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Social management capability, human migration and the global mining industry

John R. Owen*, Deanna Kemp

Centre for Social Responsibility in Mining, The University of Queensland, St Lucia Campus, QLD 4072, Australia

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ABSTRACT

This article examines the social management capability (SMC) of the global mining industry to identify, understand and manage complex social and environmental issues, such as human migration. Our contribution is based on the analysis and interpretation of two sets of qualitative data: (i) existing literature on SMCs and its relevance to demographic pressures in mining, and (ii) a series of industry-commissioned "deep dives" exploring high profile legacy cases. These sources provide a coherent picture of how the mining industry has positioned itself in responding to contentious social and environmental challenges. Our findings suggest that, considering the dynamic nature of human migration issues like in-migration and resettlement, the industry does not have sufficiently robust SMCs. The absence of these SMCs has resulted in ad-hoc strategies for managing high risk, high cost issues. In concluding, we argue that a major step change is needed within the industry in terms of developing and then rapidly advancing its SMCs.

1. Introduction

Mining industry managers are increasingly attuned to the potential that internal management systems must adapt and respond to external social systems (Huq et al., 2016). Developing or exploring new management capabilities can involve disrupting or formulating alternative organisational routines that consider stakeholder issues and interactions (Peng et al., 2008). This complex environment of stakeholder relations present many "known-unknowns" for the mining industry. Management of human migration in the vicinity of mining operations falls neatly into the category of known-unknown for at least three reasons. Firstly, human migration is commonly identified among corporate social responsibility (CSR) scholars as a risk generating social phenomenon (Banks, 2007; Bainton and Macintyre, 2013; Kemp and Owen, 2015; Bainton, 2017), but the risk parameters in terms of drivers, costs and knock-on effects in mining are largely undocumented. Secondly, while it is known that mining operations engage with human migration risks, there is limited knowledge as to when this occurs in the project lifecycle, and at what levels of sophistication. Thirdly, the effectiveness of business strategy and decision-making routines is an important factor in understanding the overall risk profile of human migration for specific mining projects, however, there is limited knowledge available to evaluate the industry's underlying social management capabilities (SMC) in this area.[1] Management capabilities for managing in-bound forms of human migration, also known as influx and in-migration, are especially weak relative to potential consequence and cost.[2]

In 2009, The World Bank Group's private sector investment arm, the International Finance Corporation (IFC), developed a guidebook to assist investors and developers to better manage project-induced in-migration (PIIM). The opening paragraphs of the guide provide readers with an indication of the general complexity associated with managing this phenomena:

> The rate of influx; overall footprint, duration, and sustainability of in-migration; the resilience of the affected area; and the potential severity of negative impacts all determine the significance of the consequences of in-migration for a given project. As such, whatever their scale, projects across sectors, including agribusiness, tourism, manufacturing, and infrastructure, as well as oil, gas and mining, should consider the potential for project-induced in-migration. (IFC, 2009, p.v)

* Correspondence to: Centre for Social Responsibility in Mining, The University of Queensland, C/O Sustainable Minerals Institute, Sir James Foots Building (47a), St Lucia Campus, QLD 4072, Australia.
E-mail address: j.owen@uq.edu.au (J.R. Owen).

[1] We follow Huq et al. (2016)s broad based definition of SMCs as constituting the "skills, practices, relationships and processes" that assist industrial actors in responding to "stakeholder pressures; address regulatory gaps; and improve social performance".

[2] In this article we use the term "in-migration" to describe an increase in population into a particular mining area. "Influx" is another common term used to describe the same phenomenon, particularly when demographic change is of a rapid nature.

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The guide was similarly instructive about the types of impacts a project can expect to experience if in-migration is not properly managed:

> As a result of the deteriorating social context, the project may face increased risks of disruption as the changing circumstances outside the project gate lead to social unrest, disruption of activities and work stoppages. This often leads to an increased investment in security, and increases reputational risks associated with the increased intervention of national security forces in what are considered "project matters." (IFC, 2009, p5)

While it is generally accepted that in-migration will impose additional costs on the business, the external costs of unmanaged in-migration to host communities and local administrators remains largely unknown and undocumented.[3] At this stage, and given the relative infancy of the knowledge base surrounding the management of PIIM, researchers are unable to effectively qualify or quantify the social risks attached to in-migration in mining. For our purposes, we define social risk as the dynamic interface that connects 'risk to people' with 'risk to projects', acknowledging that such risks have the potential to accumulate, transfer and rebound across mining industry actors (Kemp et al., 2016).

This article contributes to the knowledge base by examining the mining industry's ability to identify, strategize and operationalize capabilities associated with the management of in-migration and resettlement risks. Our contribution is based on the analysis and interpretation of two sets of qualitative data: (i) existing literature on SMCs and its relevance to demographic pressures in mining, (ii) a series of industry-commissioned "deep dives" on high profile legacy cases where human migration was a relevant factor (Kemp et al., 2008, 2013; Kemp and Owen, 2015; Martin et al., 2016; Anaya, 2017). These sources, taken together, provide a coherent picture of how the mining industry has positioned itself in responding to contentious and operationally significant sets of social issues.

We begin the paper with an extended problem statement that describes in-migration in the context of mining. Our focus is largely on rural or remote regions in developing countries. While the existing literature supports a description of issues in general demographic terms, it provides few insights into how mining companies strategize or respond to in-migration as a capabilities issue. In light of this, we draw on known and relevant proxy data from the area of mining-induced resettlement to highlight distinct capabilities gaps in managing human migration events. For the purposes of this paper we refer to resettlement, and the resettlement literature, as including all forms of involuntary displacement caused by project activities. While resettlement or displacement can be viewed as a deliberate act of "pushing" people away from project activities, research indicates that the push and pull forces of human migration are closely interconnected. Our findings suggest that firstly, considering the dynamics and operationally complex nature of social and environmental issues like resettlement and in-migration, the industry does not have sufficiently robust SMCs. Secondly, the absence of these SMCs has resulted in ad-hoc approaches to managing high risk, high cost social issues. This second finding reflects a tendency by managers to distribute their attention disproportionately toward immediate exploitative opportunities rather than exploratory solutions over the longer term (See Walrave et al., 2017). In concluding we argue that a major step change is needed within the industry in terms of developing and then rapidly advancing its SMCs.

2. Problem statement: in-migration and business risk

In-migration on its own, does not pose a substantial risk to mining operations. As the IFC guidebook notes, operational risks from in-migration are primarily born of issues arising from "outside the fence". In other words, in-migration tends to exacerbate social and environmental risks such as population pressure, increased demand on infrastructure and services, which subsequently rebound onto the operation. This section draws on our own extensive engagement with the mining industry, and other relevant studies from the disciplines of anthropology, demography and geography. We outline common drivers of in-migration in mining and describe how this issue intersects with other issues related to the management of social risks in mining.

2.1. In-migration and economic enclaves

Economic migration is a widespread phenomenon. The prospect of mining-related employment and business opportunity is one of the most significant drivers of in-migration.

These "enclaves" of opportunity (Araias et al., 2013) attract different types of entrepreneurs, from those who have capital, to those who seek to benefit from the capital of others, through to those wanting to be closer to social and hard infrastructure that has accompanied the mine's development. The population "pull" of resource development centres is often referred to in industry as the "honeypot effect". In many instances, the ease by which migrants are able to move and integrate into the local population demonstrates that migration can be viewed as positive by migrants and host communities alike.

Procurement and supply chain management is the front line of defence for mining operations in attempting to curtail in-migration (Jackson, 2016). By working with local authorities to prioritize access to business opportunities for local people, mining operators have sought to soften one of the key drivers of in-migration: access to economic opportunity. Where mining operations have developed and applied criteria qualifying the status of local people, this has in some cases served to inhibit access to a highly lucrative link in the resource development supply chain. In other cases, a localisation strategy has driven potential employees and suppliers into the "zone of benefit", exacerbating in-migration and creating new forms of competition and internal tension with the host population (Bainton and Macintyre, 2013; Bainton, 2017).

Local benefit zones are not the only strategy that operations use to curtail in-migration. A companion strategy has been to employ a long distance commute model for its workforce, with benefits directed at regional centres away from the mine. While this model contains workforce costs and lessens operationally-specific in-migration, it diverts activity to other locations, concentrating population pressure elsewhere. The effects of this model are most evident when multiple mining companies operate from the same regional centre. While this approach allows individual operations to push migration pressures outwards, this can create, a large externalised cost on regional governments and small towns which then bear the brunt of managing rapid in-migration. This phenomenon is especially evident during a mining "boom" (Akbar et al., 2013).

Preventing "outsiders" from accessing local employment and procurement opportunities is no easy task because of the multiple avenues through which some communities are able to incorporate newcomers into family units, or establish partnerships through joint ventures. To be effective in understanding and responding to the social and environmental dimensions and risks of the employment and business supply chain, developers must be closely attuned to the nuances of demographic changes in the host, and surrounding, communities and

[3] It is also worth noting that PIIM can result in benefits for local populations, projects and regions through improved economies of scale for infrastructure and markets and for landowners through increased rents and heightened property values. While this article focuses primarily on negative consequences in mostly rural communities in developing countries, we would argue that in order for proponents to effectively harness short and long term benefits of project induced migration, SMC are equally as important. The authors agree with one of the anonymous reviewers of this paper, who points out that "if steps are taken to limit inward migration, costs may be avoided, but benefits may also be avoided".

ecosystems that they operate within.

2.2. In-migration as a driver of conflict

The use of perimeter protection and exclusion zones, and the deployment of security personnel, through in-house teams, contractors or government services, such as police or army, is one approach to managing or even removing so-called illegal settler populations. However, this approach has its own costs and risks. Allegations of corporate complicity in human rights abuses by security personnel has resulted in significant reputational damage to a number of mining projects and operations globally.

Documented instances of community conflict erupting around large-scale mining operations are driven – in whole and in part – from in-migration. Conflict can be internal to a community, and include tensions between different groups of people, such as original inhabitants and in-migrants. For example, when people who are resettled to make way for mining receive replacement housing, new infrastructure and services and/or cash compensation, these assets can attract in-migrants to an area with the aim of accessing or servicing the cash economy. New arrivals can contribute to land use pressure, to housing affordability, and place higher demands on services, and infrastructure. These pressures have led to inter-group tension and conflict, including in instances where in-migrants were initially welcomed by the host community (Filer, 1999; Banks, 2007).

Conflict can also arise as a direct result of corporate or operational level decision making. The Porgera operation in the highlands of Papua New Guinea (PNG), for example, has initiated numerous "sweeps" of occupants of its Special Mining Lease (SML) in an effort to clear the area of in-migrants, and stem the flow of new arrivals (Kemp and Owen, 2015). Many of these sweeps have been violent, leading to accusations of corporate complicity in human rights abuses, including extra-judicial killings by private security and state special forces (Amnesty International, 2010; Mining Watch Canada, 2014).

In other cases, violence occurs on the perimeter of the lease, or in a nearby area. The gold sector, for example, often faces a rapid influx of artisanal and small-scale miners once an area is found to be prospective, or perceived to be prospective by virtue of activities being conducted by a large-scale operator. A local gold economy can spring up to service the needs of informal miners. The large-scale gold sector has had mixed interactions with artisanal miners. Studies demonstrate the possibilities of co-existence between the formal and informal sectors (De Soto, 2000; Hentschel et al., 2002; ICMM, 2009; Hilson, 2013), whereas other operations have been plagued by accusations of perpetrating or participating in human rights abuses relating to the eviction of small-scale miners (Hilson et al., 2007).

It must be noted, however, that from one perspective the mining industry is the outsider or newcomer. There are many cases where an artisanal mining economy pre-dated an industrial interest with small-scale miners working an area for generations, in the absence of formally recognised rights. Original inhabitants then experience multiple stages of encroachment, first by corporate interests, and then by in-migrants seeking economic opportunities. Case studies exist where artisanal and small-scale miners – including original inhabitants – are eventually displaced by industrial scale mining. For example, in Suriname's interior, Maroon tribes and other small-scale miners have been displaced by large-scale gold mining (Anaya et al., 2017). Events such as these can, in turn, precipitate additional waves of in-migration.

Maintaining exclusive vacant possession of mining leases is a prominent concern for operators world-wide. When so-called "soft" measures appear to have failed, operators tend to seek out hard controls in order to secure their assets. In the Vietnamese south-central province of Quang Nam, the Bong Mieu Gold Company operates in an area notorious for what Vietnamese law considers to be "illegal" mining. Large numbers of miners operate in the area; ranging from small scale alluvial through to medium sized mechanised operations. Over the course of the past decade, news outlets reported a series of incidents as the company sought to protect its assets. These incidents involved violent exchanges between the company local villagers, company security personnel, and local police officers. After the mine was closed in 2014 under difficult financial circumstances, the Chief Operating Officer expressed concern that shuttered mines were "increasingly vulnerable to thievery and illegal gold mining" (Thanh Nien News, 2014).

Similarly, the Gold Ridge mine in the Solomon Islands has faced ongoing security challenges. After re-opening in 2010, the company witnessed a steady increase in the number of local people and "illegal" miners entering the site and camping in the open pit, posing major security and environmental challenges. In April 2014, operations were suspended due to torrential rainfall. Heavy rains and flooding cut off access to the mine's primary access road. Two months later, the company returned to prepare the site for care and maintenance, in accordance with a plan submitted to the Solomon Islands government. By August 2014, the company announced that it was withdrawing all personnel due to a "serious escalation in security and associated safety concerns" (Solomon Star, 2014).

2.3. Human rights risks of mining-induced in-migration

In addition to security-related issues, mining-induced in-migration raises a number of other human rights issues. The right to health, a clean environment and access to education, for example, are rights that can be affected by population change. In many resource regions, state capacity to service remote or impoverished populations is weak; and this is further strained by rapid, unplanned industrial-scale change.

According to international standards, the minimum obligation of any mining project or operation is to conduct human rights due diligence to understand the full range of human rights risks that its activities and relationships may impose, directly or indirectly, in any given operating context. If demographic data and population projections suggest significant in-migration to an already under-serviced area, or an area of environmental significance, where the state is largely absent, or corruption is rife, companies must work to avoid exacerbating human rights risk. This may involve preventative strategies, such as working to minimise in-migration, and/or mitigation measures, such as capacitating local governments to plan for population change, encouraging the entry of non-government agencies, or providing services through corporate social responsibility or philanthropic programs. It does not involve ignoring or overlooking in-migration, and approaching this phenomenon as the sole responsibility of the state.

3. Literature review: social management capabilities in mining

Recent research highlights the criticality of SMCs in operational settings. In their study into the clothing and garment industry, Huq et al. (2016) examine the role of stakeholder networks and their ultimate influence over the development of operational-level SMCs. Their findings map almost directly to a set of management capabilities that Harvey and Brereton (2005) and Owen and Kemp (2017) refer to in the mining industry as "communities architecture". A consistent message emanating from research on the mining sector is that the absence of SMCs continues to expose operations and external stakeholders to undue levels of social risk (Kemp et al., 2016).

The general literature on operational and management capabilities offers useful insights for understanding site and corporate level barriers to developing more robust SMCs in mining. Coltman and Devinney's (2013) discussion on how managers conceive, prioritize and allocate resources to different choice propositions in customized and commoditized service sectors provides a valuable point of contrast with the mining industry. Working from the basic assumption that all businesses must aim to satisfy customer need, Coltman and Devinney note

that "an operational capability can be considered valuable" if customers' needs can be "better satisfied" or if needs can be "satisfied at lower costs than competitors". The largely unresolved question in the mining industry is the extent to which these capabilities, and cost calculations, should also be extended to include stakeholders and not just customers at the end of the supply chain.

Klassen and Vereecke (2012) have demonstrated the strategic relationship between SMCs and the growing interest in responsible management of social issues in the supply chain. This logic has been applied to the garment industry, but the social and human rights issues that emerge in and around mining complexes is not frequently described in the management literature as a supply chain liability for the extensive consumer product industries that depend on mining and precious metal commodities. The implication being that SMC performance in mining should be considered as having significance both as a standalone industry, and for the countless downstream industries for which mining is critical. On this basis, can mining companies legitimately frame the management of stakeholder relationships and issues as a "discretionary choice"? (Hillman and Keim, 2001).

An equally significant question is how SMCs are interpreted using the "managerial choices" paradigm referred to by Coltman and Devinney (2013), when neither the manager nor the organisation have the base knowledge required to evaluate the status of needs versus resources. One emerging point of contention in the extractive industries literature is whether, due to the inherent uncertainty of market conditions, and the pressures of delivering uniquely complex projects with finite resources, mining companies have the absorptive capacity needed to acquire and internalize new knowledge (Patel et al., 2012; see also Kemp and Owen, 2016; Harvey, 2017). Teece et al. (1997)'s popular article on dynamic capabilities employs the Schumpeterian concept of "creative destruction" to explain the disruptive effects of new capacities and organisational routines emerging to replace old ones within firms. Research into historically situated "legacy" cases suggests that the learning, innovation and adaptation pathways in mining companies are especially resistant to incorporating SMCs. Operations are frequently taken beyond the destructive brink without absorbing or promoting the capabilities that enable business activities to continue in times of crisis (Kemp and Owen, 2013; Owen, 2016).

A scoping study of PIIM and large-scale mining in 2016 confirms the necessity of SMCs in managing in-migration, but found that these basic enabling elements were "often missing in the industry's approach to social performance in practice" (Bainton et al.,2017). Bainton et al. (2017) define three "social performance elements" that reinforce the value of the SMCs, operational capabilities and communities architecture approach:

(i) social baseline and monitoring system: detailed baseline studies, periodic monitoring and analysis, and sound data management.
(ii) social disciplinary influence: ability of social performance specialists to influence within the business to articulate the importance of understanding and managing PIIM.
(iii) social performance competencies: broad based social performance competencies must be embedded within the business (i.e. beyond the communities and social performance function) to manage PIIM project work, from a management, financial, technical, and risk assurance perspective.

The scoping study, is the only publicly available global study that examines the mining industry's approach to managing in-migration. Key findings point to a systematic absence of SMCs that have ramifications for strategic decision making and risk management for social performance on multiple fronts. The study identifies a clear need for ongoing research based on three basic questions: (i) how do in-migration risks manifest at the operational level; (ii) what social capabilities exist to respond to these risks; and (iii) are these capabilities effective from the perspective of the mine's and other stakeholder's interests? Given that there is no available data in the existing literature base to examine these questions directly, we have taken recent findings from mining and resettlement research as a testing ground for examining SMCs.

In the previous section above, we referred to in-migration as one way that mining can have a "pull" effect on the population. Resettlement is an explicit exercise to "push" a part of the population away from the mine. Resettlement intersects with in-migration on multiple fronts: if the operation does not secure exclusive vacant possession over the land it has acquired the area may become a target for settlers or a signal that displaced people are able to return and; the resettlement location, with improved housing and infrastructure, can be viewed as a desirable place to live for migrants.

The industry's poor performance on resettlement provides a strong indication of how the industry presently understands and engages with social systems in environments characterised by differentiated forms of social organisation and rapid changes in the human geography surrounding the business. Resettlement has proven to be an exceptionally difficult area of practice for the industry to master over past decades (Owen and Kemp, 2016), with a litany of cases demonstrating a failure to meet basic commitments to displaced peoples, prevent the emergence of high-impact displacement risks, effectively define and contain costs (Owen and Kemp, 2015), or to buffer itself and others against the consequences of rebound effects of risk (Kemp et al., 2016).

Interviews conducted with company personnel and industry advisors confirm the absence of discipline specific inputs from geography, anthropology, economics, and demography when considering potential in-migration scenarios (Bainton et al., 2017). While comparative performance data does not exist for resettlement projects across the industry, independent site reviews from across companies, commodities and continents indicates a consistent pattern of poor performance with major capacity gaps around the diagnosis, prevention, management, and de-escalation of well-known types of social risk (Owen and Kemp, 2015).

Given that the management of resettlement risks will depend on cognate knowledge systems and organisational capabilities, we suggest that social performance for resettlement practice can be taken as a reliable proxy for determining an operation's likely performance in communicating CSR priorities throughout the business and in managing social risks associated with in-migration. It is no coincidence, for instance, that design and implementation failures in the delivery of resettlement projects has, in several project settings, exposed operations to heightened in-migration risk.

One typical example is where mining companies invest heavily and disproportionately in modern housing stock as replacement assets for resettling families, but do not forecast or effectively resource strategies for minimizing livelihood restoration risks. In these situations, resettled households are most likely to be economically vulnerable with few assets or structured opportunities to meet provisioning needs. Modern housing stock in near proximity to mining centres is highly attractive to entrepreneurs seeking to establish a presence in the area. This combination of a surplus physical asset alongside a deficit in economic restoration programming provides an undesirable situation in which at least some resettled households will rent out their houses to migrants. This situation has been observed directly by the authors at the following project locations: Akyem (Ghana), Gold Ridge (Solomon Islands) Porgera and Lihir (Papua New Guinea).

4. Findings: capability in social management

No two mines are exactly alike. The overarching industrial complex associated with the operation will have a determining influence on human migration. For instance, mining projects can include infrastructure across wide geographic zones, with ports, pipelines, dams, power stations, roads and railways. The inclusion and combination of these facilities increase the possibilities and complexity of in-migration

patterns. Similarly, the commodity type can affect in-migration outcomes. Contexts where the geological conditions allow for "free gold", are often associated with ASM and are likewise more prone to in-migration.

How host communities have historically experienced "outsiders" varies enormously between regions and countries. Many mining operations find themselves in locations with multiple layers of simultaneous dynamism and complexity (c.f. Chen et al., 2017) where: conditions are remote; the notion of statehood is relatively new; government agencies are not present and/or may have authoritarian tendencies; host communities are highly land dependant and culturally distinct from their neighbours; kinship arrangements are fundamentally different from those practiced in the company's host country; civil war or intense conflict has occurred within the lifetime of the current or recent generations. Each social setting will therefore respond differently to the question of "who" or "what" is a migrant and what does it mean to move?

Local responses to these conditions will affect how host communities understand their relationship and interactions with mining companies. The precise effect of these factors on business outcomes are difficult to exact when these, and surrounding, conditions are subject to intensive and extensive periods of industrial scale disruption. As a base observation we know that business development intersects with local conditions in an uneven manner: restricting access to some forms of economic opportunity, while enabling or creating others. The effect of the mining industry's "creative destruction" on local conditions are not often understood by mining managers. Knock-on and rebound effects that negatively impact on the host environment , including the business are invisible to management for much of the time. Bainton et al. (2017)'s scoping study confirms that, for in-migration, the dynamic forces between the mine and local conditions are poorly understood.

4.1. Finding 1. Complex environments demand robust social management capabilities

We take a comprehensive view of what social management capabilities (SMCs) in the mining industry should entail. In the introduction to this paper, we noted our adoption of Huq et al.'s (2016) definition of SMCs as constituting the "skills, practices, relationships and processes" that assist industrial actors in responding to "stakeholder pressures; address regulatory gaps; and improve social performance". This definition is adequate, but there is a risk that this description understates the range of knowledge, strategic options, resources, and interactions needed as basic inputs for a mining company in establishing operationally relevant SMCs.

The objectives of Huq et al. (2016)'s SMCs are also adequate, as a starting point. In some of the local pre-mining environments we have described directly above, (i) responding to stakeholder pressures, (ii) addressing regulatory gaps, (iii) and improving social performance are potentially behemoth-sized tasks. Assuming mining companies are convinced of the importance of investing in their social "skills, practices, relationships and processes"; how does an operational team with these capabilities in hand, set about discerning which stakeholder pressures and regulatory gaps they should attend to, in which order, and why? At which point in the history of a local issue should a mining company's SMC seek to intervene? Do the skills implied by the definition of SMCs mean that company personnel will know, when, how and why they should prioritize *stakeholders* over *pressures*? Can a mining company selectively engage with elements of pressures, and segments of stakeholder cohorts, based on its own self-interest and still claim it is performing socially?

The point of these questions is not to highlight the risk of companies setting the strategic parameters too wide but, in fact, the risk of parameters being set too narrowly. Industry CSR discourse over the previous decade suggests that companies are overly self-interested when it comes to their responses to the social dimensions of their business (Owen and Kemp, 2013). What the SMC literature provides, in contrast to the rhetorical claims of terms like "social licence" (Thomson and Boutlier, 2011) and "shared value" (Porter and Kramer, 2011), is that mining companies must engage material issues in meaningful ways. Klassen and Vereeke (2012)'s article makes the linkages between SMC inputs and CSR outputs explicit; noting that the overarching expectation is that management capabilities will actually be directed to address social issues. The points we have raised in the above paragraph are aimed at clarifying the reference points available to the industry in formulating SMCs. While Klassen and Vereeke's research is not directed at the mining industry, the key reference points they identify as standards for risk and social and environmental performance, CSR, and business and human rights also apply to the mining sector.

Whether via their membership to the International Council on Minerals and Metals (ICMM) or a national mining association or through their own corporate standards, most global, publicly listed mining companies have endorsed international CSR frameworks. Membership of the ICMM, for example, directly implies that a company understands the content, obligations and application of both the IFC (2012)'s Performance Standards on Environmental and Social Sustainability and the United Nation's Guiding Principles (UNGPs) on Business and Human Rights (Ruggie, 2011). At the international level, there has been a proliferation of protocols and frameworks, but the IFC Performance Standards and UNGPs are especially clear in their expectations about scope of application. Aside from managing their own assets and interests, mining companies (as private investors) must exercise due diligence in understanding the social landscape in which they are operating, and establish comprehensive business systems to prove that outbound social risks are identified in a timely manner, and are managed in a fashion that respects and supports human rights enjoyment.

A recent global study involving 52 senior practitioners from mining companies, international finance institutions (IFIs), consultancies and NGOs suggests that, in many cases, mining companies understand that they do not have the capacity to service complex social problems like resettlement, but do not invest the resources into developing institutional or locally specific SMCs (Kemp et al., 2017).[4] The findings from the global study show that companies tend to rely on specialist consultants in the design and planning phases of resettlement projects, and then implement and service post-displacement risks using general community relations personnel. This strategy reflects what we see as being one of the central challenges with respect to the industry: that SMCs are brought into the business environment on a piecemeal basis. The use of specialist consultants for resettlement projects is strongly recommended by the IFC, however, so is the development of suitably robust social due diligence and risk management systems.

Kemp et al. (2017)'s study demonstrates how, in the absence of these systems, various stakeholders, including company personnel, are essentially scrambling to access capabilities or to find temporary solutions to highly contextualised and dynamic sets of problems. Performance outcomes in these arrangements are almost universally poor, and as we have described above, can produce dire consequences for local stakeholders. In addition to Huq et al (2016)'s definition of SMCs, our reference to a comprehensive approach in the mining sector would therefore also include: a systematic or coordinated model of recruiting and developing SMCs as a mainstream in-house business function, a multi-dimensional and multi-stakeholder view of "social

[4] Participants from the study sample were senior representatives from their organisations. The majority of the sample were directly responsible for managing resettlement related programs in their capacity as senior personnel. All participants held responsibility, and expertise, in other areas relating to social management and social performance. This includes lenders, consultants and NGOs whose work extends beyond mining and resettlement.

risk", and the collection and analysis of social data that purposively connects pre-mining conditions to operational activities.

4.2. Finding 2. Social management systems do not support effective decision making

We have demonstrated the operational complexity of human migration and the lack of SMCs available for industry personnel to make informed decisions on multi-faceted social issues. Operational-level managers make decisions about mining-induced resettlement and in-migration on several fronts: strategy; departmental resourcing; social baseline studies; impact assessments; demographic forecasts; engagement and consultation; conflict and grievance management; and social infrastructure. Given the absence of research data on decision-making around in-migration specifically, we use cognate areas of project activity to understand how the industry engages social issues. Operational-level management systems for non-technical disciplines in mining have evolved significantly (Kemp et al., 2008). Over the last two decades, the use of environmental and safety management systems has grown, but the position, and general discipline of social performance, has remained in a relative state of weakness compared to other business functions.

Operational-level management systems, for instance, are rarely able to support the analytical demands placed on them by mining-induced human migration. The Porgera site in PNG, as one high profile example, has committed to a resettlement pilot of two communities on its lease area. Many of the challenges associated with this project relate to the availability and integrity of social data. Staff report that social management systems are congested due to the backlog of historical data that has not been captured over several decades. As the existing system is not linked to the original census and land ownership data it cannot be used to understand migration and settlement patterns over time, or how household composition, and kinship affiliations contribute to key areas of social and business risk (Gilberthorpe and Banks, 2012). Likewise, the site is unable to determine the number of people living in each settlement, or predict with confidence, the number of eligible people within this population cohort (Kemp and Owen, 2015). The operation is therefore not in a position to generate resource, cost and scheduling estimates that provide sufficient certainty to itself, or to the other stakeholders involved in the project.

Other high profile case studies confirm the relationship between the quality of an operation's data and management systems and its capacity to make informed decisions. Over the past ten years the authors have been involved in a series of privately-commissioned studies and fact-finding missions, all of which involved human migration as one of the key complicating factors. One company in particular, has been committed to this public mode of inquiry: Newmont Mining.

The first study focused on the Mesel mine in Sulawesi, Indonesia. As the mine headed towards closure in 2004, Newmont became embroiled in controversy over allegations of polluting a local bay. A protracted conflict involving the company, politicians and government departments, global media, NGOs and local community groups ensued, with multiple rounds of lawsuits and appeals. Newmont later commissioned a university team to conduct a retrospective analysis of the events (Kemp et al., 2008). The study found the company's organisational culture to be overly dominated by production, technical and environmental compliance orientated values. The operation did not have optics over its primary social risks before, and even during the crisis. Newmont later made significant changes to its corporate policy framework in response to the study. It nonetheless, faced a similar set of challenges some years later, in a different jurisdiction.

In 2012, Minera Yanacocha, a Peruvian company majority owned by Newmont, commissioned a university-led study team to conduct research in the nearby city centre of Cajamarca, following a severe breakdown in relations between the company and the urban community. The study team observed a range of structural and systemic factors affecting the company's social performance, including that organisational systems for decision-making were not informed by grounded data from the local context and that there was a tendency for senior decision-makers to overlook and even dismiss field-level perspectives. The study team reported that personnel who worked closely with the community did not have a voice in the company and were unable to influence senior decision-makers (Kemp et al., 2013). Sweeping changes were again made in response to the report's findings.

Five years later, Newmont initiated an Independent Fact Finding Mission at Yanacocha. On this occasion the study group was tasked with examining the conflict between Minera Yanacocha and a local *campesino* (i.e. peasant) family. At the root of the conflict was a parcel of land knowns as "Tragedero Grande". The parcel fell within the footprint of Minera Yanacocha's planned multi-billion dollar mining project called "Conga". Both the family and the company claim distinct rights to access and use over the parcel of land. From May 2011, the land dispute evolved into a multi-party conflict involving eviction attempts, corporate defence of possession, with numerous legal cases, and allegations of human rights violations from the family. The Mission report (Martin et al., 2016) acknowledged that Newmont had a comprehensive suite of policies, standards, procedures, systems, indicators, targets and reporting protocols for sustainable development, but in managing the local land dispute, the company had fallen short of meeting its own requirements. The Mission's report concluded that (i) the company's human rights due diligence did not sufficiently reflect the contextual and situational factors associated with the case, (ii) did not actively investigate incidents by seeking additional data and information and (iii) more effort was required to understand the case from the other parties' perspective.

Finally, in 2016, Newmont commissioned an Expert Advisory Panel to consider matters relating to free, prior and informed consent (FPIC) at the Merian mine, owned by a Surinamese limited partnership, in which Newmont Suriname is the managing partner (Anaya et al., 2017). Merian is located in Suriname and on the traditional lands of the Maroon peoples. Newmont does not claim to have obtained the FPIC of Maroon peoples, but nonetheless invited the Panel to review its operational practices as a means for improvement. The site was unable to furnish the Panel with a comprehensive characterization of the social context, including studies describing tribal kinship structures, connection to land, collective livelihood systems, or the processes for determining and allocating entitlements within the local customary land tenure system. A household survey was undertaken in 2011 for the purposes of project approval, but the database is incomplete and not in active use. The data in its current form cannot be used for site-level planning or for supporting management systems. In the absence of accurate population records, and an understanding of land ownership and patterns of use and inheritance, the company cannot predict how its activities will its impact on the land and resource rights of Maroon peoples.

A common finding across these studies is the lack of investment in the collection and use of operational-level knowledge, data and systems to manage social issues through informed decision-making. Newmont's experience is not unique. Numerous case studies, including those listed in this paper, demonstrate direct relationships between partial SMCs, non-evidence based decision making, and the emergence of high risk, high cost, social issues (Lillywhite et al., 2015; Owen and Weldegiorgis, 2011a, 2011b; Farrell et al., 2012).

Taken together, these studies confirm that, in addition to the need for stronger data and management systems, social performance is poorly positioned in organisational hierarchies, particularly at the operational level. Despite widespread claims by the industry that social management is a "core competence", we observe an industry that has yet to incorporate the function as part of "core business" (Kemp and Owen, 2013); or build proactive competencies to "increase the organisational preparedness for change, turbulence and crises" (Welford

et al.,2007 in Kumar et al., 2016). The common scenario is that an operation's SMC is triggered once issues reach a "critical" point. We have found that temporary status accrues to the social performance function when they are able to successfully control a situation and can guarantee continued operational access. However, even when social management functions are able to avert a crisis or a critical incident, the inter-departmental dynamics then revert to what we call a "post crisis recognition regression" where status recedes to the pre-crisis situation (Kemp and Owen, 2013, pp. 528).

It is rare to see a clear strategic vision for this function. Difficult operational issues like in-migration and resettlement tend to be serviced on an ad-hoc and reactive basis. Evidence of pre-emptive efforts at stemming in-migration is limited to less than a handful of cases (Bainton et al., 2017). There are few examples where companies have actively modelled population in-migration using reliable baseline data, or proactively assessed risks and opportunities with the relevant authorities in order to develop viable strategies and plans. Without the active use of accurate social data, reactive, lay and "best guess" mitigation measures are used to make planning decisions or to avert impending population pressures. Absorptive capacity in this context involves operational managers assimilating information from outside the organisation (i.e. the social environment) and from within the firm (i.e. other functions and departments). Evidence of patterned resistance to non-technical knowledge across companies and mine sites strongly suggests conditions similar to what researchers have called the "not invented here" (NIH) syndrome (De Araujo Burcharth and Fosfuri, 2015). Knowledge about human migration, demographic factors and population change cannot be internalised without a commitment to developing foundation-level SMCs.

We have argued elsewhere that knowledge development is one of the industry's most pressing challenges, and that acting in the absence of knowledge may be an additional and compounding source of risk. FPIC processes necessitate that mining companies engage with indigenous or tribal peoples when activities are proposed on their customary lands. Who qualifies as "indigenous", who provides consent, and on what basis, are each exceedingly sensitive and intricate questions, with significant consequences for all parties involved. In situations where the state does not recognise customary land rights, companies must be clear as to the basis upon which they engage and negotiate with customary land owners. The inevitable set of mining impacts will only be compounded if companies act without knowledge and capability.

5. Conclusion

The global mining industry's level of SMC sophistication must be commensurate with the levels of risk and degree of complexity involved in the immediate and surrounding stakeholder environment. We offer four concluding points about the state of SMCs:

1. A base level of SMC is needed to properly assess the social and environmental context. The existing SMCs of an industrial-scale mining operation should be properly assessed to determine its effectiveness relative to context. Developing a working understanding of local conditions pre-mining is a major undertaking.
2. The mismatch between SMCs and context can mean that organisations are unable to establish what they do and do not know. Our findings suggest that most mining companies carry risk and cost liabilities that would be more manageable with the appropriate level of SMC, but that these liabilities are often discovered as a result of operational SMCs failing to identify and address issues over time.
3. Low levels of SMC applied to multi-layered issues typically result in heightened demand for advanced level SMC solutions as issues evolve and escalate. All stakeholders eventually pay a high price for companies failing to invest in the appropriate standard of SMC.
4. A mining operation's SMC performance against high complexity issues like in-migration and resettlement can be, and is increasingly, judged by international criteria. Accountability and visibility of SMCs are gradually becoming industry norms with the proliferation of safeguard policies, standards and frameworks that not only assume that operations have SMCs, but can demonstrate it (see Ruggie, 2008 on the requirement to "know" and "show" in human rights due diligence). Further, with the frequency of acquisitions and divestments throughout the sector, lenders and investors are increasingly weary of sites with entrenched operational and reputational legacies.

Mining and human migration events, such as those discussed in this paper, have the potential to change in their levels of complexity, and for this reason, change the level of demand stakeholders place on operational SMCs. Given the concluding points outlined above, we suggest that the most cost effective proposition for mining companies is to invest in SMCs early in the project lifecycle adjusting capabilities progressively and systematically. The current approach involves the rapid deployment of SMC elements at times of impending pressure and crisis, which is inherently costly, damages stakeholder and shareholder confidence, and does not result with SMCs becoming embedded in organisational routines. This approach directly reflects the findings noted by Flowers (2007), where firms address short-term knowledge asymmetries through outsourcing, but risk eroding both their absorptive and social management capabilities in the process.

The global mining industry not only needs to develop foundation level SMCs, but also devise internal strategies for ensuring that once in place, SMCs are integrated into the knowledge capabilities of the business. As Gold et al. (2001) show in their research, positive and receptive conditions are necessary for promoting knowledge and capacity adaptation within businesses. Without a clear internal mandate for change, with structures and mechanisms for working across discipline groups, there is a genuine risk that emerging sets of SMCs will be simultaneously undermined by an industrial culture that has previously and systematically resisted their development over time.

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