0%	0%	0%	0%	0%	1 2.6%	0%	0%	0%	1 1.6%
Social Sciences	0%	0%	0%	0%	0%	1 2.6%	0%	0.0%	1 11.1%	2 3.2%
Valid %	**1 100%**	**2 100%**	**1 100%**	**2 100%**	**5 100%**	**38 100%**	**1 100%**	**4 100%**	**9 100%**	**63 100%**

A total of 63 qualifications of female directors were captured. As depicted in table 5 most female directors at 34.9% amounting to 22 possessed qualifications in finance. A total of 12 female directors at 19% held law degrees while 7 female directors at 11.1% possessed arts degrees and six female directors possessed economics qualifications at 9.5%. Female directors showed the lowest qualifications in public administration and

engineering sciences. This concerning finding explains the difficulty of appointing women as non-executive directors as they need to possess industry-specific qualifications such as engineering sciences.

Table 6. Qualification levels possessed by female directors (n=62)

Qualification levels	Board positions									
	CEO	**CS**	**DC**	**ED**	**FD**	**INED**	**LINED**	**NEC**	**NED**	**Valid %**
Postgraduate	1 100%	1 50%	1 100%	1 50%	1 20%	20 54.5%	0=%	2 50=%	5 55.6%	32 51.6%
Undergraduate	0%	1 50%	0%	1 50%	4 80%	17 45.5%	1 100=%	2 50=%	4 44.4%	30 48.4%
Valid %	**1 100%**	**2 100%**	**1 100%**	**2 100%**	**5 100%**	**37 100%**	**1 100%**	**4 100%**	**9 100%**	**62 100%**

As shown in table 6, from a sample of a total of 62 qualification levels of female directors identified, 51.6% comprising of 32 female directors held postgraduate degrees while 30 female directors accounting for 48.4% possessed undergraduate qualifications. The only female CEO identified across the entire sample possessed an advanced qualification. It is interesting that 80% of financial directors possessed postgraduate qualifications. Moreover 54.5% of LINED female directors possessed postgraduate qualifications while 45.5% possessed undergraduate qualifications. This finding is in agreement with Terjesen et al. (2009) who suggested that women are just as suitably qualified as their male counterparts especially with regard to important attributes, such as education.

4.13 Career profiles of female directors

Table 7. Board experience of female directors (n=62)

Board experience	Board positions									
	CEO	**CS**	**DC**	**ED**	**FD**	**INED**	**LINED**	**NEC**	**NED**	**Valid %**
Less than 5 years	0%	1 100%	0%	1 100%	4 80%	23 59%	1 50%	0%	3 37.5%	33 53.2%
6 to 10 years	0%	0%	1 100%	0%	1 20%	7 17.9%	0%	1 25%	3 37.5%	13 21%
11 to 15 years	1 100%	0%	0%	0%	0%	7 17.9%	1 50%	3 75%	1 12.5%	13 21%
16 to 20 years	0%	0%	0%	0%	0%	2 5.1%	0%	0%	1 12.5%	3 4.8%
Valid %	**1 100%**	**1 100%**	**1 100%**	**1 100%**	**5 100%**	**39 100%**	**2 100%**	**4 100%**	**8 100%**	**62 100%**

Table 7 shows the board experience of female board members. Board experience of female board members ranged from one to 18 years for the entire sample (n = 62) with an average of 6.53 years. The majority of female directors totalling 33 accounting for 53.2% had less than five years' board experience. This finding supports the view of Terjesen et al. (2009) that women might not possess the required experience to serve at board level. Only 13 female directors at 21% had between six and ten years' board experience. Altogether 13 female directors at 21% had between 11 and 15 years' board experience and only three female directors at 4.8% had more than 16 years' board experience.

Table 8. Experience of female directors on current board (n= 62)

Years' experience on current board	Board positions									
	CEO	**CS**	**DC**	**ED**	**FD**	**INED**	**LINED**	**NEC**	**NED**	**Valid %**
Less than 5 years	1 100%	0%	0%	1 100%	4 80%	29 74.4%	1 50%	3 75%	6 75%	45 72.6%
6 to 10 years	0%	1 100%	1 100%	0%	1 20%	9 23.1%	1 50%	1 25%	2 25%	16 25.8%
11 to 20 years	0%	0%	0%	0%	0%	1 2.6%	0%	0%	0%	1 1.6%
Valid %	**1 100%**	**1 100%**	**1 100%**	**1 100%**	**5 100%**	**39 100%**	**2 100%**	**4 100%**	**8 100%**	**62 100%**

Table 8 shows the years experience of female board members on the current board. The experience of female board members on the current board ranged from one to 14 years for the entire sample (n = 62) with an average of 3.54. The only female CEO board member identified across the sample had five years on the current board.

The majority of female directors, at 72% totalling 45, had less than 5 years' experience on the current board. Sixteen female directors possessed between six to ten years' experience on the current board at 25.8%. Only one female director had between 11 to 20 years' experience on the current board at 14 years, accounting for 1.6%.

Table 9. Mining experience of female directors (n=61)

	Board positions								
Mining experience	**CEO**	**CS**	**ED**	**FD**	**INED**	**LINED**	**NEC**	**NED**	**Valid %**
Less than 5 years	0%	1 100%	0%	4 80%	28 71.8%	1 50%	1 25%	5 62.5%	40 65%
6 to 10 years	0%	0%	0%	1 20%	4 10.3%	0%	1 25%	1 12.5%	7 11.5%
11 to 20 years	0%	0%	1 100%	0%	3 7.7%	1 50%	1 25%	2 25%	8 13.1%
21 to 30 years	1 100%	0%	0%	0%	4 10.3%	0%	1 25%	0%	6 9.8%
Valid %	**1 100%**	**1 100%**	**1 100%**	**5 100%**	**39 100%**	**2 100%**	**4 100%**	**8 100%**	**61 100%**

Table 9 shows the mining experience of female board members. The mining experience of female board members ranged from one to 30 years for the entire sample (n = 61), with an average of 6.93. The only female CEO board member identified across the sample had 30 years' mining experience.

Altogether 65% of female directors totalling 40 had less than 5 years' mining experience. Again this finding supports the view of Terjesen et al. (2009) that women might not possess the required experience required at board level. Seven female directors possessed between six to ten years' mining experience at 11.5%. Eight female directors had between 11 to 20 years' mining experience at 13.1% and only six women had between 21 to 30 years' mining experience accounting for 9.8%.

5 Conclusion

The study found that the socio-political, regulatory, ethical and business case in support of female directors has not been prioritised by mining companies and this poses various challenges and opportunities. This study shows that women remain underrepresented in boards of directors in the South African mining industry and are mainly outsiders (independent) and not insiders (executive). The underrepresentation of women on boards in this important industry in South Africa presents the foundation of a long-term process. In this process, the aligning of recruitment, development and retention of female directors into a talent management framework in the quest towards improving the representation of women of boards becomes a priority. It is hoped that this recommendation could underpin an annual study to monitor the progress of representation of female board members and identify the challenges faced by mining companies. This study contributes important knowledge of the standards expected from women serving on the board. Women serving on mining boards possess specialised knowledge skills in combination with advanced education. They either possess advisory knowledge as outsiders (independent non-executive directors), or they are support specialists with specific financial, legal, arts and economics backgrounds.

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