

DIVERSITY AND INCLUSION IN MINING: AN ANALYSIS OF INDICATORS IN
SUSTAINABILITY REPORTING

by
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ABSTRACT

The mining industry is increasingly turning to diversity and inclusion (D&I) programs to address a wide range of challenges including an aging workforce, increased public pressure to acquire social license to operate, and growing demand for innovative technical solutions to mining problems. However, there is a lack of available information on D&I initiatives in mining contexts, creating a barrier to adopting and developing these programs in mining corporations. To determine how and to what extent mining companies are devoting resources to D&I programs, I analyzed twenty-six D&I-related indicators in the public sustainability reports of 8 major metals mining companies from 2012-2019. This analysis demonstrates greater attention being paid in mining companies to D&I and an apparent preference for reporting on simple indicators which are relatively easy to obtain, such as demographics and policies. However, reporting on ethnic diversity and established industry goals that do not have corresponding GRI standards was extremely limited, and there was a decline in reporting of several indicators of structural aspects of employee inclusion over the study period, presenting a potentially concerning trend. I conclude that mining is on par with other industries in terms of current levels of global gender diversity, but that increasing D&I reporting in the mining industry remains a promising means to ensure that harms and benefits are evenly distributed among stakeholders in the mining industry and to align with the 2015 UN Sustainable Development Goals.

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CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 Introduction

As the mining industry moves into the next decade, it must overcome several critical technological and social challenges. The ongoing environmental crisis has spurred increased demand for metals and rare earth elements while simultaneously requiring innovative changes to mining equipment (CIM Magazine, 2016). Furthermore, mining corporations face growing public pressure to address the rights of indigenous and local peoples in natural resource extraction (Harvey, 2013; Owen and Kemp, 2013). At the same time, the mining industry also faces a looming workforce crisis, as nearly half of the skilled technical workforce is set to retire in the next decade (MiHR Council, 2016). Workforce diversity and inclusion (D&I) strategies are one way mining companies are attempting to address these challenges (Green, 2015; Brightmore, 2017).

Fostering a diverse and inclusive workforce has long been recognized as an effective mechanism for integrating disparate points of view and promoting the creativity necessary to successfully address complex challenges like those currently faced by the mining industry (Russo, 2012; Bendick, Egan, and Lofhjelm, 2001). Studies of diverse teams show higher levels of creativity and innovation than homogenous teams (Herring, 2009; Ely, 2004; Ferdman and Deane, 2014), and corporations with diverse senior leaders show increased productivity, sales, and employee satisfaction (Cottrill, Lopez, and Hoffman, 2014; Wentling and Palma-Rivas, 2000). However, D&I are poorly understood in many industries, including mining, and as a result, corporations are slow to adopt and develop programs (WIM, 2015; Williams, Kilanski, and Muller, 2014).

The most significant barrier to adopting D&I strategies in the mining industry is the lack of available information on D&I initiatives in mining contexts (Zaffron, Poulton, Loffredi, and Seedorff, 2019). Although there are country-specific reports on workforce demographics and programs in Australia and Canada, and some financial reports include limited information on D&I, there is no current report on the state of D&I in the mining workforce across the industry (AUSIMM, 2009; MiHR, 2016; PwC, 2019). Industry leaders also lack concrete data on the effects of D&I programs on the returns of commodity-producing industries, such as mining,

because much of the literature on D&I programs is focused on consumer-facing corporations, such as Google, Unilever, and Blackrock (Bezrukova, Jehn, and Spell, 2012; Williams, Kilanski, and Muller, 2014). As commodity-focused corporations do not typically interact with consumers and their perceptions of worth do not adversely affect the bottom lines of these corporations, there is some doubt as to the relationship between D&I programs and concrete returns in commodity industries (WIM, 2015; MiHR, 2016; Yokom, 2018). Additionally, there is little research available on differing perspectives on D&I in international contexts (Bond and Haynes, 2014; Henry and Evans, 2007). This is especially important in the mining industry due to the global nature of mining corporations and the necessity of establishing a cohesive corporate culture despite national and cultural diversity throughout the company (Opoku-Asare, 2019).

Increasing D&I in the mining industry is a promising means to ensure equitable distribution of harms and benefits among stakeholders in the mining industry, align with the 2015 UN Sustainable Development Goals (SDGs), and increase innovation and efficiency in mining corporations. In this thesis, I examine to what extent mining corporations report on their activities and progress towards D&I in public sustainability reporting from 2012-2019 and what their reporting behavior suggests about overall industry priorities and progress. I do this by analyzing D&I related indicators that appear in 8 major mining companies' sustainability reports from 2012 to 2019 to examine trends in D&I reporting across time. This research shows that mining is currently on par with other technology industries in terms of gender diversity and that steady progress is being made toward established mining industry D&I goals, including gender diversity and local hiring. I demonstrate that although mining companies have increased their attention to D&I over the study period, particularly following the release of the 2015 UN SDGs, the percentages of diversity and inclusion indicators reported relative to one another reverse over the period—beginning with a higher percentage of inclusion indicators reported and ending with a higher percentage of diversity indicators reported.

Additionally, mining companies displayed a strong preference for reporting easily obtainable demographic data and policies, and that data on female representation in the workforce and leadership are consistently well reported throughout the study. Conversely, data on ethnic diversity was lacking, with corporations substituting highly specific data on indigenous peoples' representation or entirely omitting any mention of ethnic minorities. This reporting behavior is

consistent with other natural resources companies and with the tech sector as a whole (Thurm, 2006; Roca and Searcy, 2011).

1.2 Background

Historically, individuals' gender, race, and age have in part determined their societal roles—including the extent to which they are allowed employment or career advancement in specific industries. In 1964, the Civil Rights Act in the United States outlawed discriminatory hiring practices on the basis of race (Civil Rights Act, DiAngelo, 2018). Subsequent amendments to the law have prohibited discrimination in the workforce based on gender, age, pregnancy, and disability (Civil Rights Act). Early D&I programs focused on ensuring compliance with these laws, with training focusing on “primarily the imparting of knowledge with recitations on the law and company policies, a litany of dos and don'ts, and maybe a couple of case studies for the participants to ponder” (Anand, and Winters, 2008, 258; Bernard and Cooperdock, 2018). However, due to the alignment of gender and racial stereotypes with ideal worker norms (Rolston, 2014), policies that are intended to comply with regulation and eliminate conscious discrimination in hiring and advancement has proven ineffective at increasing the representation of women and minorities in the workforce (Bernard and Cooperdock, 2018; Williams, 2014, Burke and Mattis, 2007; Apfelbaum, 2016). This may be due in part to these strategies' situation in a greater societal context of continuing discrimination against racial and gender minorities (Williams, 2014; DiAngelo, 2019). However, despite these hurdles, many corporations believe that increasing the diversity of their workforces through D&I programs will lead to increased innovation, employee satisfaction, and business performance (BOLD, 1997; Nishii, 2016).

1.2.1 Diversity and Inclusion in Industry Contexts

In corporate contexts, definitions of diversity and inclusion are subjective and often change based on various factors, including corporate culture, location, external culture, and government regulations (Nair and Vohra, 2015). Diversity is generally understood to represent “the varied perspectives and approaches to work that members of different identity groups bring” (Roberson, 2006, 213). Identity, in this context, is generally associated with demographic characteristics such as race, age, and socioeconomic class (Roberson, 2006). Many corporations focus specifically on gender, race, and ethnicity due to the historical disenfranchisement of these groups and to comply with anti-discrimination laws, such as Title IX in the United States (Anand

and Winters, 2008). However, achieving equal representation in a corporate workforce is complicated by regional demographic distributions, as well as politically and culturally specific ideas of which identity groups qualify as minorities (Anand and Winters, 2008).

Companies typically release yearly data on the demographic composition of their workforces (Hays-Thomas and Bendick, 2013; American Geosciences Institute, 2019). These data present an incomplete picture of diversity due to intersectionality. For example, companies will report on the percentage of women employed and the percentage of black individuals employed but not the percentage of black women employed. These results provide an inaccurate representation of diversity and further exclude invisible aspects of diversity, such as sexual orientation, religion, country of origin, and some disabilities, all of which may affect an individual's inclusion in a working group (Moore, 2014; Colgan, 2011).

Inclusion was introduced by social psychologists in the early 2000s and adopted by industry beginning in 2010 (Mor Barak, 2015). In industry, inclusion typically refers to the extent to which individuals can access information and resources, are involved in workgroups, and can influence intra-organization decision-making processes (Deloitte Australia, 2013). Inclusion is an experiential phenomenon in that it depends on the extent to which individuals feel they are a part of organizational success (Deloitte Australia, 2013). Because of the effect of individual experiences on perceptions of inclusion, the term 'inclusion' often has multiple definitions within a single organization (Roberson, 2006). Some definitions may focus on structural barriers to inclusion in organizational decision making, while others focus on encouraging inclusivity in interactions between employees, managers, and leadership (Ferdman and Deane, 2014). The particular definitions of inclusion and inclusivity utilized by an organization are often tailored to suit that organization's needs and fit into its overall business strategy (Mor Barak, 2015; Nair and Vohra, 2015). However, corporate definitions of inclusion generally focus on a range of topics, including personal safety, equity, respect for others, and organizational advancement (Mor Barak, 2015; Roberson, 2006). In this study, I am concerned with inclusion as indicated by the presence of formal or informal barriers to or encouragement of full employee participation in organizational productivity, decision making, and advancement.

Contemporary D&I programs are often characterized by the appearance of alignment with publicly reported core company values, such as innovation or equity (Wentling and Palma-Rivas,

2000). In many of these programs, corporations attempt to communicate a dual commitment by espousing both the business returns of D&I programs and the moral high ground of providing equal respect and opportunities to all employees (Wentling and Palma-Rivas, 2000). The business case for diversity, i.e., the theory that diverse workforces foster increased revenue, sales, and market shares in consumer firms (BOLD, 1997), has gained significant traction in organizational and social psychology since its introduction in 1997. This theory is representative of the synergy perspective on diversity, which holds that leveraging diversity to create synergy in groups results in greater performance (Nishii, 2016). Research has shown that leaders who practice inclusivity reported better performance statistics, including greater employee satisfaction and higher sales rates, regardless of the relative diversity of their teams (Cottrill, Lopez, and Hoffman, 2014). Companies with a public interest in D&I are more typically attractive to new talent and more successful in recruiting from top institutions (Avery, Volpone, et al., 2013). Furthermore, companies that are perceived to value D&I have benefitted from increased sales revenue, share price, and market share, positive consumer opinions, and increased employee satisfaction (Bendick, Egan, and Lanier, 2010).

Critics of D&I initiatives point out that successful programs are time and capital intensive and that it may take long periods before return on investment is observable (Anand and Winters, 2008). Often, the implementation of D&I strategies is viewed as a waste of company time and resources (Dobbin and Kalev, 2016). Many of these critics are not opposed to D&I in general. Instead, they object to the mechanisms that are typically used to promote D&I (Bendick, Egan, and Lanier, 2010). For example, quotas and targets intended to increase hiring parity or promote minority candidates are perceived as unethical or reverse prejudiced (prejudiced against a majority group member due to their membership in the majority group) (DiAngelo, 2018).

Many of these criticisms have valid points: heterogeneous groups do report increased conflict, D&I programs are expensive and take time, and many companies utilize well-intended but flawed strategies to attempt to increase diversity and foster inclusive environments (Russo, 2012; DiAngelo, 2018). However, studies also show that inclusive leadership and inclusive environments can minimize the effects of increased conflict and increase synergy in diverse groups (Nishii, 2013; Deloitte, 2018). With this evidence, the business and ethical case for D&I programs appears to outweigh these critiques in the eyes of corporate leadership (Davis, Frolova,

and Callahan, 2016). A recent study reports that a majority of Fortune 500 CEOs believe diverse and inclusive workforces positively affect a corporation's bottom line and that equitable incorporation of minority employees into corporations' workforces is both ethical and cost-effective when observed over long periods (CEO Action for Diversity and Inclusion, 2020).

1.2.2 Common Diversity and Inclusion Strategies

Companies utilize various strategies to foster D&I in the workforce (Anand and Winters, 2008). At minimum, they must comply with regulations barring discriminatory hiring and promotion practices, as well as workplace harassment (Bendick, Egan, and Lofhjelm, 2001). However, companies often implement additional, voluntary programs, including mentoring, hiring targets, and cultural training (Wentling and Palma-Rivas, 2000). These programs often focus on demographic minorities, mirroring the regulatory focus on these groups (Henry and Evans, 2007). The most popular corporate D&I activity is implicit bias training (Bezrukova, Jehn, and Spell, 2012).

Implicit bias is predicated on the notion that people are socialized to think and behave in specific ways towards others depending on their perceptions of individual behaviors and physical traits (Ely, 2004). In the implicit bias model, discrimination is not necessarily intentional; it is assumed to be natural for the human brain to stereotype and react to situations and individuals based on previous experiences (Bezrukova, Jehn, and Spell, 2012). By removing personal intent from interpersonal interactions, the implicit bias model erases any implication of intentional wrongdoing and communicates that people simply need to learn how to recognize and mitigate their unconscious biases in the future (Dobbin and Kalev, 2016). In corporate settings, implicit bias training is intended to give employees the necessary tools to regulate their interpersonal interactions, which allegedly results in more inclusive behaviors towards co-workers (Anand and Winters, 2008). Implicit bias training is effective in theory but is often ineffective in practice (Dobbin and Kalev, 2016). Corporations often do not mandate training for all employees and managers or only provide one session, limiting the effect of training and preventing true cultural change (Anand and Winters, 2008). Additionally, corporations often fail to hire trained facilitators to assist in the program or to include specific behavioral strategies to help their employees to be more inclusive of others (Ely, 2004). Finally, corporations lack adequate tools to measure the short-term or long-term effectiveness of their workforce training (Bendick, Egan,

and Lofhjelm, 2001). At best, in ineffective training scenarios, employees walk away feeling optimistic but unable to effectively change their behaviors. At worst, employees may leave with reinforced stereotypes of both themselves and others, resulting in an increase of discriminatory behavior across the organization (Dobbin and Kalev, 2016).

Other common strategies to increase D&I are aimed at increasing the percentage of minority employees within the total workforce or at different levels of the organization (Williams, Kilanski, and Muller, 2014). These strategies may include hiring or promotion quotas, voluntary hiring and promotion targets, mentoring, or employee support programs (Apfelbaum, 2016). Despite their high rate of success in accomplishing corporate goals, hiring and promotion quotas are generally viewed unfavorably by managers and employees due to the perception that hiring managers are required to choose employees solely based on demographics, without considering competency (DiAngelo, 2018). Voluntary hiring targets tend to be more favorably perceived by hiring managers and employees, though they have a slightly lower rate of success in achieving D&I goals when compared to quotas (Apfelbaum, 2016; Williams, Kilanski, and Muller, 2014; DeBeers, 2019). Additionally, targets often instigate a high rate of change within three years of being set and decline significantly as they reach the five-year mark (Moore, 2014). Therefore, it is not uncommon for targets to be set for five-year periods, at which time achievements are evaluated, and new targets are set for the future, as is recommended by the MMSD study “Breaking New Ground” (IIED, 2002).

Mentoring and employee resource groups are intended to provide internal resources for minority employees to find support to advance their careers (Brightmore, 2017). These programs are generally popular among minority employees, though they have rarely correlated with concrete increases in hiring or promoting minority candidates (Williams, Kilanski, and Muller, 2014). Mentoring programs are limited by practical time constraints on mentor and mentee activities (Wentling and Palma-Rivas, 2000) and the tendency of individuals to select mentees and mentors with whom they can identify or relate (Bernard and Cooperdock, 2018; Abbott and Boags, 2004). This aspect of mentoring limits the applicability of mentoring programs to entry-level minority employees, as there are only so many minority managers and senior leaders available to mentor them (Bernard and Cooperdock, 2018; Abbott and Boags, 2004). Non-minority managers and senior leaders may also be hesitant to mentor minority candidates due to

the belief that mentees should be able to speak with mentors who have experienced similar minority-related struggles (Wentling and Palma-Rivas, 2000; Abbott and Boags, 2004). Additionally, potentially as a result of the “me-too” and other related movements, non-minority mentors are reporting less willingness to work with minority mentees due to their concerns over being accused of impropriety (e.g., sexual harassment or racial discrimination) (Fotrill and Setembre, 2019). This concern stems from a lack of trust between a mentor and mentee, which may be attributed to outward demographic differences (Abbott and Boags, 2004).

Employee resource groups are popular internal mechanisms to foster a sense of community and inclusion for minority employees within a corporation (Wentling and Palma-Rivas, 2000). Referred to by some corporations as “professional clubs” (Brightmore, 2017; Opoku-Asare, 2019), these groups are formed and led by employees from various levels of an organization who have a shared interest (Williams, Kilanski, and Muller, 2014). Often, as with women’s and allies’ groups, or groups for racial minorities or international cultures, the shared interest is demographic in nature (Wentling and Palma-Rivas, 2000). Thus, these groups map onto corporations’ formally recognized categories of diversity and may not necessarily accommodate intersectional individuals (Apfelbaum, 2016; Dobbin and Kalev, 2016).

Successful D&I programs use both vertically and horizontally integrated strategies (Wentling and Palma-Rivas, 2000; Cottrill, Lopez, and Hoffman, 2014). Senior management and executive officers must show that they value D&I if the rest of the corporation is to engage seriously with any strategy they may choose to implement (Ferdman and Deane, 2014; Davis, Frolova, and Callahan, 2016). However, if only senior managers are engaged, D&I programs tend to stall outside of corporate headquarters, with mid-level managers reporting apathy or antipathy toward these initiatives, often due to a lack of communication or understanding (Holmes, 2010; Davis, Frolova, and Callahan, 2016). Therefore, it is imperative that companies design strategies and actions that specifically engage and gain the trust and acceptance of mid-level managers and lower-level employees (Holmes, 2010; Wittenburg-Cox, 2016). Finally, non-minority employees (e.g., in the US, white, heterosexual, cisgender men between the ages of 35 and 50) must be included in any activity intended to foster diverse and inclusive workforces (Wittenburg-Cox, 2016). Many well-intentioned D&I strategies have mistakenly isolated these groups of employees, resulting in immediate and violent backlash toward the current and any future D&I

initiatives, as well as senior management (Wittenburg-Cox, 2016; Abbott and Boags, 2004). A notable example of such backlash is the “Google Memo,” where in June of 2017, an employee alleged that Google discriminates against its white male employees through its D&I programs and argued that the disproportionate numbers of men and women in tech could be explained by biological differences between the sexes (Wakabayashi, 2017). The employee was fired for violating Google’s internal policies, but Google later dramatically scaled back its D&I programs (Wakabayashi, 2017).

1.2.3 Diversity and Inclusion in Mining

The first movement toward workforce diversity in mining occurred in the 1970s and primarily focused on gender diversity (Rolston, 2014). Inclusion, however, did not make its way into mining until the 2010s, similar to other industry contexts (Mor Barak, 2015). The current movement for D&I in mining began in the early 2000s, mirroring the recent push for D&I in the tech industry (MCA, 2007). This movement also paralleled the push for mining corporations to contribute to sustainable development, which began in the late 1990s and gained momentum in 2015, following the announcement of the UN’s SDGs and guidelines pushed by the International Council for Mining and Minerals (ICMM, 2015).

Early adopters of D&I in mining have focused on standard D&I programs intended to foster a more diverse entry-level talent pool and provide internal resources for employees to advance their careers (Zaffron, Poulton, Loffredi, and Seedorff, 2019; AIMM, 2009). Newmont Mining Corp. has several popular business resource groups intended to promote D&I, in line with their strategic goal of inclusion (Newmont, 2019). Hiring targets are popular, especially regarding hiring and promoting female employees; establishing and maintaining gender parity is a common goal of such targets (Green, 2015; DeBeers 2019). DeBeers, for example, has recently announced that they have achieved gender parity in external hiring (DeBeers, 2019). Mining companies have given relatively little attention to ethnically diverse groups, though companies that interface with indigenous or aboriginal peoples may have educational outreach and hiring programs intended to draw skilled labor from the local population (Brightmore, 2017). Freeport McMoRan, in the United States, has spearheaded several efforts to interface with Native Americans, establishing a Native American Stakeholder Communication group in 2017 (IMR, 2018). Since 2012, several companies have also started publishing indicators of D&I in their

annual sustainability reports in compliance with the Global Reporting Initiative (GRI) guidelines (Kincaid and Smith 2020). Analysis of these reports indicates a growing focus on D&I within the industry (Kincaid and Smith 2020).

Since 2012, the mining industry has publicly expressed widespread commitment to fostering diversity in the workforce as a strategy to encourage sustainable development in operational areas, acquire social license to operate, and address a looming retirement crisis (Zaffron, Poulton, Loffredi, and Seedorff, 2019; Harvey, 2013; IIED, 2002; MiHR, 2016). The mining industry's primary focus on gender diversity within the workforce reflects the actions of other industries and the historical development of similar diversity and identity-based movements (Mayes and Pini, 2014). This focus also aligns with the UN SDGs and ensures compliance with anti-discrimination regulations (UN, 2015). However, current estimates of the percentage of women in the global mining workforce range from 7% to 18% (Yokom, 2018; American Geosciences Institute, 2019), and fewer than 25% of women employed in the mining industry are retained or moved into management positions (Ozkan and Beckton, 2012).

More recently, the focus has shifted to include ethnic diversity due to several high-profile movements such as BLM (Mell, 2020; London Mining Network, 2020). Statistics on ethnic diversity are unavailable for the industry as a whole, but regional mining industry human resources reports in Canada and Australia over the past five years indicate that between 3% and 5% of employees in these settings are non-white individuals (MiHR, 2016; WIM, 2015). It has also been proposed that programs that focus on the hiring, inclusion, and promotion of local talent may assist specific sites in gaining and maintaining social license to operate (Harvey, 2013).

Age diversity is reported as a far greater concern to industry leaders in mining and earth resources companies than other heavy industries such as manufacturing (MiHR, 2016; Williams, Kilanski, and Muller, 2014). The mining workforce is rapidly aging, resulting in growing concern about intergenerational management (i.e., management which can successfully leverage the strengths of multiple distinct age groups) and a widening skilled labor gap (MiHR, 2016). Industry leaders believe that widening the labor pool by actively recruiting traditionally underrepresented populations will provide a larger group to draw on to fill the required positions (MiHR, 2016). Additionally, many believe that leveraging diverse teams will assist their

corporations in attacking the complex mining problems of the future (Solomon, Katz, and Lovel, 2008).

1.2.4 Evaluation of Diversity and Inclusion Programs

It is imperative to evaluate the effectiveness of D&I programs over time to ensure an equitable division of company resources among facets of the D&I program and the effectiveness of their D&I programs (Mor Barak, 2015; IIED, 2002). This presents a major challenge for industry leaders and researchers due to the complexity of D&I, the difficulty of measuring the effects of programs on individual behavior, and of linking those effects to concrete business returns (Holmes, 2010; Bendick, Egan, and Lanier, 2010). Corporations often evaluate and report on diversity via self-reported employee demographic data (Hays-Thomas and Bendick, 2013). This is the simplest method to determine the relative heterogeneity of a company's workforce. A certain amount of D&I-related information from nearly every major corporation has been available to the public annually since the late 1960s to comply with the United States and other countries' anti-discrimination regulations (Anand and Winters, 2008; Bernard and Cooperdock, 2018). "State of the Industry" reports have been published for many sectors such as banking, services, etc., by aggregating several leading companies' demographic data into a single report to provide a general picture of the industry's workforce. However, there are no current industry-wide reports of this nature for mining and minerals extraction.

Inclusion is significantly more challenging to evaluate, in part due to the lack of agreed-upon indicators or metrics for measuring the relative inclusivity of a culture (Oxoby, 2009). Companies may attempt to characterize more complicated facets of D&I through climate surveys or other methods intended to provide anonymous spaces for employees to offer information and allow the organization to build a more holistic picture of its corporate culture (Moore, 2014, Brightmore, 2017). However, evidence suggests that employees may be hesitant to respond truthfully to such surveys for fear of a lack of anonymity, and anonymized survey results are rarely publicized or studied (Wilkie, 2018). Early efforts to characterize inclusion have utilized indicators, i.e., metrics, policies, and other reportable data, which serve as proxy measurements of how inclusive a company is (GRI, 2019; UN, 2015; Perdeli et al., 2020).

More data on D&I in mining has become publicly available due to the rise in popularity of D&I-related metrics in corporate sustainability reporting. The Global Reporting Initiative (GRI)

was introduced in 2002 and has since developed into the leading voluntary standard for corporate sustainability reporting. It includes standards for reporting several issues related to sustainable development, including D&I (GRI, 2019). These guidelines generally state that corporate sustainability reports should contain “a description of the organization, its sustainability vision, its objectives towards sustainability, and a series of indicators illustrating the performance of the organization” (Roca and Searcy, 2011, 103). Following the introduction of the GRI, the International Institute for Environment and Development recommended the implementation of regular public sustainability reporting in the mining industry and the adoption of GRI standards (IIED, 2002). Azapagic (2004) provided further guidance on implementing corporate sustainability reporting in mining by introducing a framework for sustainable development indicators. Adoption was initially sluggish but has since become ubiquitous, and every major mining company now publishes an annual corporate sustainability report. GRI Indicators are organized around the “triple bottom line” (Roca and Searcy, 2011, 103), with multiple standards divided into environmental, economic, and social performance categories (GRI 2019). The G4 standards, published in 2019, divide GRI 400: Social Disclosures, into the following standards: Employment, Labor/Management Relations, Occupational Health and Safety, Training and Education, Diversity and Equal Opportunity, Non-discrimination, and others (GRI 2019).

Following a surge in popular support for D&I in mining after 2010, more information regarding D&I became available in mining corporate sustainability reports, in accordance with GRI standards related to employment and labor practices. In addition to standard employee demographics, reports began to include metrics such as employee turnover and detailed equal opportunity policies. The inclusion of D&I indicators in corporate sustainability reporting was further cemented in 2015 when the UN specifically identified Gender Equality in the SDGs (UN, 2015). The GRI now includes specific resources to enable corporations to embed the UN SDGs in their GRI-compliant sustainability reports (GRI, 2021). While these reports may not provide a complete picture of D&I in the mining industry, they present an opportunity to analyze the trends, areas of emphasis, and potential failings in mining corporations’ D&I reporting.

1.2.5 Social Capital Theory and Diversity and Inclusion

At present, there is no unifying sociological or organizational management framework utilized to examine D&I practices in companies (Nair and Vohra, 2015; Henry and Evans, 2007).

However, many theories have been applied to D&I strategies to understand the social mechanics at work (Henry and Evans, 2007). As a result, the field of D&I has various theoretical underpinnings which serve to describe disparate aspects of D&I (Nair and Vohra, 2015). Among these, Social Capital Theory (SCT) presents a framework to understand D&I in organizations, particularly when applied to the analysis of public D&I reporting.

Social Capital Theory (SCT) in management psychology is a framework through which researchers evaluate the mechanisms of social ties and the strengths of those ties within an organization (Oxoby, 2009). Social capital is conceptualized as the intangible value which is earned and spent through the process of building relationships between individuals when they interact within communities and organizations (Oxoby, 2009; Nahapiet and Goshal, 1998). There are generally two ways in which researchers conceptualize social capital: bonding and bridging social capital; or the three-dimensional framework proposed by Nahapiet and Goshal (1998). The bonding and bridging framework separates social capital into two subcategories: bonding capital, which strengthens the bonds between individuals in an existing network; and bridging capital, which builds network ties between individuals in disparate groups (Claridge, 2010; Bonfim et al., 2017). Both of these types of social capital are integral to building and maintaining relationships and can be utilized as a framework through which to examine inclusion in organizational contexts. However, Nahapiet and Goshal's (1998) multidimensional framework is more prevalent in the literature on social capital as applied to information exchange, organizational change, and inclusion.

Building on Granovetter's (1992) theory of structural and relational embeddedness in organizations, Nahapiet and Goshal (1998) differentiate between three interrelated but distinct dimensions of social capital: the relational dimension, which refers to the value accrued through individuals' feelings about and relations to each other; the cognitive dimension, which is concerned with perceptions of competency and intellect; and the structural dimension, which includes individual social rankings and mutual social connections (Nahapiet and Goshal, 1998). Social capital which is accrued through one of these dimensions is generally referred to as either relational social capital, cognitive social capital, or structural social capital (Nahapiet and Goshal, 1998; Tsai and Goshal, 1998; Bonfim et al., 2017). This framework of SCT has been applied in various organizational management studies and assessments of culture change within

organizations, as it provides a lens through which workers' interactions may be categorized, quantified, and linked to business activities by assigning value to interactions between individuals and groups and examining how group dynamics affect specific value-added behaviors such as innovation or information exchange (Aladwani, 2001; Nahapiet and Goshal, 1998; Ahuja, 2000; Algezau and Filieri, 2010).

The structural dimension of SCT is particularly salient to this study, as it is concerned primarily with formal and informal ties between individuals, as well as roles, rules, and precedents established by the organization (Claridge, 2010). This dimension of social capital is more straightforward to observe and assess in public sustainability reporting due to the prevalence of policies, rules, and procedures in GRI standards. Additionally, structural social capital is generally theorized to form the vital scaffolding upon which relational and cognitive social capital may then be built (Tsai and Goshal, 1998; Bonfim et al., 2017). These dimensions of social capital, in turn, have been shown to have direct, positive effects on group inclusivity, as well as encourage value-added behaviors including creativity, innovation, and efficient information sharing (Davenport and Daellenbach, 2011; Ansari et al., 2012; Andrews, 2010; Gooderham, 2007). The presence or absence of indicators related to the structural dimension social capital in public sustainability reporting provides additional context for corporate D&I reporting behavior, as well as their progress towards their D&I goals over time.

CHAPTER 2: STUDY DESIGN AND JUSTIFICATION

2.1 Research Questions and Hypotheses

This research contributes to understanding D&I in the mining industry and to the greater body of literature on D&I by focusing on the following overarching research question:

How do mining companies evaluate and report on the effectiveness of D&I programs and initiatives?

In this study, I hypothesize that:

- (1) *Corporate reporting favors quantifiable data, especially regarding pre-established aspects of diversity in the industry, including:*
 - a. *Gender diversity: the representation of women in the workforce*
 - b. *Age diversity: the representation of disparate age groups in the workforce*
 - c. *Racial and ethnic diversity: the representation of regional racial and ethnic minorities in the workforce*
- (2) *Indicators related to D&I will increase from 2012-2019, consistent with growing public enthusiasm for D&I in the industry and with the announcement and implementation of the 2015 UN SDGs.*

2.2 Methods

To examine how and to what extent mining corporations are reporting on their activities related to D&I, I conducted an analysis of a set of D&I indicators that appeared in the sustainability reports of 8 mining corporations from 2012-2019 (Table 2.1). I selected corporations based on the availability of public sustainability reports and their adherence to GRI reporting standards. Data were aggregated beginning in 2012, as this was the first year that sustainability reports were issued by all companies in the sample. Together, these companies represented at least 75% of the market share in each of the primary mineral industries (gold, copper, nickel, and iron).

Table 2.1: Companies Included in the Study Sample

Company	Commodity	Headquartered	Site Locations
A	Copper	United States	North and South America, Southeast Asia
B	Multiple	Australia	North America, Asia, Africa, Australia, Europe

Table 2.1 continued

Company	Commodity	Headquartered	Site Locations
C	Multiple	Australia	North and South America, Africa, Australia
D	Multiple	Canada	North and South America, Africa, Asia, Australia
E	Nickel	Russia	Africa, Europe, Asia
F	Gold	Canada	North and South America, Africa
G	Gold	United States	North and South America, Africa, Australia
H	Multiple	Switzerland	North and South America, Africa, Australia, Asia, Europe

To create the D&I indicator set, I drew from GRI 400, which is specific to social topics and categorizes indicators into several standards, many of which are related in some way to D&I. I drew indicators from the following standards: GRI 401, Employment Data; GRI 402, Labor/Management Relations; GRI 404, Training and Education; GRI 405, Diversity and Equal Opportunity; and GRI 406, Anti-discrimination (Table 2.2). Although GRI 405 was introduced in 2014 and addresses explicitly diversity and equal opportunity, the other GRI standards I drew from also contain metrics related to the evaluation of D&I programs, such as human rights, labor management, and employment metrics.

Table 2.2: GRI Standards

GRI Standard	Description
GRI 401: Employment Data	Concern the Number, location, organizational level, and demographics of employees
GRI 402: Labor/ Management Relations	Specific policies to manage relations between employees, corporate leadership, and organized labor at operational sites
GRI 404: Training and Education	Availability and provision of training and education opportunities to employees, managers, and corporate leadership, including job related training and career development or transition education
GRI 405: Diversity and Equal Opportunity	The state of workforce D&I specifically and demographics and policies specifically intended to foster diverse and inclusive workforces
GRI 406: Anti-Discrimination	The number and severity of discrimination instances in the corporation per year, policies to prevent discrimination, and grievance mechanisms to report discrimination.

Within these GRI standards, I selected 26 indicators based on their similarity to D&I metrics utilized to evaluate either diversity or inclusion in the literature. Current evaluations of D&I programs often include information on demographics, policies, and promotion structures

(Deloitte Australia, 2013; Hays-Thomas and Bendick, 2013; Nair and Vohra, 2008). I also selected indicators based on their apparent alignment with Social Capital Theory. After choosing the set of indicators, I categorized them according to their focus on either diversity or inclusion related evaluation methods. I assigned 9 indicators that referred to workforce number and composition to the diversity category (Table 2.3) and 17 indicators related to employee career development, benefits, and organizational encouragement of employee inclusion to the inclusion category (Table 2.4).

Table 2.3: Diversity Indicator Set

GRI Standard	Diversity Indicator
GRI 401	Total workforce by employment type, employment contract, and region.
GRI 401	Total number and rate of employee turnover by age group, gender, and region.
GRI 401	Breakdown by region or country of the number of direct employees on company payroll
GRI 401	Number of indirect employees (e.g., contractors, consultants) expressed as full-time equivalents
GRI 405	Percentage of women employed relative to the total number of employees
GRI 405	Percentage of women in senior executive and senior and middle management ranks
GRI 405	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other description diversity indicators
GRI 405	Percentage of ethnic minorities employed relative to the total number of employees, with an explanation of how representative that is of the regional or national population makeup*
GRI 405	Percentage of ethnic minorities in senior executive and senior and middle management ranks

*reported only as the percentage of indigenous employees in the workforce on sites adjacent to historically indigenous-owned lands

Table 2.4: Inclusion Indicator Set

GRI Standard	Inclusion Indicator
GRI 401	Employee turnover expressed as percentage of employees leaving company relative to the total number of new employees
GRI 401	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operation
GRI 401	Socially responsible employment and working conditions
GRI 401	Socially responsible approach to personal development
GRI 402	Ranking of the company as an employer in the internal ranking and surveys

Table 2.4 continued

GRI Standard	Inclusion Indicator
GRI 402	Policy procedures involving consultation and negotiation with employees over changes in the company (e.g., restructuring, redundancies etc.)
GRI 402	Socially responsible management policies and system
GRI 402	Socially responsible communication strategy and employee involvement
GRI 404	Percentage of hours training (excl. Health and safety) relative to the total hours worked (e.g., Management, production, technical, administrative, cultural etc.)
GRI 404	Number of employees that are financially sponsored per year by the company for further education
GRI 404	Summary of programs to support the continued employability of employees and to manage career endings
GRI 404	Average hours of training per year per employee; by employee category
GRI 404	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings
GRI 404	Percentage of employees receiving regular performance and career development reviews
GRI 405	Summary of the equal opportunity policy
GRI 405	Ratio of basic salary of men to women by employee category.
GRI 406	Total number of incidents of discrimination and actions taken.

The final dataset comprised 8 companies, with 8 reports per company over an 8-year period (2012-2019). There were 26 indicators which could be present in each report for a total of 208 possible indicators in a given year. I examined indicators individually and grouped in order to determine distribution by year, diversity or inclusion category, and specific indicator. I observed trends in the number and types of identified diversity and inclusion categories and unique indicators reported per year and over the 8-year period. I then utilized Kruskal-Wallis (KW) Testing¹ (Kruskal and Wallis, 1952) to validate observed trends in single factors by determining whether or not there was statistically significant variation in the dataset due to the influence of either time or specific indicator. I further validated observed trends in dual factors utilizing Friedman Testing² (Friedman, 1937), to determine whether or not there was statistically

¹ Kruskal-Wallis testing is a statistical analysis used to determine whether or not variation between subsets of data is statistically significant based on a single factor when evaluated against the dataset as a whole (Kruskal and Wallis, 1952). It differs from standard variation testing by utilizing normalized data ranking, which optimizes it for non-normally distributed datasets (Kruskal and Wallis, 1952). It is the non-parametric equivalent of one-way ANOVA testing.

² Friedman Testing is a statistical analysis used to determine whether or not variation between subsets of data is statistically significant based on two factors when evaluated against the dataset as a whole (Friedman, 1937). It is similar to Kruskal-Wallis testing in that it utilizes normalized data ranking, optimizing it for non-normally distributed datasets (Friedman, 1937). It is the non-parametric equivalent of two-way ANOVA testing.

significant variation in the dataset due to both time and specific indicator. I followed up Friedman and KW Testing with pair-wise t-testing between years to determine the periods of greatest variation in the dataset. I also qualitatively observed the content of these reports outside of specific indicators, as it was related to D&I, and noted where company reporting aligned with Social Capital Theory.

CHAPTER 3: RESULTS AND DISCUSSION

The analysis showed that every company in the sample had, to some extent, incorporated D&I related indicators into their annual sustainability reports. The entire sample reflected no preference for diversity-coded indicators compared to inclusion-coded indicators, with 70% ($n_{\text{Diversity}} = 576$; $n_{\text{Inclusion}} = 1088$) of the total possible indicators in both categories reported over the eight-year study period.

3.1 Variations in Company Reporting Across All Indicators

In the first year of the study period (2012), 71% ($n=145$) of the total number of indicators were reported on by all companies in the sample (Figure 3.1). This remained steady in 2013, decreased slightly in 2014 and then increased in 2015 to 74%, following the announcement of the 2015 UN SDGs (UN, 2015). The total percentage of indicators reported remained at 74% in 2016, then declined in 2017, reaching a low of 65% in 2018. The percentage of indicators reported rebounded in 2019. Variation in the number of indicators reported from year to year was found to be statistically insignificant over the eight-year study period, with KW testing returning $p > 0.05$ (Kruskal and Wallis, 1952). However, the percentage of indicators reported in 2018 falls well below the standard deviation of this dataset (Figure 3.1). Follow-up pairwise testing for 2018 shows that variation between 2015 and 2018 is statistically significant, with $p < 0.05$ between these two years. Furthermore, pairwise testing shows that the rebound between 2018 and 2019 is significant, with $p < 0.05$ between these two years.

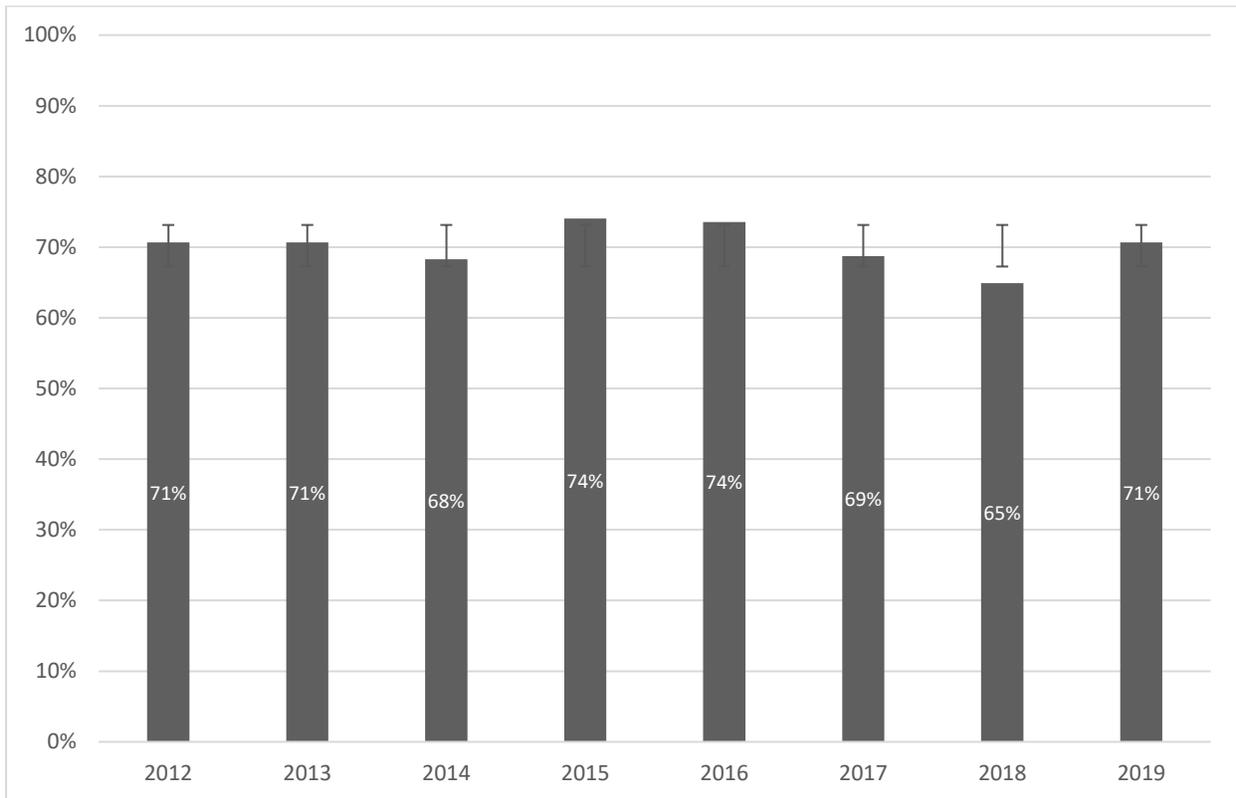


Figure 3.1: Percentage of Indicators Reported Per Year (n=208) by All Companies in the Sample showing standard deviation bars

The percentage of diversity indicators reported by all 8 companies over the study period fluctuated in accordance with the whole sample trend – decreasing slightly in 2014, showing an uptick in 2016, decreasing sharply in 2018, and rebounding in 2019 (Figure 3.2). Friedman testing on the set of diversity indicators shows that there is statistically significant variation between both individual indicator reporting and the total reporting of these indicators per year, with $p < 0.05$. Follow-up pairwise testing indicates that the greatest variation in reporting in this set occurs between 2014 and 2016 ($p \ll 0.05$), in line with the increase in reporting between these years present in the whole dataset. The percentage of diversity indicators reported also rebounds significantly between 2018 and 2019, with pairwise testing showing a $p < 0.05$, consistent with the whole dataset.

Conversely, while the percentage of inclusion indicators reported did show significant variation between indicators and years, with Friedman testing showing $p < 0.05$ for over the eight-year study period, the majority of this variation occurs after 2016—contrasting with the whole dataset trend. The percentage of inclusion indicators reported remained relatively stable

from 2012-2016 and decreased in 2017. Pairwise t-testing shows that the greatest variation of inclusion indicators reported between years occurs between 2013 and 2018 ($p \ll 0.05$). This is consistent with the whole-data set drop in reporting in 2018. Additionally, though the percentage of inclusion indicators rebounded following a dip in 2018, consistent with the sample trend, it rebounded significantly less than the percentage of diversity indicators reported. While the first three years of the analysis (2012-2014) showed a greater percentage of inclusion indicators reported than diversity indicators, the remainder of the study period (2016-2019) reflected a shift towards more reporting of diversity indicators than inclusion indicators (Figure 3.2).

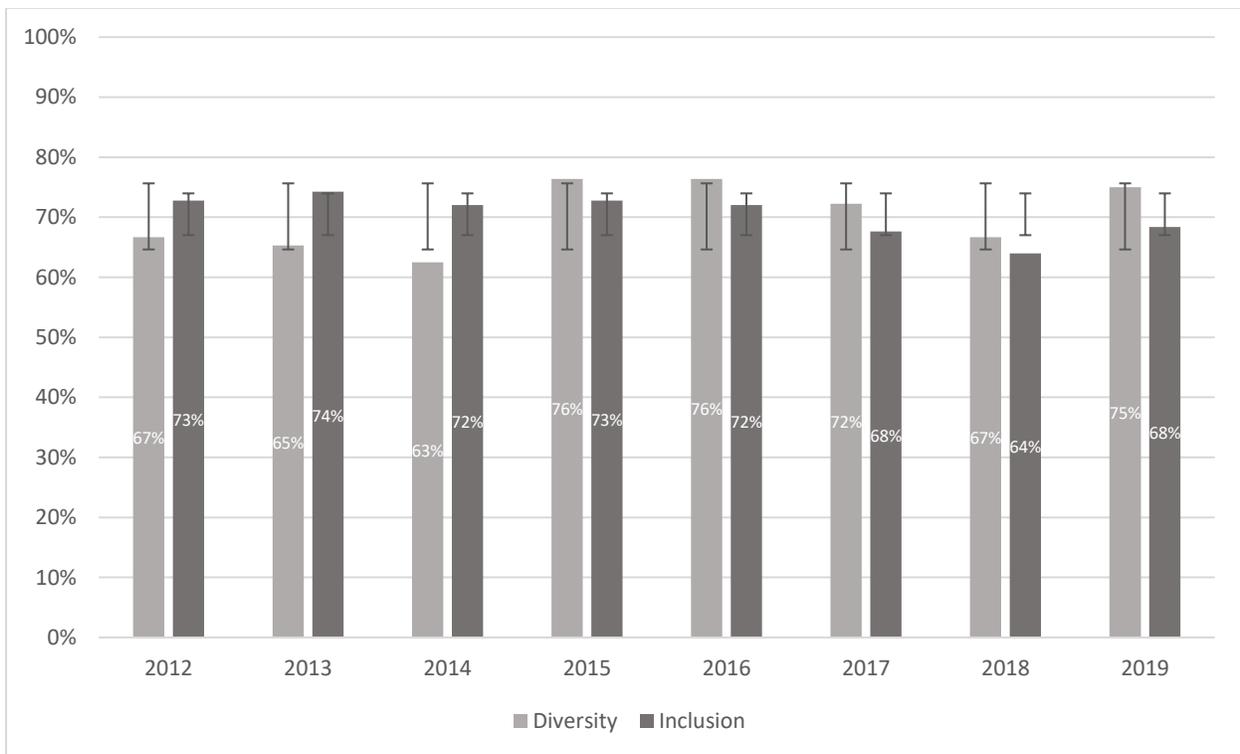


Figure 3.2: Percentages of Diversity (n=72) and Inclusion (n=136) Indicators Reported by All Companies per Year 2012-2019 showing standard deviation bars

3.2 Trends in Diversity Indicator Reporting

Friedman testing showed significant variation ($p \ll 0.05$) in reporting of each individual indicator in both the diversity and inclusion categories, as compared to other indicators in the same categories, as well as across the entire dataset. KW testing confirmed this result ($p < 0.05$) for each category, controlling for factor-wise error. In the set of diversity indicators, the indicator *breakdown by region or country of the number of direct employees*, appeared in 100% of the reports (Table 3.1). These data are relatively straightforward to obtain from Human Resources

(HR) records. Notably, the *percentage of women employed relative to the total number of employees appeared in 99% of the reports and the percentage of women in senior executive and senior and middle management ranks appeared in 91% of the reports*, reflecting the general workforce trend wherein women are the initial focus and primary beneficiaries of D&I programs (Faltholm and Norberg, 2017). The indicator *total workforce by employment type, employment contract, and region* was also present in 91% of the reports, again reflecting the ability to easily obtain these kinds of data from HR reports.

Table 3.1: Percentage of Diversity Indicators Reported Each Year and averaged across all years for All Companies in the Sample

Diversity Indicator	2012	2013	2014	2015	2016	2017	2018	2019	Mean All Years
Breakdown by region or country of the number of direct employees	100%	100%	100%	100%	100%	100%	100%	100%	100%
Percentage of women employed relative to the total number of employees	100%	100%	100%	100%	100%	100%	88%	100%	99%
Percentage of women in senior executive and senior and middle management ranks	88%	88%	75%	100%	100%	88%	88%	100%	91%
Total workforce; employment type, contract, and region.	75%	75%	75%	100%	100%	100%	100%	100%	91%

Table 3.1 continued

Diversity Indicator	2012	2013	2014	2015	2016	2017	2018	2019	Mean All Years
Number of indirect employees expressed as full-time equivalents	75%	75%	75%	88%	88%	75%	63%	75%	77%
Composition of government bodies and breakdown of employees per category according to gender, age group, minority group membership and other description diversity indicators	63%	63%	50%	88%	88%	75%	75%	88%	74%
Total number and rate of employee turnover by age group, gender, and region	63%	63%	63%	63%	50%	50%	50%	75%	60%

Table 3.1 continued

Diversity Indicator	2012	2013	2014	2015	2016	2017	2018	2019	Mean All Years
Percentage of ethnic minorities employed relative to the total number of employees, with an explanation of how representative that is of the national or regional population makeup*	38%	25%	25%	38%	50%	50%	38%	38%	38%
Percentage of ethnic minorities in senior executive and senior and middle management ranks	0%	0%	0%	13%	13%	13%	0%	0%	5%

*reported as only the percentage of Indigenous employees in the workforce on sites adjacent to historically Indigenous-owned lands

As the percentage of women in the workforce and women in leadership were among the most commonly reported indicators in the dataset, I looked closely at these data to understand trends in female representation in the mining industry. Between 2014 and 2019 the *percentage of women in the global mining workforce* increased from 17% to 18%. While this may appear as a relatively small increase, a boom cycle has increased the overall size of the mining workforce (Yokom, 2018; Zaffron et al. 2019), indicating a greater magnitude of women in the workforce than in 2014. Similarly, *the percentage of women in global senior management and board*

positions increased from 14% to 22% from 2014 to 2019, placing mining roughly in line with leading tech companies in terms of gender representation in leadership (Bernard and Cooperdock, 2018, Williams et al., 2014). These increases may indicate progress towards the established industry goal of increasing gender diversity in mining (WIM 2018, PwC 2019).

The two least reported diversity indicators, *percentage of ethnic minorities employed relative to the total number of employees* and *percentage of ethnic minorities in senior executive and senior and middle management ranks* appeared in 38% and 5% of the reports, respectively. Additionally, when these indicators were reported on, the reporting was limited. For example, *percentage of ethnic minorities employed relative to the total number of employees* exclusively represented the percentage of indigenous employees in the workforce on sites adjacent to historically indigenous-owned lands, and *percentage of ethnic minorities in senior executive and senior and middle management ranks* exclusively represented Black, Indigenous, or People of Color (BIPOC) on boards of directors. Although these indicators showed an increase in reporting in 2015, with reporting on *percentage of ethnic minorities employed relative to the total number of employees* increasing in 2016, and *reporting on percentage of ethnic minorities in senior executive and senior and middle management rank* remaining steady in 2016 and 2017, the reporting on both dropped in 2018 and remained low in 2019.

Reporting on indicators related to race or ethnicity in a heavily international industry is more complex than reporting on women's representation in the workforce. Reporting on ethnic minorities requires a more in-depth study of the regional demographic makeup to contextualize the site-specific meaning of "ethnic minority" (GRI 2019; Henry and Evans, 2007). For example, BIPOC individuals employed on sites in West Africa would not necessarily be categorized as an ethnic minority, as they would be in some areas of North America. Additionally, though strides have been made to recognize Indigenous Peoples' rights, Indigenous People are not recognized by some governments, making measuring and reporting on their workforce representation difficult (Retziaff, 2005).

It is also possible that mining companies avoid reporting on ethnic minorities simply because they are underrepresented, as they are in many other industries (Nair and Vohra, 2008; Bernard and Cooperdock, 2018). This would be consistent with regional reports of mining workforce demographics, such as the MiHR report on the makeup of the Canadian workforce in 2016,

which reported low representation of Indigenous workers (MiHR, 2016). Though data on ethnic minorities were generally lacking, reports began to include metrics on Indigenous Peoples' employment in 2017. However, reports from 2019 indicate that, on sites adjacent to indigenous populations, anywhere between 11% and 18% of the workforce were local indigenous people. Often, limited metrics on Indigenous employment are accompanied by extensive qualitative information on companies' relationships with Indigenous Peoples, such as details on hiring initiatives aimed at Indigenous populations. However, the low level of reporting on *the percentage of ethnic minorities in senior executive and senior and middle management ranks* demonstrates a lack of evidence of Indigenous Peoples in higher levels of the organization.

Despite the low level of reporting on BIPOC representation in the industry to date, recent international movements towards racial justice and equity may push mining corporations to devote more time and resources to increasing ethnic minority representation in their workforces. There is already some movement in the industry towards this goal, with professional societies such as Women in Mining and the London Mining Network publicly aligning with the Black Lives Matter (BLM) movement in 2020 (WIM, 2020; LMN, 2020) and popular mining publications calling for more action on racial diversity in the industry (Mell, 2020).

Many of the companies in the dataset also focused on the percentage of local or national employees in each region, which is included in the indicator *breakdown by region or country of the number of direct employees*. This focus mirrors a stated goal of the mining industry to promote "local local" hiring, i.e., hiring and promoting people from regions adjacent to the mine site (Kogel, 2014, 1). This has been proposed as a mechanism to encourage community involvement and leadership in mine operations and as a potential avenue to acquire the social license to operate (Solomon et al., 2008; Harvey, 2013). In 2014, the percentage of locally or nationally hired workers, aggregated from all reports in the study, was approximately 63%. This increased to 71% in 2019, reflecting progress towards the established industry goal.

3.3 Trends in Inclusion Indicator Reporting

Similar to observed trends in diversity indicator reporting, the most commonly reported inclusion indicators reflected easily obtainable, pre-existing metrics. These expressly referred to corporate policies, including *socially responsible management policies and systems, socially responsible approach to personal development, socially responsible communication strategy and*

employee involvement, and summary of the equal opportunity policy (Table 3.2). These indicators were present in over 97% of reports in the study. Policies that correspond to each of these indicators are publicly available on company websites and in employee handbooks and can be gathered from these sources and integrated into sustainability reports. This mirrors the tendency of companies to report pre-existing metrics pulled from HR data in the diversity category.

Table 3.2: Percentage of Inclusion Indicators Reported Each Year and averaged across all years for All Companies in the Sample

Inclusion Indicator	2012	2013	2014	2015	2016	2017	2018	2019	Mean All Years
Socially responsible management policies and systems	100%	100%	100%	100%	100%	100%	100%	100%	100%
Socially responsible employment and working conditions	100%	100%	100%	100%	100%	100%	100%	100%	100%
Socially responsible communication strategy and employee involvement	100%	100%	100%	100%	100%	88%	100%	100%	99%
Summary of the equal opportunity policy	100%	100%	100%	88%	100%	88%	100%	100%	97%
Summary of programs to support the continued employability of employees and to manage career endings	100%	88%	75%	88%	88%	88%	75%	100%	88%

Table 3.2 continued

Inclusion Indicator	2012	2013	2014	2015	2016	2017	2018	2019	Mean All Years
Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	100%	88%	88%	88%	88%	88%	75%	88%	88%
Socially responsible approach to personal development	88%	88%	88%	88%	88%	75%	75%	88%	85%
Employee turnover expressed as percentage of employees leaving company relative to the total number of new employees	75%	75%	75%	88%	88%	88%	63%	88%	80%
Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operation	75%	75%	75%	88%	88%	75%	63%	75%	77%
Total number of incidents of discrimination and actions taken.	75%	75%	75%	75%	75%	63%	63%	50%	69%

Table 3.2 continued

Inclusion Indicator	2012	2013	2014	2015	2016	2017	2018	2019	Mean All Years
Average hours of training per year per employee by employee category	75%	75%	75%	75%	75%	63%	50%	63%	69%
Ratio of basic salary of men to women by employee category	63%	63%	63%	63%	63%	75%	38%	50%	60%
Percentage of hours training (excl. Health and safety) relative to the total hours worked	63%	63%	50%	50%	50%	38%	63%	50%	54%
Percentage of employees receiving regular performance and career development reviews	38%	63%	63%	75%	63%	50%	38%	38%	53%
Policy procedures involving consultation and negotiation with employees over changes in the company	38%	63%	50%	63%	38%	25%	25%	38%	43%
Ranking of the company as an employer in the internal ranking and surveys	38%	25%	38%	25%	63%	50%	50%	50%	42%

Table 3.2 continued

Inclusion Indicator	2012	2013	2014	2015	2016	2017	2018	2019	Mean All Years
Number of employees that are financially sponsored per year by the company for further education	25%	25%	25%	25%	13%	13%	25%	13%	21%

A notable departure from this preference for reporting on policies is seen in the relatively low reporting of *policy procedures involving consultation and negotiation with employees over changes in the company*, which is only included in 43% of the reports. This indicator refers to the extent to which companies have structures in place to encourage employee involvement in major organizational changes such as site acquisitions or departmental reorganization (GRI, 2019).

The least commonly reported inclusion indicator was *the number of employees that are financially sponsored per year by the company for further education*, which was present in only 21% of reports. When financial sponsorship of employees for further education is mentioned, it is often reported as part of a larger metric, such as the amount of money spent by a company on educational initiatives in a given year. This metric is not included in any GRI standard and often includes figures pertaining to various educational initiatives in addition to employee sponsorship. The low reporting of this indicator contrasts with the relatively high reporting of other indicators in the inclusion set which pertain to investment in employee education, such as the *summary of programs to support the continued employability of employees and to manage career endings*, which is reported in 88% of reports in the study, and *average hours of training per year by employee category*, which is reported in 69% of reports in the study.

The next least commonly reported indicator, appearing in less than half (42%) of the reports, was *the ranking of the company as an employer in internal surveys*. This may be unpopular in sustainability reporting due to the difficulty of engaging employees in internal surveys of this type, often due to fears of lack of anonymity leading to retaliation from managers (Wilkie, 2018). Though this indicator is relatively uncommon in the dataset, notably, one company incorporated

analyses of corporate climate studies into their sustainability reports at regular intervals throughout the study period. These analyses often resembled “mini-studies,” with employee survey responses, case studies, and employee testimonials, which were not linked to any GRI indicators (GRI, 2019). These analyses presented a much more holistic picture of this company’s D&I program (Mor Barak, 2015) and may be indicative of significant corporate resources being devoted to D&I (Thurm, 2006; Roca and Searcy, 2011). Although some of the other companies in the dataset reported on climate surveys, these analyses appeared infrequently.

Notably, I observed that two indicators in the inclusion set which serve as essential markers of gender inclusion, the *ratio of basic salary of men to women by employee category*, and the *total number of incidents of discrimination*, were present in 60% and 69% of reports in the set, respectively. Though they are still present in the majority of reports, these numbers contrast sharply with the high levels of reporting on indicators related to gender in the diversity set. Literature suggests that incidents of discrimination and male/female salary ratio are salient issues to women working in the mining industry (WIM 2018, PwC 2019). Thus, the relatively low levels of reporting on these inclusion-related indicators contrasts with the established mining industry goal of gender inclusion.

3.4 Increasing Trends in Indicator Reporting Over Time

To understand reporting trends in individual D&I indicators over time, I applied Friedman testing to each indicator. Following this testing, I also applied Friedman testing to sets of indicators which showed an observable *increasing* trend, to validate the statistical significance of observed trends. Three indicators showed a significant *increasing* trend over time: (1) *total workforce by employment type, employment contract, and region*; (2) *composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other description diversity indicators*; and (3) *ranking of the company as an employer in internal ranking and surveys* (Figure 3.3). Friedman testing of this set revealed that variation over time and between indicators was statistically significant ($p < 0.05$). Pairwise t-testing between years for this subset of indicators showed the greatest variance ($p < 0.05$) between years 2013 and 2016, reflecting the observed *increasing* trend in this subset, and the behavior of the whole dataset.

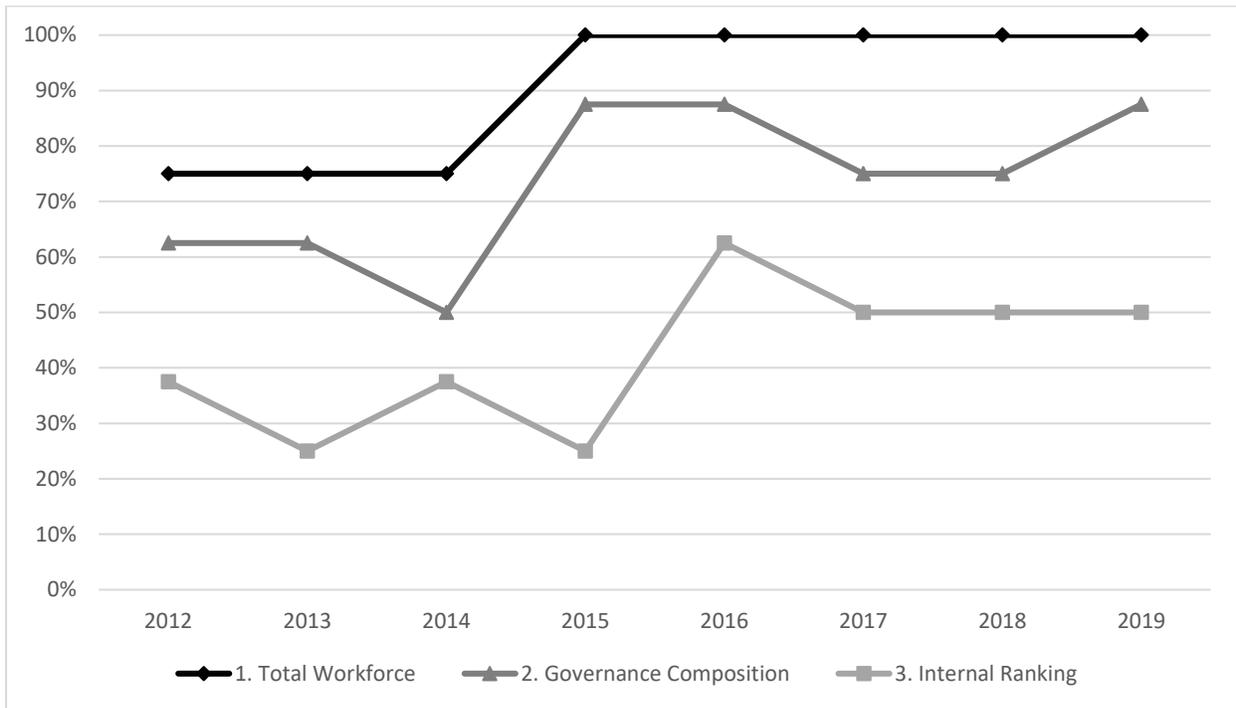


Figure 3.3: Upward trending D&I Indicators Reported Over the study period

Two of these indicators (1 and 2) showed a marked increase in 2015 and the third (3) increased sharply in 2016. The increase in representation of these indicators during these years may signal efforts to align with the 2015 UN SDGs (UN 2015). However, only indicator (1) remained steady in the following years, with indicators (2) and (3) dropping in 2017 and only of these indicators (3) returning to 2016 levels. Indicators (1) and (2) are diversity indicators, and indicator (3) is an inclusion indicator.

While the increase in reporting indicator (1) was fairly consistent, there was significantly more variation in the reporting of indicators (2) and (3), even over a period in which I observed a significant upward trend. Indicator (2), the *composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other description diversity indicators* was present in many (74%) of the reports over the study period and was interpreted by companies as the demographic composition of their boards of directors. This indicator is the only GRI indicator that breaks from standard symbols of diversity (i.e., gender and race) by identifying “age group” and “other description diversity indicators” (GRI, 2019). Despite its open-endedness, however, companies generally reported on the conventional

aspects of diversity: gender and minority group and did not include board members' nationalities.

In addition, prior to 2014, indicator (2) was reported on by companies in a few short sentences, occasionally with a graph. However, beginning in 2015, companies in the set shifted towards a multi-page introduction of individual board members, which included photos and a short biography that detailed members' backgrounds and motivations. This shift towards long-form, qualitative mini-reports within the greater sustainability report format may be the beginning of a greater shift by mining companies towards reporting more nuanced, contextual D&I indicators.

Furthermore, the 38% increase in reporting of indicator (2) from 2014 to 2015, when coupled with the 25% increase in reporting of *percentage of women in senior executive and senior and middle management ranks* over the same period, may be indicative of the limited advancement of women in the mining industry. This was also reflected in the detailed information provided on their boards. The changing composition of boards also showed a slight increase in international representation. Several companies added board members from countries in which they operate but are not headquartered. This may be evidence of progress towards the mining industry's goal of increasing local representation at all levels of the corporation, especially when combined with the increase in local and national hiring reported by companies between 2014 and 2019 (Kogel, 2014).

Indicator (3), *ranking of the company as an employer in internal ranking and surveys*, increased over the study period; however, it remained one of the least reported inclusion indicators in the dataset and was present in fewer than half (42%) of reports. No less, the increase in reporting of this indicator over time may indicate a shift in corporate focus toward internal surveys as indices of company inclusivity.

3.5 Decreasing Trends in Indicator Reporting Over Time

I also applied Friedman testing to validate observations regarding which indicators showed a statistically significant *decreasing* trend over the study period. I observed this trend in four indicators: (1) *The total number of incidents of discrimination and actions taken*; (2) *Ratio of basic salary of men to women by employee category*; (3) *Policy procedures involving consultation and negotiation with employees over changes in the company*; and (4) *Percentage*

of employees receiving regular performance and career development reviews (Figure 3.4). This set of indicators showed statistically significant variation in reporting due to both time and specific indicator ($p < 0.05$). Pairwise t-testing showed that the greatest variation occurred between 2015 and 2018 ($p < 0.05$). This is consistent with the observed trend in this indicator subset, as well as the behavior of the whole dataset.

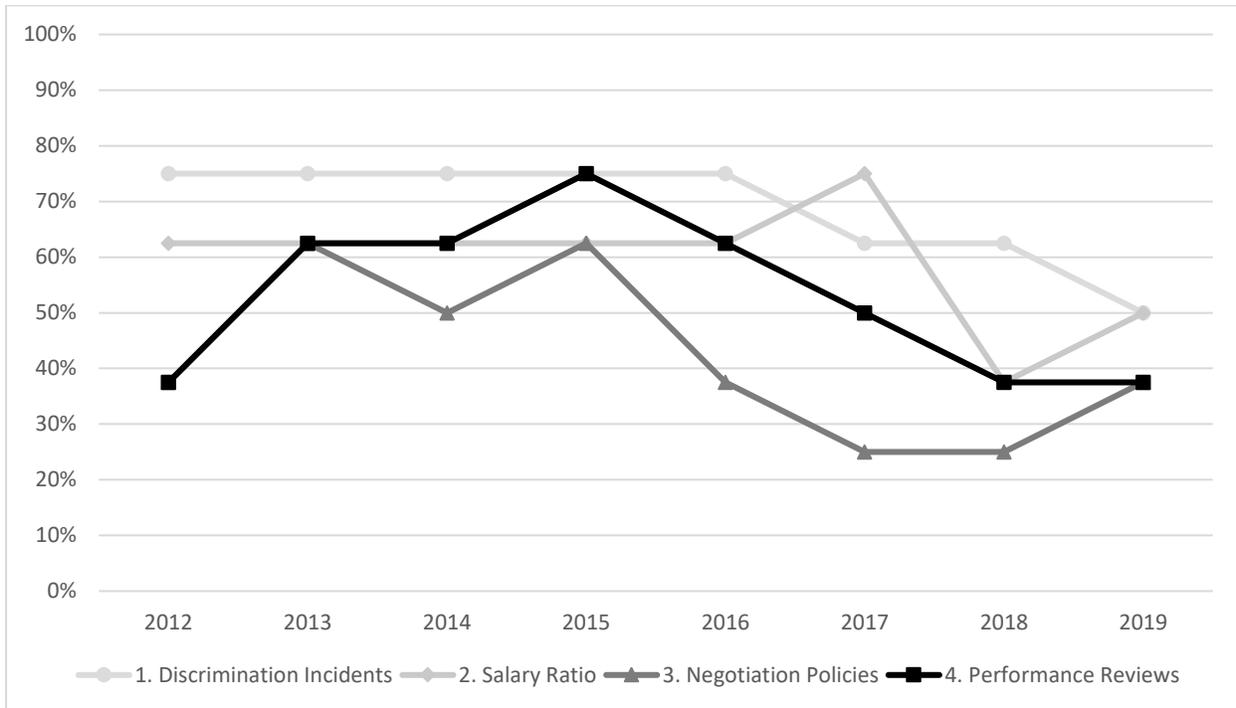


Figure 3.4: Downward trending D&I Indicators Reported over the study period

These four indicators follow the entire sample trend, showing a general decline in reporting from 2016 to 2018, and rebounding slightly or leveling out in 2019, with the exception of indicator (1), which continues to decline in 2019 (Figure 4). All indicators in this subset are inclusion indicators. Indicator (1), *the total number of incidents of discrimination and actions taken*, declined steadily after 2016 and did not rebound in 2019, unlike the other downward trending indicators in the sample. This decrease occurred over a period that also showed increasing public pressure for gender diversity in the workplace (Fottril and Setembre, 2019) and contrasts the otherwise strong focus in the reports on gender diversity. However, it is important to note that several companies were instead reporting on this indicator in alternative public forums such as annual financial reports or legal disclosures, both of which could be accessed from the companies' websites.

Indicator (2), *ratio of basic salary of men to women by employee category*, showed a decreasing trend across the study period. Of note was the fairly consistent reporting of this indicator from 2012 to 2017 and the dramatic decrease in its reporting between 2017 and 2018. Even though more than half (63%) of the companies reported this indicator from 2012 to 2017, these numbers contrast the consistently high reporting of gender diversity metrics throughout the sample. For example, the diversity indicators, *percentage of women employed relative to the total number of employees* and *percentage of women in senior executive and senior and middle management ranks* appeared in 99% and 91% of the reports, respectively. Although companies overwhelmingly reported on these metrics, they appeared reluctant to report on salary ratios between men and women. This is especially discordant given the focus on salary ratio in several high-profile gender diversity reports by mining industry watchdogs (AUSIMM, 2009; WIM, 2019; Kogel, 2014).

Indicator (3), *policy procedures involving consultation and negotiation with employees over changes in the company* reflects the presence of structures to facilitate employee inclusion in major organizational changes to the company. Not only does the lack of reporting on this indicator represent a departure from my observed company preference for reporting on policies, it also dramatically decreases in reporting occurrence between 2015 and 2017, remained steady in 2018, and only increased 14% In 2019. It is not clear why this indicator did not rebound to pre-2015 levels of reporting in 2019; however, it may suggest that mining companies are moving away from structural inclusion of employees in organizational change decisions.

Indicator (4), *the percentage of employees receiving regular performance and career development reviews* also showed a dramatic decrease between 2015 and 2018, remaining at 2018 levels in 2019. However, before this, it showed a dramatic increase in reporting between 2012 and 2015, reaching the h8 of its reporting occurrence in 2015, corresponding to the release of the UN SDGs (UN 2015). The general decrease in reporting on this indicator is concerning, as regular performance reviews for all employees regardless of position or background are crucial for career advancement and inclusive advancement structures (Williams et al., 2014; Apfelbaum, 2016; Falholm and Norberg, 2017).

Taken together, the decrease in the percentage of reports containing these four indicators over time presents a potentially alarming trend. It appears that companies are moving away from

reporting on important structural aspects of inclusion in their organizations, which implies the possible exclusion of employees from important advancement milestones and involvement in relevant organizational changes. Furthermore, the decrease in reporting on salary differentials between men and women contrasts the industry's focus on gender diversity, as evidenced by reporting of gender diversity indicators (AUSIMM, 2009; MiHR 2011; WIM 2018). It may behoove mining corporations to re-examine these trends and resume reporting on salary ratios and discrimination in annual sustainability reports. Their reports will then provide evidence that mining corporations are taking the necessary organizational steps to support their commitment to gender diversity and inclusion in the workplace.

3.6 Theoretical Implications

A brief analysis of indicators in the sample related to the structural dimension of social capital showed consistently high reporting of formal elements of structural social capital, such as inclusive policies and employee turnover rate. Additionally, over time, there was an increasing number of case studies, or 1-2 paragraph narratives recounting D&I program successes, that appeared in the reports. These case studies emphasized feelings of connectedness between employees of different backgrounds and were related to the more informal network ties characteristic of the structural dimension of social capital (Nahapiet and Goshal, 1998, Tsai and Goshal, 1998). The language utilized in these case studies emphasized feelings of connectedness across the organization, frequently leaning on vocabulary of inclusion such as “partnership,” “support,” and “teamwork.” These case studies focused on successful programs which fostered these feelings and built network ties between employees.

Additionally, case studies on topics tangential to D&I, such as human rights and community development, also utilized this language and further emphasized how members of the corporation could work together with each other and the community for the betterment of all. Several case studies were explicitly concerned with the removal of barriers to inclusion in organizational contexts. For example, one company in 2018, when introducing its refreshed D&I strategy, specifically addressed the need to “disrupt people systems,” and “leverage career accelerators,” to break through the traditional barriers to organizational inclusion advancement for minority employees. Another company's case study on their continuing education program for new employees emphasized the importance of ensuring equal access to resources, networks,

and information, particularly for minority employees. The reporting of content related to both the formal and informal elements of the structural dimension of social capital is encouraging, as it shows that mining companies are aware to some extent of the importance of rules, roles, procedures, and network formation to creating inclusive environments. Given that structural capital is theorized to form the scaffolding upon which cognitive and relational social capital are built (Nahapiet & Goshal, 1998; Tsai & Goshal, 1998) and that it is integral to knowledge and resource transfer within an organization (Folger et al., 2014), this demonstrates a positive trajectory toward creating stronger social networks and a more inclusive culture in these corporations.

Although we do not know to what extent these efforts translate into practice, enforcement, and norms, this analysis informs discussions of Social Capital Theory (SCT) by showing that companies may identify with and favor material elements of social capital, such as policies and procedures, which are characteristic to the structural dimension of social capital. Further, companies may have difficulty identifying and analyzing elements of cognitive and relational social capital, as they are more difficult to observe from an organizational perspective. However, since structural social capital is a necessary precursor to building relational and cognitive social capital, companies are still able to indirectly encourage the adoption of inclusive behaviors by the workforce via formal rules, roles, and procedures, as well as by encouraging the formation of network ties between employees. It has also been theorized that intermediaries and brokers are integral to the formation of these network ties (Bonfim et al., 2017). Given the increase of reporting in the sample on specific programs designed to encourage network ties in the workforce, it is also possible that companies strongly identify with the vital role of network intermediary. By encouraging network formation among employees, companies are utilizing yet another element of structural social capital to build the scaffolding upon which relational and cognitive social capital can be generated.

There was, however, a decrease in reporting over the study period of three important elements of inclusion related to the structural dimension of social capital: negotiation policies, incidents of discrimination, and male/female salary ratio. This group of indicators' decrease in reporting conflicts with the otherwise high level of reporting on elements of structural social capital observed throughout the study. However, this decrease does not appear to negatively

affect the increase in gender diversity and local hiring reported by the sample over the study period. This observation provides evidence that some elements of the structural dimension of social capital may be less impactful on workforce behavior than other elements. However, this evidence may also indicate that beyond a certain point, increasing the quantity of structural elements of social capital will have diminished effects on organizational behavior, as the impact of the structural dimension of social capital are overtaken by those of the cognitive and relational dimensions. These diminishing returns could introduce a new optimization function to the division of corporate resources between D&I activities related to the structural dimension of social capital and those associated with the cognitive and relational dimensions. It may benefit corporations to devote resources to discovering which elements of structural social capital provide the greatest benefits to their employees and the overall optimal number of rules, roles, procedures, and network building activities in their organization.

Furthermore, it may benefit companies to examine the types of networks they are encouraging and the effects of those network ties on their greater efforts to increase D&I in the workforce. There are two conflicting theories on the effects of social networks on performance: the first, introduced by Coleman (1988), posits that denser networks with more redundant ties are likely to facilitate increased information sharing and accessibility. The second, introduced by Granovetter (1973) and further expanded upon by Burt (1992), holds that sparser networks, with weaker ties and structural holes, facilitates more efficient information sharing and greater organizational performance. Given that corporations in this study place emphasis on encouraging the formation of network ties and the closure of structural holes in the workforce, it appears that corporations identify more with Coleman's (1988) theory of network performance and devote greater resources to applying this theory to increase the inclusivity of their workforces. This supports Bonfim's (2017) findings that network ties strongly influence the generation of relational and cognitive social capital by encouraging greater trust between individuals and increasing the probability of shared understanding within a group—relationship dynamics which are also integral to fostering inclusion. However, as the effects of network configuration on an organization are extremely context-dependent (Rowley et al., 2000), corporations may benefit from examining their assumptions regarding denser network structures, inclusion, and organizational performance. This will allow them to ensure that the network configurations

encouraged by their D&I programs are on track to accomplish strategic D&I goals without negatively affecting organizational performance.

Finally, the analysis of report content related to the structural dimension of social capital in this study shows that corporations identify with elements of structural social capital in both their intraorganizational and their interorganizational activities. Corporations in the study address elements of structural social capital throughout their reporting on D&I. However, they also appear to identify with elements of structural social capital when discussing their external activities such as CSR and community or cross-organizational partnerships. In this way, the analysis informs discussions of SCT outside of the realm of D&I by showing that corporations also identify with and favor activities, programs, and policies explicitly related to the structural dimension of social capital in their relationships with external stakeholders. Recent studies have shown that building social capital between organizations has been tied to improvement in both organizational and inter-organizational alliance performance (Gulati et al., 2011; Malik 2012) and more effective internationalization of organizations (Presutti et al., 2016). This is important to the mining industry due to their established interest in aligning with the 2015 UN SDGs and fostering sustainable development through external partnerships. This type of structural social capital building also benefits these corporations' D&I programs, as several external partnerships relate directly to increasing gender diversity and local hiring.

CHAPTER 4: CONCLUSIONS

Diversity and inclusion show promise as a means for mining companies to pursue sustainable development and align with the SDGs, while also increasing the inclusion of stakeholder groups, attracting new talent to the industry, and solving the complex technological and social challenges of the next decade of mining (UN, 2015; MiHR, 2011; Brightmore, 2017). This analysis indicates that there is enthusiasm for D&I and D&I reporting among mining corporations, as evidenced by the high percentage of D&I indicators reported by the sample over the entire study period (70%). Furthermore, there was a positive trajectory toward meeting established D&I goals in the industry— primarily gender diversity and local and national hiring. This increase may be representative of corporate desire to align reporting to public enthusiasm for D&I in the mining industry following the announcement of the 2015 UN SDGs and the G4 standards, which included for the first time a section devoted to diversity and equity (ICMM, 2016; GRI, 2016; UN, 2015).

Mining companies tended to report more easily obtainable data and metrics, such as employee demographics and policy summaries, as indicated by the high percentages of reports containing these indicators. These indicators serve several purposes in reporting, including broadcasting corporate enthusiasm for D&I to potential employees and shareholders, as well as complying with relevant anti-discrimination regulations (Roca and Searcy, 2011; Avery, Volpone, et al., 2013). Notably, there is consistently high reporting on the representation of women in the workforce and women in senior leadership roles, mirroring the industry’s historical focus on gender diversity (AUSIMM, 2008; MiHR, 2011; WIM, 2016).

Conversely, companies in this sample barely reported any indicators related to ethnic diversity, and when this indicator was reported, it was extremely limited in scope, referring only to Indigenous Peoples in areas with adjacent indigenous communities. Rather than consistent reporting on BIPOC representation, mining companies in this sample focused on local hiring, reflecting the mining industry’s established commitment to “local local” employees and minimizing expatriates in the workforce (Kogel, 2014). Similarly, under-reported inclusion indicators were omitted in favor of tangentially related but incommensurable metrics. In this fashion, the mining industry aligns with other technical industries in their conceptualization and

assessment of D&I. That is, they focus primarily on external indicators of diversity, especially gender, and assess via the institution of statistical goals and targets and the evaluation of progress towards those targets over set periods (Anand and Winters, 2008; Bendick, 2001). Mining corporations also inherently limit the scope of their D&I reporting to match the established scope of GRI standards, similarly to their behavior regarding environmental sustainability reporting (Thurm, 2006; Roca and Searcy, 2011).

Of the upward trending indicators, two may reflect a shift in focus away from shallow metrics in favor of deeper, holistic reports on D&I progress in the company. Though *the internal ranking of the company as an employer* was one of the least reported indicators in the set, the percentage of reports which contained this indicator increased over the study period and was typically reported within multiple page ‘mini-reports’ on employee survey responses, contained within the sustainability report. This increase was mirrored by the rise in the percentage of companies that reported on the *composition of governance bodies*, which is also notable for its explicit labelling of age and other types of diversity, as it is the only GRI 405 indicator to do so. If companies continue to conduct surveys at regular intervals, it could establish an industry-wide preference for this evaluation technique. Further observation of D&I indicators in mining sustainability reporting is necessary to determine if this will be the case.

The downward trending indicators all represent important facets of structural inclusion of employees in organizational changes and advancement. Two of these indicators, *male/female salary ratio* and *incidences of discrimination*, declined sharply since 2017, correlating with the introduction of the #metoo movement. This decline in reporting contrasts directly with the mining industry’s established focus on gender diversity, and with the consistently high reporting on female representation in the industry. Taken together with the other declining indicators, this downward trend may indicate an alarming pattern wherein mining companies begin to decline to report on important structural aspects of inclusion. This lack of transparency may imply *exclusive* culture and present a barrier to meeting long term D&I goals in the industry.

Details of specific programs to promote D&I in mining companies were absent from the majority of reports. Omitting details of D&I programs from public reporting is not uncommon in both tech companies and the greater natural resources sector. In this fashion, the mining industry is similar to its contemporaries. However, mining corporations did regularly report on the

presence and current progress towards building and maintaining relationships with Indigenous Peoples in the area where they were operating. In cases where mining companies employ a specific office or board to conduct activities pertaining to Indigenous Relations, reports included statements from these offices. Six of 8 companies in the study reported active Indigenous Peoples' relations programs and these programs were often reported on in detail. This is a notable departure from the lack of detail in reports regarding general D&I programs but aligns with the sample's emphasis on Indigenous employment over general ethnic and racial minority employment in the indicator reporting. An exception to this rule is one company that included in its reports both details of its Indigenous program and breakdowns of general D&I related activities as well as several case studies at five-year intervals, coinciding with the period of the company's D&I goals and with regular employee climate studies.

There were also several D&I issues which were omitted from reporting in their entirety. There was no mention in any of the reports of intergenerational diversity or inclusion, i.e., age diversity and structural encouragement of inclusion of all ages of employees, despite the growing concerns in the industry regarding this aspect of D&I (PwC, 2019; MiHR, 2016; Williams, Kilanski, and Muller, 2014). Three reports referenced the attrition of skilled workers in the sections dealing with employee turnover rates by demographic group, but there were no other references to age diversity or the skilled workforce gap (PwC, 2019; MiHR, 2016). Additionally, though reporting on gender diversity in the industry was consistently high across the sample, few details were offered in reports on issues specifically pertaining to gender inclusivity in mining, like Fly-In-Fly-Out (FIFO) scheduling and safety concerns for female employees (AUSIMM, 2008).

Though there is increased public pressure to acknowledge intersectionality and 'invisible diversity' such as sexual orientation, neuroatypicality, or ideological differences (Moore, 2014; Colgan, 2011), there was virtually no mention of these issues in reports in this sample. Only two companies in the sample mentioned LGBTQ inclusion, and only to state a commitment to and policy supporting the inclusion of LGBTQ individuals—eschewing any concrete data on LGBTQ representation in their workforces. The lack of attention devoted to these issues may further indicate that companies are hesitant to report more complex, nuanced D&I concerns. However, it may also indicate the novelty of these issues to the greater D&I and societal stage, as

these populations have become significantly less marginalized over the past decade and are now being incorporated into the greater D&I movement (Colgan, 2011). Notably, there are no GRI indicators that specifically incorporate intersectionality or invisible diversity (GRI, 2019). As D&I in mining expands beyond regulatory compliance and gender diversity, these ‘newer’ facets of diversity may begin to garner more awareness and resources from mining D&I programs. There is also an opportunity for mining companies to examine their reporting frameworks for D&I and either expand upon existing GRI standards in this area or adopt more appropriate frameworks (Thurm, 2006). There are also clear opportunities to improve current reporting and shift or expand goals to encompass recent social movements such as BLM or established industry concerns such as intergenerational management, which have been neglected in reporting thus far. Steps must be taken to increase reporting on ethnic minorities in the workforce and reverse the decline in reporting on structural aspects of inclusion, such as discrimination, performance reviews, and salary ratios.

Despite room for improvement, the mining industry appears to be on par with other technology industries in terms of representation of women in the workforce and shows clear progress toward two important industry goals: gender diversity and local hiring. Increasing D&I in the mining industry remains a promising means of ensuring the equitable distribution of harms and benefits among mining stakeholders and aligning with the 2015 UN SDGs while expanding innovation and efficiency in mining corporations and addressing labor pool concerns.

4.1 Future Work

Moving forward, additional research can be undertaken to determine if mining corporations’ reporting activities are influenced by metals market changes or other major mining news. Additionally, research may be conducted into specific details of mining D&I programs, such as in-depth case studies of training, events, support, and other D&I related programming and employee perceptions of these resources. Furthermore, there is as yet no data published regarding how COVID-19 has affected the mining workforce. Initial studies suggest it has had serious ramifications for workforce D&I in general, and future work may focus on the adverse impacts of COVID-19 on D&I reporting in mining.

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