MINING METRICS

A Comparative Case Study Assessing Impacts of Non-Financial Risk

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Abstract

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Abstract: Qualitative review of academic and professional publications was undertaken to determine non-financial risk factors affecting mining projects. The research provides guidance for the development of a non-financial risk framework, which serves as a basis for analysis. An evaluation of two mine operations is presented on a comparative list of similar and dissimilar approaches to non-financial risk mitigation. The reasons for relative project success and failure are identified.

Chapter 1: Introduction

Professionally published opinions regarding the risks to mining sector success draws attention to the rising importance of labour and social economic considerations throughout the project lifecycle process. Ernst & Young (E&Y), a global management consulting firm with a special disciplinary focus in energy and resources, issues an annual report citing the top ten business risks to mining and metals. In their 2014-15 publication, social license to operate and resource nationalism ranked numbers two and three respectively out of the top ten risks, and balancing talent requirements placed ninth out of ten (a drop from their 2013 assessment, in which skills shortage ranked number five). (E&Y, 2014) Respectively, these risks relate to host-country government ownership and participation, community engagement, and the role of labour in achieving project sustainability. While each of these risk categories contains a wide range of risk factor subsets, collectively, they pose a considerable threat to the influence and ability of mining corporations to operate successfully within a given region, and contribute to the number one identified risk, deemed to be production efficiency. Arguably, the need of organizations to maintain production levels within scope, on time and within budget is the key to both project and corporate success, not only in the mining industry, but generally, the energy & resources sector as a whole. If not proactively mitigated, organizations may find themselves suffering harmful impacts to corporate reputation, restricted to capital funding, and by some extent, left heavily invested into a capital expenditure sunk due to governmental, societal or labour-level conflicts.

For purposes of this paper, these risks are categorized as non-financial, and are the premise for research into the financial implications of non-financial risks impacting major capital expenditure projects. In particular, this paper reflects an interest in 2 key questions:

1. To what degree does non-financial risk impact financial operating ability in mining related capital expenditure projects; and
2. What elements of non-financial risk planning should be undertaken in the early stages of a project that would improve the probability of successful outcomes?

In order to properly answer these questions, a literature review is presented that explains and differentiates risk factors between financial and non-financial forms of risk, along with typical stages of the project life cycle for mining organizations. This forms the basis for risk factors that are applied to a comparative case analysis of two Canadian mining corporations, Barrick Gold and Go Gold Resources, both either currently or formerly operating wholly owned projects in less developed regions of South America. The corporations' respective positions and due diligence efforts are compared on a continuum of similarities and dissimilarities, in light of non-financial risk factors identified in the literature, and resulting impact to quarterly or annual reports and/or operational viability. Financial forms of risk presented in this paper are given less weighted consideration in our overall review, and are intended as a reference point only to provide understanding of the distribution of effort by organizations in pre-project acquisition and feasibility stages.

Literature on the topic of risk in the mining industry covers a broad spectrum of issues and considerations. We begin with a general overview of mining in the world economy,

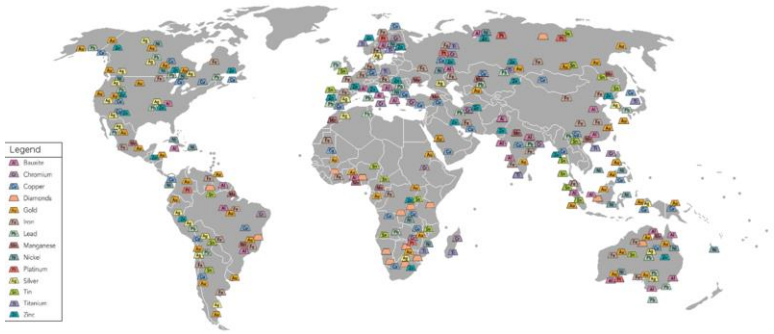
impacts to Canadian economy, and general approaches to mining project lifecycle processes. This provides the reader with a foundational understanding of the magnitude of global economic impact, and creates a sense of urgency for the depths of due diligence required in the mine acquisition and project planning process, especially given frequently unstable geographic operating locations and relative global financial implications stemming from the industry as a whole. This also sets the stage for a presentation of various forms of risk to the industry, and most specifically of interest to this paper, non-financial risk.

***KEY WORDS**: Social economics, Social License, Social Impact Management, Resource Nationalism, Community Engagement, CSR, Skills shortage, Labour Strategies, Mining, Mining Corporations, Non-financial Risk, Bribes, Corruption*

Chapter 2: Overview on Mining and the Project Lifecycle Process

Mining is a significant driver of the world economy. Metals are demanded in the construction, production and manufacturing of nearly every essential household item used in the world today, and extraction and processing of these resources from their natural environment is the primary objective of the mining industry. The global metals and mining profile issued annually by Marketline defines the metals and mining industry as consisting of "aluminum, iron & steel, precious metals & minerals (gold, silver, platinum, diamonds, etc.), coal and base metal markets (lead, zinc, copper, nickel and tin)." (Marketline, 2014). These mineral deposits can be found in all regions of the world. Marketline depicts the global mining portfolio as the Americas, Asia-Pacific, Europe, and the Middle East, South Africa and Nigeria. The global mining map below provides a visual representation of mineral deposit locations in each of these regions.

Diagram 1 - Simplified World Mining Map



Source: Wikimedia Commons

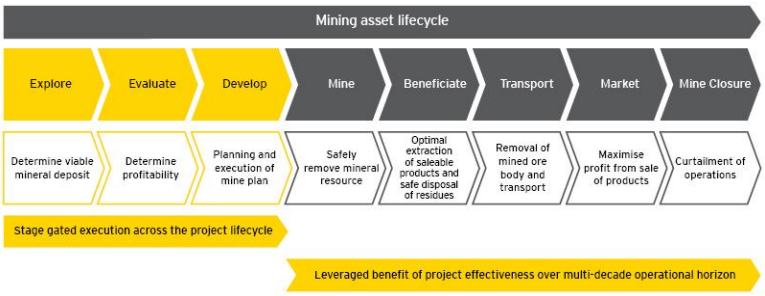
Marketline reports that the global metals and mining industry had total revenues of 2,844.4 billion in 2012, producing a 18,526.7 million metric tonnes in the same year, and forecasts accelerated industry performance over a five-year outlook between 2012-2017,

projecting growth to production value of $3,999.5 billion by the end of 2017. (Marketline, 2014)

There are hundreds of mining organizations in Canada alone, ranging from junior exploration to full-fledged, multi-billion dollar global industry leaders, most of which are publicly listed. Approximately 57% of the world's global mining companies are listed on the Toronto Stock Exchange and TSX-Venture Exchange, accounting for 48% of the world's mining equity transactions. (Canadian Mining Association, Retrieved 2015) According to the Canadian Mining Association, mining employs approximately 380,000 people in Canada alone, and the industry contributed 54 billion dollars to Canada's gross domestic product in 2013. (Canadian Mining Association, Retrieved 2015)

Generally speaking, most mining corporations follow a fairly similar pattern in their approach to resource extraction and mine project lifecycle, starting with exploration, pre-feasibility, feasibility, commissioning, implementation, and project close-out and reclamation. The following diagram depicts the full mining asset cycle from resource discovery to project close-out:

Diagram 2 - Mine Asset Lifecycle



Source : Ernst & Young, 2015

Kear (2006) argues that "the mining production environment is predominantly tactical - effort and resources are focused on attaining a goal ... most mining operations are reasonably consistent in economics for a particular mining layout or design, but can be largely affected primarily by price (of commodities), costs, production rates and (expense) recoveries. (Kear, 2006) There is often a gap between the strategic and tactical environments, inferring that mining organizations place a heavier emphasis on cost containment at the tactical level, over strategic planning for long term risk mitigation. The following table provided by Kear provides a highlight of the different objectives at each of the strategic and tactical stages of a mining operation:

Table 1: Objectives of the stages of mining operation

Strategic	Tactical
To determine the objectives	To attain the objectives
Obtain the best value	Obtain lowest cost
Design	Implementation
Determine limitations and constraints	Identify the resources to achieve the plan
Match the components to maximize the objective (ie. max NPV, IRR)	Allocate the resources to a particular plan
Test the effect of various strategies and scenarios	Test the effect of various operating practices
Identify variances and develop corrective strategies	Identify variances and develop corrective practices
Loose structure	Tight structure

Source: Kear, 2006

We posit that, in alignment with Kear's assertion of variance between strategic and tactical environments, value changes can be identified largely through strategic planning over non-financial risk factors. In his article, Kear contends that "value changes tend to

be the greatest in the strategic area (planning) whereas cost and efficiency changes tend to be predominant in the tactical area (the doing) ... and that value changes tend to have a greater magnitude of influence on the mine economics than cost issues. (Kear, 2006) This further supports our suggestion that non-financial risk factors are not given the same level of due diligence in planning and mitigation as more clearly identifiable financial elements affecting a project.

This research paper focuses on the evaluation and development stages of the mine plan (determining profitability, planning and execution phases), with a special interest in the organization consideration to non-financial risk, related efforts towards due diligence at pre-feasibility and feasibility stages, and consequent risk factor realization at the functional implementation level impacting overall profitability.

Chapter 3: Understanding Risk

Risk comes to a project in many forms, and in varying degrees depending on the lifecycle stage of a project. To simplify, we present a list of risks under the guise of two umbrellas: financial and non-financial risk factors. For purposes of this paper, we have grouped political risk under the non-financial form. While financial implications of non-financial risk is the primary focus of this paper, in order to accurately evaluate the comparison of due diligence provided thereto, we must generally understand the differences between the two types of risk, and the degree of profitability impact or financial risk assessment undertaken in pre-project acquisition stages. This will help us to analyze similarities and differences, and maintain a focus on non-financial causes to project viability. Additionally, a fundamental understanding of financial risk is thought to be necessary in order to inform possible correlations between financial and non-financial risk that are either collectively, or causally, impediment to project sustainability. Of concern to this research is the potential for financial risk being afforded a higher degree of effort at the evaluation stage of the mine asset cycle, due to the possibility that producers have a wider comprehension of clear cut, cost, revenue, and profitability issues impacting the global economy, as well as project viability. In order to establish the baseline for risk considerations, highlights of professional white-papers are presented below and are cross-referenced against one-another to draw on the most significant risk factors to the mining industry. Beginning with Ernst & Young (2014-2015), top ten business risks to mining and metals, the below diagram identifies those financial risks of most pressing concern to be capital dilemmas, capital projects, and price and currency volatility.

Diagram 3: 2014-15 Business risks facing mining and metals

Source: E&Y, 2014

By comparison, Deloitte, an industry leading global professional services consulting firm published *Tracking the Trends 2015*, a report revealing the results of their study regarding the top ten issues mining companies will face this year. In their assessment, "mining companies continue to contend with price volatility, geopolitical turmoil, rising costs, declining grades and a general lack of access to financing", shedding light on top financial risks, including global instability, weakened commodity prices, and higher investor demands. (Deloitte, February 2015) They content that, "if mining companies hope to emerge from the downward cycle in a stronger position from which they entered it, they need to increase mining intensity and focus on reducing capital, people and energy intensity." (Deloitte, February 2015). In a separate whitepaper, *Between a rock and a hard place* (Deloitte, 2015) the firm lists their top financial concerns for the coming year as (i). Sky-rocketing costs; (ii) Commodity price volatility; and (iii) Inability to finance.

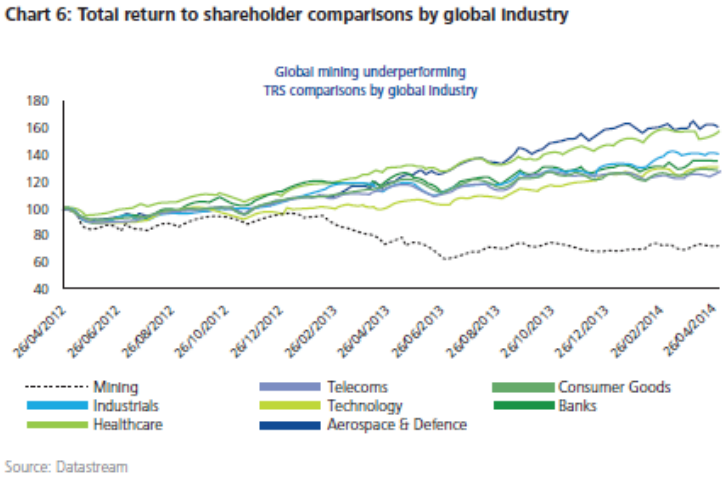
Part I: Notes on Financial Risk

A high level review of consolidated financial risk factors are defined and discussed below as the generally accepted list of most pressing concerns regarding mining industry and project viability.

a. Capital dilemmas

In an article on operational risk, author Chong (2001) states that fund raising for mining has become a much more global operation with the establishment of specialized commodity and stock exchanges, coupled with efficient and inexpensive telecoms networks. He claims that the critical decision point for investors is economic viability of the mine. Chong lists key points of consideration for fundraising as strength of the company in the industry sector, management reputation, history of mining enterprise outcomes, size of investment required, and the upside value gain of metals. (Chong, 2011) In a 2015 review, professional consulting firm Deloitte, Touche and Tohmastu (collectively, Deloitte) issued a market analysis for global mining sector total return to shareholders, which reflected poor market pricing and returns for the industry as a whole compared to other industries. Results are shown in the table below:

Diagram 4: Mining Total Return to Shareholders (2015)

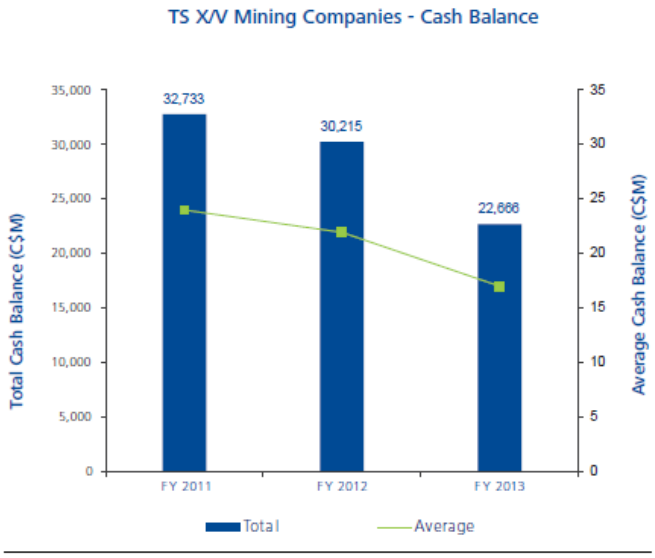


Source: Deloitte: 2015 Tracking the Trends

Poor returns pose adverse impact to funding opportunities, where shareholder ROI has been trending downward. Deloitte references most recent evaluation of capital funding dilemmas in that "equity financings are dwindling. Between 2010 and 2012, TSX mining equity financings fell by 30%, with both the number of deals and deal values shrinking. Even more notable, TSX mining IPOs dropped 70% over the same time period, from $1.2 billion in 2010 to under $400 million in 2012." (Deloitte, 2015).

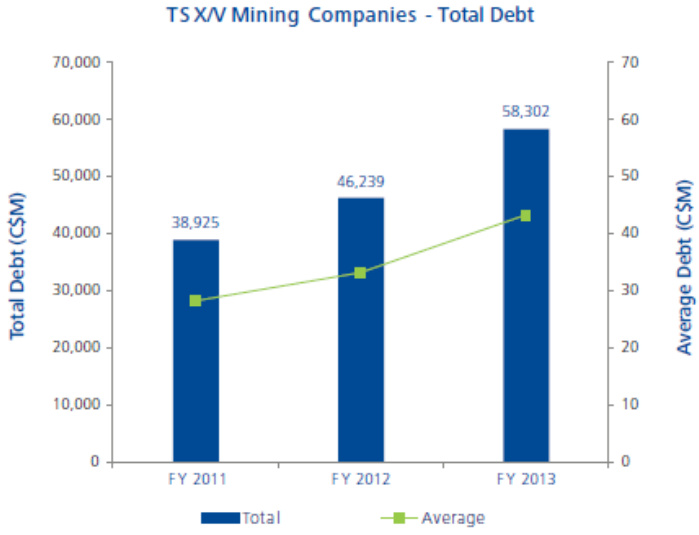
The result of scarcity in capital funding places producers at a risk of significant debt to equity ratio, unable to carry the project through to the next upward market cycle. Therefore, producers must critically evaluate their production efficiency, seriously aiming to reduce (as opposed to traditionally exceeding) capital project budgets in order to remain competitively attractive to investors. Deloitte demonstrates the gravity of the situation regarding capital funding through a graphical representation of the TS X/V mining companies balance sheets against debt ratios between 2011 and 2013:

Diagram 5: TS X/V Mining Companies - Cash Balances



Source: Deloitte, February 2015

Diagram 6: TS X/V Mining Companies – Total Debt

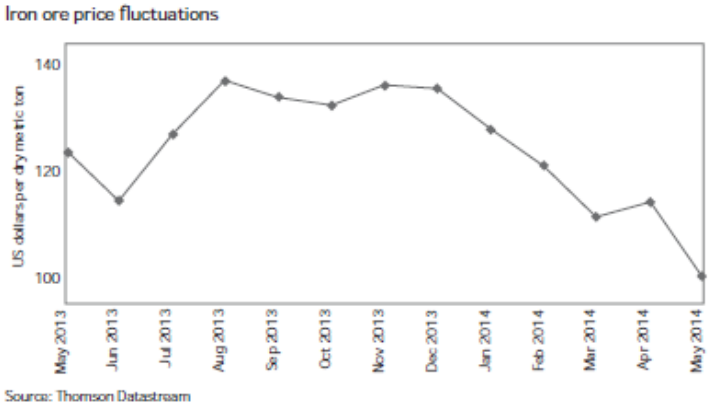


Source: Deloitte, February 2015

b. Market volatility

First and foremost, producers must consider the impacts of market volatility in metals pricing. This is a significant risk factor for producers when evaluating production value and when assessing project opportunities. For example, the prolonged state of depressed gold prices leading into 2014 significantly restricted the financial flexibility of mining organizations. Additionally, the risk of fluctuating gold prices and a steady decline in price has resulted in the need for producers to place a heavier focus on production efficiency. The Wall Street Journal reports that gold prices remain flat despite increasing demand, and that "gold producers need to streamline production and cut production costs in order to remain competitive due to the declining price of gold". (WSJ, March 2014) Similarly, E&Y reports that iron ore has demonstrated a significant amount of price volatility in 2013-2014, with a steady decline in the last quarter. (E&Y, 2014)

Diagram 7: Iron ore price fluctuations



Source: E&Y, 2014

Forbes magazine reports that "global economic downturn and the collapse in a number of metal and mined commodity prices forced the mining industry to scale back investment

into new mine sites, reduce operating mine lives, and scale back their investment into more capital expenditure-heavy renewable energy." (Martin, 2014)

Fluctuating prices causes mining producers to constantly reevaluate their revenue potential, forcing them to cut production costs when ROI is deemed to be low, which strains production output and places higher demands on efficiency, especially with respect to labour processes and policies. In some instances, organizations would be forced to withdraw the project entirely in order to maintain cash balances. Such was the case with the recent cessation of the Tasiast Expansion project in Mauritania, when Kinross Gold Corporation announced it would stop expansion efforts entirely in an attempt to preserve their cash balances. (www.kinross.com, 2015)

c. Currency volatility

Foreign currency presents significant risk to operational viability. Transaction risk occurs with the physical conversion of one currency to another … and results in a realized foreign exchange gain or loss. (Murray, 2005) "To maintain price and exchange rate stability, many emerging market and developing countries (EMDCs) de facto peg their exchange rates, intervening in the foreign exchange markets, but without formally committing to a peg." (Ghosh, 2014) This objective is to maintain price stability … "especially in emerging market economies that have a history of high inflation …" (Ghosh, 2014). Price stability is a crucial risk factor for organizations seeking to establish project entities in emerging markets that have demonstrated a history of currency volatility. Influenced by the degree of capital mobility and financial integration due to globalization, currency crises occurs when massive capital outflows force a country to

devalue or float its currency. (Marghescu, 2010) Resulting impacts to investor organizations with entities in these markets conclude significant losses to host-country entities and project operations due to overdependence on local resources combined with poor financial governance, or poor hedging policies.

As such, mining firms must remain cognizant of currency regimes and general price stability in their desired areas of operation, and more-so, the larger impact of a country's currency fluctuations on global trading and investor relations.

d. Rising energy costs and capital expenditures

Deloitte lists cost inflation as the #1 risk factor to the mining industry, primarily due to fluctuating energy costs, and reports that expansion capital expenditures rose 400% between the periods of 2005-2013. (Deloitte, 2015) Mining firms must keep a watchful eye on cost inflation impacting their capital expenditures. Concerns regarding the rising costs of resources and supplies have added pressure to production efficiency, and to the necessity to remain within budget. Rising costs have a resounding impact, not only on firms' ability to secure financing for developmental phases, but also to ensure that they do not run out of resources prior to project completion.

Part II: Non-Financial Risk

We identify nonfinancial risk factors in the same way as we did for financial risk factors above - Through cross-referencing of professional whitepapers against academic publications, and in an effort to employ evidenced based management principles of

design. Whitepapers are primarily those released by Ernst & Young and Deloitte (2014/2015 publications).

Reichardt presents his research on the *Due Diligence Assessment of Nonfinancial Risk*, wherein he states that mining companies are "generally unable to grow organically at a rate acceptable to their shareholders" which leads to an increasing number of mergers and acquisitions of mining projects and corporations. His research evaluates nonfinancial issues to be considered in the assessment of purchasing mining projects wherein he argues that " in most instances, non-financial issues will not be material enough to make or break a project… however particularly in times of volatile commodity prices, a series of poorly managed issues may combine to pose a material risk to the project pipeline ... and that costs arising from a failure to understand or effectively manage environmental or social issues could include (but not necessarily be limited to) loss of production, extra security requirements, costs associated with dispute resolution, and additional data gathering and verification for stakeholder engagement. (Reichardt, 2006) He includes a table highlighting the spectrum of non-financial issues that need to be considered during due diligence assessments, as shown below:

Table 2: Spectrum of Non-Financial Issues

Environmental	Social	Workplace	Other
Non-compliance with environmental legislation or permits	Pending land or compensation claims	Fatality and injury rate in the workplace	Country risk
Non-compliance with environmental or socio-economic conditions of project finance	Non-delivery on commitments made to stakeholders	Occupational disease (e.g. silicosis, asbestosis)	Political instability and/or xenophobia
Non-compliance with industry codes of practice to which the company or site is a signatory	Antagonistic relations with external stakeholders	HIV/AIDS	Security of tenure
Disposal of mine waste	Requirement for involuntary resettlement	Other endemic diseases (e.g. malaria)	Relationship with potential Joint Venture partners
Use of processes, technologies or chemicals that have potentially unacceptable environmental impacts	Relationship with artisanal/small scale miners	Workplace and employee security	Risk to company reputation
Inadequate financial provision for closure and rehabilitation / reclamation	Dependence on mine infrastructure that will not be retained post-closure	Industrial relations	The company's reputation for management of non-financial risk for other projects

Source: Reichardt, 2006: Table 1, p.194

We put forward blanket umbrella terms for nonfinancial risk and for purposes of this research, nonfinancial risk factors are considered to be those risks that are most relevant to social and labour economics, and community engagement. In this regard, we evaluate Deloitte's reference to stakeholder engagement, and Reichardt's reference to environmental risks as relevant to the E&Y reference to social license to

operate/community engagement. These nonfinancial risks have been collated and presented under umbrella terms for forming of this paper, to include resource nationalism, social license to operate, and country risk. While labour infers both highly qualified and low skilled labour, we have grouped labour under the term of social license for its relevance to skills development of unskilled labour pools within the host country. Each of these risk factors is highlighted below, with a more in-depth presentation of literature surrounding the subset of risks that collectively make up the umbrella term.

a. Social License to Operate (SLO) and Social Impact Management

We interpret social license to mean the acceptance, inclusion and participation of thee citizens of local communities, and that social impact management refers to the attempt at enacting policies, processes and governance structures that identify and manages issues or concerns that directly impact the citizens of those communities. Reichardt (2006) states that losing the "social license to operate is probably the single greatest threat to mining operations throughout the developing world". He references the following definition of social license: the "acceptance and belief by society, and specifically our local communities in the value creation of our activities". (Reichardt, 2006) Ernst & Young (2014) states that, there is a significant opportunity that exists for organizations to make a positive contribution to the broader society by integrating activities required to obtain/maintain a social license into the strategic plan of a more sustainable business" (E&Y, 2014). They go on to argue that the "risk of losing a license to operate must be constantly assessed, ensuring the right controls are in place" … and that a "failure of control can quickly put an organization into crisis, with significant financial and reputational impacts to the business. Furthermore, it can also take a long time to restore

the credibility required to regain acceptance by stakeholders, resulting in further delays and impacts." (E&Y, 2014)

Fundamentally the notion of social license rests on the community expectation for the producer to "act responsibly, deliver on commitments, and provide an equitable share of the benefits that the operation generates " (E&Y, 2014) Reichardt (2006) states that, "under extreme circumstances affected communities withdrawal of support for, and sometimes active opposition to a mining operation may jeopardize projects that are under development and can cripple the cash for mines that are already in production". Additionally, he supports the contention of due diligence assessment of non-financial risk by highlighting that "the materiality of the resulting impacts of (social license issues) on the financial performance of (a mine project), as well as on the share value and reputation of the parent company ... raises the question of whether companies considering the purchase of other assets where similar social issues arise, would be equipped to identify these material not financial risks during the due diligence process, such that risks could be factored into the decision of whether or not to proceed with purchase and, if so, the calculation of fair value for the asset. (Reichardt, 2006)

Deloitte puts forward their perspective on companies' struggle to balance competing interests regarding stakeholder and community engagement. In their publication, *Tracking the Trends* (2015), they claim that "although mining companies have made significant strides in their dealings with local communities… many organizations still lag at effective stakeholder engagement ... which is partly due to the fact that the number of

stakeholders keep growing." They assert that, "winning a license to operate today often means negotiating with dozens of different local communities, various levels of government, numerous government departments, non-governmental organizations, workers unions, local labor forces, environmental groups, industry associations and much more vocal shareholders. Deloitte is quoted as saying that, "the mining industry does not fully understand the complexities associated with stakeholder engagement" and that "too often, relationships with stakeholders are adversarial instead of collaborative". (Deloitte, February 2015). Essentially the contention is that we need to give before we can expect to receive.

Kemp et al., publishes in the journal of business ethics (2011) on just relations and company – community conflict in mining, wherein the researchers argue that real and ongoing challenges of mining include intractable, local level conflict, emerging global norms and performance standards, and ever increasing expectations for the industry to translate high-level corporate social responsibility policy into on the ground practice. (Kemp, et al., 2010) She indicates that mining companies are frequently accused of either knowingly or inadvertently causing conflict or exasperating existing grievances within communities… and that such conflicts are usually motivated by community concerns that relate to economic or livelihood security; land or water access, ownership, use or degradation; environmental effects; gendered impacts; impacts on social cohesion and cultural beliefs; treatment and claims of human rights violations and other injustices; disparities between the distribution of benefits and risks; and the very meaning of development. (Kemp et al., 2010) She puts forward the need for interactional and value

based dimensions of the company-community relationship that must also be considered when evaluating company interpretation and response to community relationships, and offers up avenues to address corporate community conflict through the establishment of grievance systems, or specific requirements for mine sites to have mechanisms of dispute resolution as part of an overall corporate social responsibility policy. (Kemp et al., 2010) In this respect, it may be easily deduced that participation and inclusion of community ideology, concern, and feedback in the feasibility and mine planning stages of the project is fundamental to forging positive and long-term social licenses, and that in order to adequately establish effective policies of participation and inclusion, producers must take a proactive approach to conducting due diligence regarding social license risks, and mitigation strategies at the pre-acquisition stages. In this sense it seems fair to assert that we cannot adequately govern what we do not understand.

Prno (2013) publishes in resources policy on an analysis of factors leading to the establishment of social license to operate in the mining industry. In his research, he presents that communication challenges, generally, and difficulties in reconciling different knowledge sources, more particularly, have affected miners ability to earn a SLO ... and that mining organizations must now focus on "creating space for dialogue with local communities and encouraging greater community involvement in the development of related decision-making." In presenting his discussion, Prno notes a key point surrounding the context within which miners aim to operate, highlighting that "there are no generalizations… each mine site is unique" and that SLO is "community specific". He claims that too often people look for a one-size-fits-all solution. (Prno, 2013) He

concludes by stating that community specific variables are particularly important drivers of SLO outcomes", including community needs, expectations, and aspirations, culture and values, experiences with and perceptions of mining, and the effectiveness of local governance institutions. (Prno, 2013)

(i) Labour as a source of conflict

Another consideration with respect to earning SLO is often realized over tensions regarding sources of labor and community employment opportunities. The journal of business ethics publishes on labor relations and ethical dilemmas of extractive MNE's in Africa, where tensions over pay, expatriate employment as against the locals, negotiation rights and employee well-being are referenced as considerably influential to mining project viability. (Eweie, 2009) This is a pressing issue for all mining organizations in light of the established war for talent and skills shortage in the mining sector globally. In a 2012 release by the Canadian Institute for Mining, Martha Roberts reports on the mining Industry Human Resources Council (MiHR) annual hiring requirements forecast. The 2011 report estimates the need to hire over 100,000 workers between 2011 and 2021, with labour shortages driven by an aging workforce, stiffer competition with other industries, and challenges in attracting and engaging key talent groups. (Roberts, 2012) MiHR follows up with their 10 year outlook published in 2013, stating that "over the next ten years, mining's projected hiring requirements exceed 145,000 workers, representing more than half the current workforce ... and that labour market trends include (i) increasing need for trades and production occupations; (ii) demographics of an aging workforce; (iii) loss of talent in leadership positions and low priority on succession planning and leadership development; (iv) immigration as a key source of mining talent -

attracting immigrants to remote locations and foreign credential recognition; (v) young people are not attracted to mining due to lifestyle, lack of opportunity and poor site-level management; and (vi) need for industry and education partnerships for aboriginal people. (MiHR Report, 2013)

Gupta and Govindarajan (2001) note that "many countries with relatively lower wage rates also suffer from lower levels of productivity", but that is it possible for a company to locate production in a low-labor-cost country and still achieve world-class productivity and quality levels under the following conditions: the developing economy has a large pool of highly educated workers (such as India, China and the Philippines); high unemployment levels furnish the multinational firm with a very talented and motivated pool of employees; and the company is setting up greenfield operations, where it is possible to establish world class processes from day one". (Gupta and Govindarajan, 2001).

In order to achieve adequate production levels in (often underdeveloped) mining regions, talent development strategies of mining organizations must address critical skills deficits through a combination of academic and applied education, rotational assignments and applied training, and safety awareness perspectives. The ongoing challenge for organizations is to achieve a perceived amount of procedural and distributive fairness in their talent investment strategies, considering the need to balance production efficiency against social and economic beneficiation of the host country. Outsourcing of labour has often resulted in considerable backlash from host

communities due to an array of perceived indifferences or disrespect by foreigners towards local community culture, and/or hindrance of social-economic growth. D. Pillay (1999) provides insight into these concerns in a report on the consequence to local communities from outsourcing, where he holds that "outsourcing and subcontracting often means "job losses, lower wages, inferior working conditions, job insecurity, ultra-exploitation, lower health and safety standards, and lower environmental standards". He goes on to assert that subcontracting is often "directed at lowering the standards and employment conditions ... (and) is a dominant practice (in the mining industry)". (Pillay, 1999).

Labour related conflicts have resulted in work stoppages and safety issues for mining projects globally, including the 2013 example of community uprising against Barrick Gold's Pueblo Viejo project in the Dominican Republic in 2010 and again in 2012, when workers went on strike demanding better working conditions, and where violent outbreaks resulted in at least one death and multiple injuries. In 2012, residents of Cotuí community organized a march to demand that Barrick give more jobs to local community residents instead of foreigners. The violence that ensued led to at least 25 injuries. (MICLA, Retrieved March 2015)

Labour related issues and potential conflicts must be proactively identified with mitigation strategies devised in an effort to balance a tripartite workforce consisting of the right mix of expatriate (highly qualified specialists), with often unskilled local community workers, and other semi-skilled third country nationals (TCN's).

Risk #1: **Labour availability in the host community**

Risk #2: **Degree of qualified skills associated with available labour in the host community**

Risk #3: **Cost of investment to training balanced against production efficiency**

Risk #4: **Perceived distributive and procedural fairness regarding equitable employment standards and pay**

Risk #5: **General safety concerns regarding corporate/community conflict regarding labour relations**

(ii) Culture as a source of conflict

Adler provides Kroeber and Kluckhohn's definition of culture as consisting of patterns explicit and implicit of and for behavior acquired and transmitted by symbols constituting the distinctive achievement of human groups including their embodiment artifacts; the essential core of culture consists of traditional (i.e.) historically derived and selected ideas and especially their attached values; culture systems may on the one hand be considered as products of action, on the other, as conditioning elements of future action. Culture is therefore something shared by all or almost all members of the given social group - something older members of the group pass on to younger members and something, as in the case of morals, laws, and customs that shape behavior, or structures ones perception of the world. The cultural orientation of the society reflects a complex interaction of values, attitudes and behaviors displayed by the members. (Adler, 2008)

Just as the North American work ethic is rooted in theories characterized by the times of Taylorism and more modern day evolution of work behaviors geared towards optimizing production output, variances in cultural beliefs, attitudes and customs have shaped work

behaviors of other, more remote and less developed communities in which the mining sector operates. Often those communities, being less developed and/or technically skilled than our own, may display work behaviors that do not necessarily demonstrate a sense of urgency over efficiency and/or productivity. That being said, we do not strictly limit our idea of culture as a source of conflict to differences in cross-cultural management perspectives, but broaden our scope to include a more holistic perspective on the acceptance and inclusion of cross cultural beliefs, norms customs and ideas into mining organization and site level programs, policies and procedures at both the organization wide, and site level strategic planning, as well as individual employee attitudes and/or respect towards host county and community norms and beliefs.

Mining organizations must provide a considerable amount of time to understanding cultural attitudes and beliefs of the host country within which they aim operate, in order to fully comprehend and mitigate risks affiliated with cross cultural conflicts between developed, (Canadian, for example) and host country attitudes, not only towards work ethic, but also towards social behaviour. Tihanyi, et al., (2005) offers that cultural distance and international business research assumes that differences between foreign and home country cultures increase the cost of entry, decrease operational benefits, and restrict the firm's ability to transfer core competencies to foreign markets. He also states that increased operational difficulties result from cultural distance due to a lack of understanding of the norms values and institutions that afford social exchange across markets. Cultural distance may also lead to higher levels of complexity and uncertainty

for managerial decision-making regarding eminent strategies and organizational choices. (Tihanyi et al., 2005)

Puck (2008) states that cultural adjustment is considered to be a prerequisite for expatriate success abroad, and that cultural distance necessitates cross cultural training to enhance knowledge and awareness of appropriate norms and behaviours of the host country. He argues however that, few organizations systematically evaluate or validate the effectiveness of their training programmes. (Puck et al., 2008) While his study did not support the assumed relationship between cross cultural training participation and comprehensiveness to increased expatriate adjustment, Puck found that language competence was a stronger source of competitive advantage in international business. (Puck, et al., 2008).

Expatriate adjustment has been a research focus of particular interest in international business due to the high rate of failure and resulting cost. Michael Harvey, et al. (1999) suggests that the increasing complexity of expatriate assignments and the increasing rate of failure of expatriate managers necessitate the requirement for greater attention to socializing and mentoring expatriates while overseas. (Harvey, et al., 1999). His research suggests that a global mentoring program promotes the success of international assignments by enhancing personal, relational and professional integration into the host country culture, designed to facilitate expatriate adjustment through a social support process, and in an effort to accelerate understanding of cultural differences between the home and host country. (Harvey, et al., 1999)

The preceding research has important implications for mining in that, mining projects require long and extended periods of time to be spent in host countries, often while living in circumstances far less developed or understood than our home culture. As such, when devising a framework for non-financial risk factors and corresponding mitigation plans, MNC's should include the high degree of failure of expatriate assignments due to poor personal and family adjustment to the host community, cultural and lingual misunderstanding.

While research on expatriate adjustment brings forward necessary components of expatriate readiness with respect to cultural distance and culture as a source of conflict, it lacks address to the nature of cross cultural training in the reverse. As an extension of their research, we suggest that cross-cultural training must not only be directed at the expatriate managers and/or highly qualified entrants (and their families) to the host country, but that, to successfully employ country nationals in any facet, culture and language training must also be devised in the reverse, such that host-country nationals gain comprehension for the owner MNC's home-country and organizational culture and working expectations. This paper suggest a correlation between the degree of inclusion of local workers into MNC strategic and cross-cultural training plans, as fundamental risk factors to the success rate of any project capital expenditure mining project, and that social impact management strategies/planning must encompass a much broader intention beyond mere expatriate entry.

Risk #6: **Expatriate comprehension and readiness, and quality of pre-departure and ongoing cross cultural and language training**

Risk #7: **National level comprehension and cross cultural training programs geared to enhancing reverse understanding of MNC driven individual and corporate culture along with social behaviours**

Risk #8: **Degree of communications planning to enhance cross-cultural understanding the total workforce and surrounding community**

b. Resource Nationalism

Resource nationalism refers to the increasing demand of host country governments to retain ownership and control over the production environment and projects taking place in their countries. Ernst & Young posits that "the new world of resource nationalism is a balancing act between promoting investment and maximizing in country benefits." (E&Y, 2014). Ward (2009) offers the following context and definition of resource nationalism, stating that, "foreign direct investment is often characterized as an attempt to annex the resources of a foreign country" through "land-grabbing", and that resource nationalism characterizes host countries increasing response with counter-measures to protect sovereignty over national assets. Deloitte cites resource nationalism or engaging with the government as the 9th risk on their 2015 *Tracking the Trends* review, wherein they note that host country governments pose a challenge to mining operations through hard-walled legislation and imposition of various taxes on labour, supply chain, production and revenue, resulting in considerable cost increase to mining MNC's. They cite a few examples of governments that continue to make it harder for mining companies to operate profitably in their countries, such as in Mexico with the introduction of a 7.5% tax on mining revenues, Ecuador, with a 70% windfall tax on mining, and Chile's imposition of a tax reform causing a 25% raise to corporate. Additionally, both Bolivia and Argentina

nationalized mines and have taken steps to revoke some companies' mining rights. (Deloitte, 2015).

When considering the motivational factors for resource nationalism, Ward (2009) argues that "today's resource nationalism, unlike that of the 1970s, needs to be understood in the context of global concern for resource security, climate change, sustainable development and poverty reduction" … and that … "all are inter-related." She goes on to provide a more detailed explanation of the differences between nationalism (the intra-national struggle for control of resources), economic nationalism (policies which are guided by the idea of protecting domestic consumption, labour and capital), and protectionism (generally expressed in terms of trade policies imposed for the protection of a nation's producers or enterprises from competition). (Ward, 2009) In evaluating the implications of resource nationalism, this paper presents disagreement with Ward's position on nationalism under the spectrum of resource nationalism, in that she describes nationalism in a sense to be closely related to social license. We differentiate resource nationalism from social license related risks, in that we perceive social license matters to directly impact the citizens at a micro-level in their everyday way of life, which may causes community uprising at the citizen level. Conversely, we view resource nationalism matters in consideration of benefit to the state, and whether it entails increasing levels of mandated beneficiation to the political economy.

For purposes of this paper, we consider resource nationalism achievements to be related to an acceptance of the MNC into the host country by host country legislative and

governmental authorities, and believe that the MNC has fostered sufficient levels of resource nationalism when the governing body is cooperative in establishing or promoting regulations that facilitates mining supply chains, labour mobilization and production in the country. Deloitte argues that "While some governments are working to accommodate the industry, others are backing miners into a corner and are in danger of killing the goose that laid the golden egg if their policies force companies to defer their investments or exit a country entirely." (Deloitte, 2015). A recent example of mining MNC challenges due to lack of governmental participation and restrictive policies can be found in the 2011 withdrawal of Canadian based Kinross Gold Corporation from the Fruta del Norte gold mining project in Ecuador. The Financial Post reported that Kinross paid US $1.2 billion for the project in 2008, but did not proceed with development after the government imposed a punitive windfall profits tax … and that Ecuador is rife with political problems impacting mining feasibility. (Humphreys, 2015)

We suggest that achieving sufficient government cooperation is particularly challenging, but necessary and important for mining MNC's due to the geographic location of many rich mineral deposits in countries often deemed to have poor governance quality. Chang, et al., (2012) argues that MNE's who enter a country with poor governance quality face higher risk in terms of their ability to collaborate in all areas of negotiation over equity ownership and related operational policy and process determination. The authors provide that "governance infrastructure represents the entire formal institutional environment of a country … and covers the "overall public institutions and policies created by governments as a framework for economic, legal, and social relations", and that "governance quality

has a profound influence on foreign MNE's. (Chang, et al., 2012). Chang claims that the most important influence of poor governance quality is its negative effects on contracting, that is to say, increased difficulty in negotiating the proper terms of a contract. In presenting the results of their research, the authors discuss the concept of "governance hazards" which they define as "formal institutional hazards resulting from a country's overall governance infrastructure (e.g. poor political, legal and social systems)." (Chang, et al., 2012).

A combination of governance quality and corruption may also be thought to influence the propensity of host-country government to re-invest in economic growth and sustainability of the country. MNC's may face challenges in the demand for investment to social programs, where the government seeks financial gain under the guise of social development, but fails to return the benefit to their own society, such as through enhanced education and health programs. The possible ideological conflict here is the practical need and use of an educated workforce to benefit in-country labour retention and mining production (as financed by mine MNC's) versus the possibility that an increasingly educated workforce results in democratization and uprising against corrupt, authoritarian, or generally dysfunctional government institutions. Oketch (2006) speaks to the benefits of an educated society in that "education and research include contributions to a society with functioning democratic institutions and their related freedoms … to lower crime rates, and better functioning economy with improved literacy, adaptability and understanding. (Oketch, 2006).

Depending on the national political climate of the governing party, benefits may also be restricted to pre-selected or qualifying state authorities for personal gain over and above citizen development. Interactions or policies that may be characterized by government and authoritative corruption, bribery, facilitation demands, or targeted and nepotism influences to labour and employment programs, mandated (and targeted) education programs, imposition of high windfall taxes, and/or other government led initiatives aimed at improving the economy (or immediate political party) are a few examples of possible risk factors causing significant financial hardship to an MNC that should be addressed in the due diligence process over new project acquisition. Additionally, government attitudes towards procurement for services, and quality or trustworthiness with respect to upholding contractual agreements are factors to be considered when evaluating risks relevant to resource nationalism.

We consider the relevance of governance quality and corruption to resource nationalism, in that, mining MNC's must weigh the likelihood that host-country government demands and/or willingness to negotiate fair contracts will (a) not conflict with home country governance and legislative parameters; (b) not risk the financing opportunities earned from other project stakeholders; (c) not pose a reputational risk to the MNC itself; and (d) have some reciprocal benefit to growing and sustaining the local labour pool for operational benefit to the organization and the project. Mining MNC's must be cautious in their approach to risk identification and mitigation surrounding legislative and political environments, so as not to be too heavily influenced in a manner deemed to be unethical,

especially in light of research that supports the notion over variation of MNC business ethics based on the socio-economic factors of their host-countries. (Onsel, 2013)

In our evaluation of resource nationalism considerations, we consider a high-level overview of literature on factors deemed to be politically led or government initiated, including taxation policies, supply chain policies, and other factors affecting contract administration. We also consider the quality of the host country governance structure and resulting impact to MNC and mining project viability. We posit that risk factors associated to issues of resource nationalism are those factors causing production stoppages, restrictions and limitations due to poor government relations, and include such concerns as host-country government corruption, political instability, and greed, as well as a general lack of understanding on how to communicate and negotiate for mutual productive and economic gain.

Arguably, resource nationalism is the more modern depiction of corporate social responsibility (CSR), a global best practice approach to social, environmental and economic beneficiation amongst nationally and internationally operating firms. This is not to say that organizations must do away with principles of CSR, but that resource nationalism requires much more than a well-intentioned, do-gooder approach to country beneficiation. We posit that non-financial risk analysis must encompass a thorough assessment of the willingness and ability of the host country government, not only to participate in productive and cooperative policy-making, but also accept responsibility for encouraging economic development by properly distributing the realized benefits of

MNC investment. Additionally, When evaluating risk factors and devising mitigation strategies to address issues pertaining to resource nationalism, organizations must look not only at the ability of the host country government to provide proper infrastructure, but the willingness of the government to participate in generating positive economic returns through its use of policy. MNC's must not assume that because we, as highly resourceful and developed organizations, have the means to offer economic growth to a host country, that this facilitates the willingness or acceptance of the host country to be improved through our methods. Risk analysis must weigh the cost associated with rising government demands for beneficiation, against production gains to be realized over the lifespan of a project. An imbalance of these factors may lead to a creeping amount of unrecoverable sunk cost.

Risk #9: **Degree of government quality, attitude and trust towards contract administration**

Risk #10: **Government tax policy in respect of energy & resources**

Risk #11: **Legislative framework surrounding ownership over supply chain and/or production efforts**

Risk #12: **Perceived balance of government demand, investment in social programs, and reciprocal benefit to MNC project and long term operation**

Risk #13: **Balancing investment for social development against reputation, ethics and governance considerations of the MNC, and resulting impact to capital funding**

c. Country Risk

A number of different considerations of country risk have been presented in literature reviews surrounding country analysis and MNE decision to enter a host-country. In a 1997 review, Dyck (1997) published in Harvard Business Review that the objective of country analysis is to build a picture of the national business environment. He speaks to the most important task of country analysis as the identification and evaluation of relationships amongst strategy, context and performance, referring to strategy as a "nation's implicit and explicit goals and the policies designed to achieve those goals", and context as the "resources, players, and rules of the game", which leads to performance. Performance is evaluated by the country's "economic, political and social" state of wellness. (Dyck, 1997). In reviewing literature on the topic of country analysis, it appears a great deal of research has focused on the business environment, including a heavy focus on government stability and corruption, or the degree to which the host-country government enacts policy, procedure or strategies geared towards economic and social development. It seems impossible to approach the topic of international business without encountering literature on corruption. While we have covered a high level review of corruption above under the guise of resource nationalism, corruption may be evaluated on a number of different levels. Regarding resource nationalism, we looked to the propensity of the state to unilaterally enact legislative restrictions against mining MNE's for purposes of economic gain, and referred to corruption in the context of political advancement and/or poor governance quality regarding contractual agreements. With respect to country analysis, we view corruption in terms of the everyday business environment of both government and non-government officials, including the ideology of

small, artisan business owners regarding business relationships with MNE's and regular contracts for services.

(i) Corruption

In a 2006 research study, Rodriguez et al. (2006) released an analysis on the *three lenses of multinational enterprise: politics, corruption and corporate social responsibility,* where they focused on the relationship between international business and host-country society. They took a particular interest in the unresolved "embryonic" issues between social, economic and political institutions that guide MNE entry decision. Corruption is discussed in terms of the difference between public (government) and private (business entity) effects on the MNE firm, and the authors make a point to highlight that in some instances, it may be difficult to discern corruption from political lobbying, or legitimate political strategy. (Rodriguez, et al., 2006)

In an article discussing the relationships between corruption, underdevelopment and the extractive resource industries, O'Higgins criticizes the World Bank definition of corruption for overlooking the role of companies and business entities in advancing corruption. The World Bank refers to corruption as *"*the abuse of public office for private gain." (World Bank, Retrieved March 21, 2015) O'Higgins refers to important types of corruption beyond government initiated bribes when she speaks about "one time, one-of-a-kind, high-value transactions, which offer unique opportunities to both sides to make substantial gains for themselves at the expense of legitimate beneficiaries." (O'Higgins, 2006) She continues by stating that "as part of their development initiatives, high growth developing countries are usually engaged in large-scale infrastructure projects … and

where developing countries are a source of cheap abundant labour and of critical extractive resources like oil and minerals … corrupt payments may be the only way for multinationals to gain priority access to markets, contracts and assets in some countries." She goes on to point out that "particular types of foreign direct investment in developing countries represent significant commitment of capital" (such as large infrastructure or oil extraction projects) … and that "once established, the sunk costs make it extremely unattractive to pull out, even in the face of rising demands for corrupt payments." She states that "the exploitations of natural resources requires tremendous amounts of capital investment and technological know-how, not possessed by developing countries" … and to realize their resource wealth, they are dependent on foreign companies to make necessary investments" but that due to "geographic luck", corrupt governments have the upper hand because MNE's are unfamiliar with the typically rough and arduous terrain of the operating environment, which makes them dependent on host-country nationals for navigation." (O'Higgins, 2006)

Transparency International, a leading coalition sponsored by the World Bank focused on the fight against corruption, puts out their annual Corruption Perception Index (CPI) measuring perceived levels of public-sector corruption levels in 175 countries globally. The below map and corresponding table show the results for the 2014 CPI:

Diagram 8 - 2014 CPI World Map

Source: www.transparency.org

Table 3 - 2014 Corruption Perception Index

SCORE

Highly corrupt — Very clean

0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80-89 90-100 No data

RANK	COUNTRY/TERRITORY	SCORE
1	Denmark	92
2	New Zealand	91
3	Finland	89
4	Sweden	87
5	Norway	86
5	Switzerland	86
7	Singapore	84
8	Netherlands	83
9	Luxembourg	82
10	Canada	81
11	Australia	80
12	Germany	79
12	Iceland	79
14	United Kingdom	78
15	Belgium	76
15	Japan	76
17	Barbados	74
17	Hong Kong	74
17	Ireland	74
17	United States	74
21	Chile	73
21	Uruguay	73
23	Austria	72
24	Bahamas	71
25	United Arab Emirates	70
26	Estonia	69
26	France	69
26	Qatar	69
29	Saint Vincent and the Grenadines	67
30	Bhutan	65
31	Botswana	63
31	Cyprus	63
31	Portugal	63
31	Puerto Rico	63
35	Poland	61
35	Taiwan	61
37	Israel	60
37	Spain	60
39	Dominica	58
39	Lithuania	58
39	Slovenia	58
42	Cape Verde	57
43	Korea (South)	55
43	Latvia	55
43	Malta	55
43	Seychelles	55
47	Costa Rica	54
47	Hungary	54
47	Mauritius	54
50	Georgia	52
50	Malaysia	52
50	Samoa	52
53	Czech Republic	51
54	Slovakia	50
55	Bahrain	49
55	Jordan	49
55	Lesotho	49
55	Namibia	49
55	Rwanda	49
55	Saudi Arabia	49
61	Croatia	48
61	Ghana	48
63	Cuba	46
64	Oman	45
64	The FYR of Macedonia	45
64	Turkey	45
67	Kuwait	44
67	South Africa	44
69	Brazil	43
69	Bulgaria	43
69	Greece	43
69	Italy	43
69	Romania	43
69	Senegal	43
69	Swaziland	43
76	Montenegro	42
76	Sao Tome and Principe	42
78	Serbia	41
79	Tunisia	40
80	Benin	39
80	Bosnia and Herzegovina	39
80	El Salvador	39
80	Mongolia	39
80	Morocco	39
85	Burkina Faso	38
85	India	38
85	Jamaica	38
85	Peru	38
85	Philippines	38
85	Sri Lanka	38
85	Thailand	38

Table 3.1 - 2014 Corruption Perception Index (cont'd)

RANK	COUNTRY/TERRITORY	SCORE
85	Trinidad and Tobago	38
85	Zambia	38
94	Armenia	37
94	Colombia	37
94	Egypt	37
94	Gabon	37
94	Liberia	37
94	Panama	37
100	Algeria	36
100	China	36
100	Suriname	36
103	Bolivia	35
103	Mexico	35
103	Moldova	35
103	Niger	35
107	Argentina	34
107	Djibouti	34
107	Indonesia	34
110	Albania	33
110	Ecuador	33
110	Ethiopia	33
110	Kosovo	33
110	Malawi	33
115	Côte d'Ivoire	32
115	Dominican Republic	32
115	Guatemala	32
115	Mali	32
119	Belarus	31
119	Mozambique	31
119	Sierra Leone	31
119	Tanzania	31
119	Vietnam	31
124	Guyana	30
124	Mauritania	30
126	Azerbaijan	29
126	Gambia	29
126	Honduras	29
126	Kazakhstan	29
126	Nepal	29
126	Pakistan	29
126	Togo	29
133	Madagascar	28
133	Nicaragua	28
133	Timor-Leste	28
136	Cameroon	27
136	Iran	27
136	Kyrgyzstan	27
136	Lebanon	27
136	Nigeria	27
136	Russia	27
142	Comoros	26
142	Uganda	26
142	Ukraine	26
145	Bangladesh	25
145	Guinea	25
145	Kenya	25
145	Laos	25
145	Papua New Guinea	25
150	Central African Republic	24
150	Paraguay	24
152	Congo Republic	23
152	Tajikistan	23
154	Chad	22
154	Democratic Republic of the Congo	22
156	Cambodia	21
156	Myanmar	21
156	Zimbabwe	21
159	Burundi	20
159	Syria	20
161	Angola	19
161	Guinea-Bissau	19
161	Haiti	19
161	Venezuela	19
161	Yemen	19
166	Eritrea	18
166	Libya	18
166	Uzbekistan	18
169	Turkmenistan	17
170	Iraq	16
171	South Sudan	16
172	Afghanistan	12
173	Sudan	11
174	Korea (North)	8
174	Somalia	8

(Source: Transparency International, 2014 CPI Brochure)

By comparison of the 2014 CPI World Map and corresponding tables against the Simplified World Mining Map shown in Diagram 1 (in part 2 of this paper) we can see a considerable overlap in the geographic location of the world's resources to countries of high-risk on the corruption index. This poses a significant challenge for mining firms seeking to operate in these regions, where demand-side corruption is perceived to be a rampant way of doing business. While the CPI focuses on public sector corruption, a correlation between public sector and private sector ideology of host country business conduct and ethics likely exists, although literature on corruption seems more widely focused on government and public sector transactions.

On a final note regarding corruption considerations, is the degree to which the competitive environment of MNE's is likely to engage in corrupt practices. It seems plausible to assert that, the competitive market approach to combatting corruption can only be upheld in circumstances where all firms operating in a high-risk region abide by the same general ethical principles. Transparency International reports on perceived supply-side corruption through issuance of the Bribe Payers Index by country of origin and industry sector, where 10 indicates *never bribes* and 0 indicates *always bribes*, as follows:

Table 4: 2011 Bribe Payers Index by Country

RANK	COUNTRY/ TERRITORY	SCORE	NUMBER OF OBSERVATIONS	STANDARD DEVIATION	90% CONFIDENCE INTERVAL	
					LOWER BOUND	UPPER BOUND
1	Netherlands	8.8	273	2.0	8.6	9.0
1	Switzerland	8.8	244	2.2	8.5	9.0
3	Belgium	8.7	221	2.0	8.5	9.0
4	Germany	8.6	576	2.2	8.5	8.8
4	Japan	8.6	319	2.4	8.4	8.9
6	Australia	8.5	168	2.2	8.2	8.8
6	Canada	8.5	209	2.3	8.2	8.8
8	Singapore	8.3	256	2.3	8.1	8.6
8	United Kingdom	8.3	414	2.5	8.1	8.5
10	United States	8.1	651	2.7	7.9	8.3
11	France	8.0	436	2.6	7.8	8.2
11	Spain	8.0	326	2.6	7.7	8.2
13	South Korea	7.9	152	2.8	7.5	8.2
14	Brazil	7.7	163	3.0	7.3	8.1
15	Hong Kong	7.6	208	2.9	7.3	7.9
15	Italy	7.6	397	2.8	7.4	7.8
15	Malaysia	7.6	148	2.9	7.2	8.0
15	South Africa	7.6	191	2.8	7.2	7.9
19	Taiwan	7.5	193	3.0	7.2	7.9
19	India	7.5	168	3.0	7.1	7.9
19	Turkey	7.5	139	2.7	7.2	7.9
22	Saudi Arabia	7.4	138	3.0	7.0	7.8
23	Argentina	7.3	115	3.0	6.8	7.7
23	United Arab Emirates	7.3	156	2.9	6.9	7.7
25	Indonesia	7.1	153	3.4	6.6	7.5
26	Mexico	7.0	121	3.2	6.6	7.5
27	China	6.5	608	3.5	6.3	6.7
28	Russia	6.1	172	3.6	5.7	6.6
	Average	7.8				

Source: Transparency International, BPI 2011

Table 4.1: 2011 - Bribe Payers Index by Industry Sector

RANK	SECTOR	SCORE	NUMBER OF OBSERVATIONS	STANDARD DEVIATION	90% CONFIDENCE INTERVAL	
					LOWER BOUND	UPPER BOUND
1	Agriculture	7.1	270	2.6	6.8	7.4
1	Light manufacturing	7.1	652	2.4	7.0	7.3
3	Civilian aerospace	7.0	89	2.7	6.6	7.5
3	Information technology	7.0	677	2.5	6.8	7.1
5	Banking and finance	6.9	1409	2.7	6.8	7.0
5	Forestry	6.9	91	2.4	6.5	7.3
7	Consumer services	6.8	860	2.5	6.7	6.9
8	Telecommunications	6.7	529	2.6	6.5	6.9
8	Transportation and storage	6.7	717	2.6	6.5	6.9
10	Arms, defence and military	6.6	102	2.9	6.1	7.1
10	Fisheries	6.6	82	3.0	6.0	7.1
12	Heavy manufacturing	6.5	647	2.6	6.4	6.7
13	Pharmaceutical and healthcare	6.4	391	2.7	6.2	6.6
13	Power generation and transmission	6.4	303	2.8	6.1	6.6
15	Mining	6.3	154	2.7	5.9	6.6
16	Oil and gas	6.2	328	2.8	6.0	6.5
17	Real estate, property, legal and business services	6.1	674	2.8	5.9	6.3
17	Utilities	6.1	400	2.9	5.9	6.3
19	Public works contracts and construction	5.3	576	2.7	5.1	5.5
	Average	6.6				

Source: Transparency International, BPI 2011

Highlights of supply side corruption have been rekindled with the recent charges brought against Montreal based engineering firm SNC Lavalin for corruption and fraud. The Globe and Mail reports that, "the RCMP last month laid rare corporate fraud and corruption charges against SNC-Lavalin Group, its unit SNC-Lavalin Construction Inc., as well as subsidiary SNC-Lavalin International Inc., as part of the force's continuing investigation into the company's business dealings in Libya." (Van Praet, 2015) In a separate article, the Globe and Mail reported that "there is one count of corruption related to at least $47.7-million in alleged bribes to Libyan public or other officials. A second count is for fraud of about $130-million related to construction projects in Libya, including the Great Man Made River Project." (Marotte, 2015) This is a significant blow for Canadian companies, drawing attention to the heightened importance for risk

mitigation in these areas of unstable political environments, as well as the criminal and business implications for MNE's home based operations.

To summarize on corruption and the implications for mining MNE's, firms must pay particular attention to the ideology regarding foreign transactions within host-countries, both at the public and private, and firm and individual level, as well as evaluating the approach by competitors in a similar industry when operating in these same countries.

Risk #14: **Degree to which host-country falls on the spectrum of public sector corruption**

Risk #15: **Probability of corrupt practices in small business operations and local contracts**

Risk #16: **Propensity of competitors to uphold ethical business practices in similar operating regions**

(ii) Political Violence & Global Security

It is impossible to speak about country analysis without considering the degree of security risk MNE's face with operating in some of the most politically unstable and globally insecure regions in the world. Media reports are wrath with risks associated to personal safety and security, and mining firm MNE's must invest a significant amount of resources towards personal and environmental safety and protection. In the wake of rising global challenges in the Middle East, civil and organized terrorists groups in Africa, and security concerns over cartel and drug trades in Mexico and South America, one must consider the value to be placed on an individual's life, and the cost/benefit of having to mitigate risks associated with local lawlessness and global security threat. We need not look too far

beyond news media to gain an understanding of the serious threat to individual safety in some of the world's most popular mining regions. A few excerpts of recent reports are listed below:

Kidnapped Goldcorp Miners found dead in Mexico (March 16, 2015)

Info mine reports that "Three of the four Goldcorp (TSX:G), (NYSE:GG) employees believed to have been abducted last week have been found dead in southwestern Mexico's Guerrero state, the same area where 43 students were kidnapped and massacred last year." The fourth miner kidnapped was released. (Jasamie, 2015)

Gunmen Kidnap 12 near South Mexico gold mine (February 8, 2015)

BBC reports on the kidnapping of employees at Torex Gold (TSX:TXG) where armed men in Mexico kidnapped at least 12 people in the southern state of Guerrero. This is the same area where 43 students were abducted and murdered last year by the local gang, Guerrors Unidos. (BBC.com, 2015)

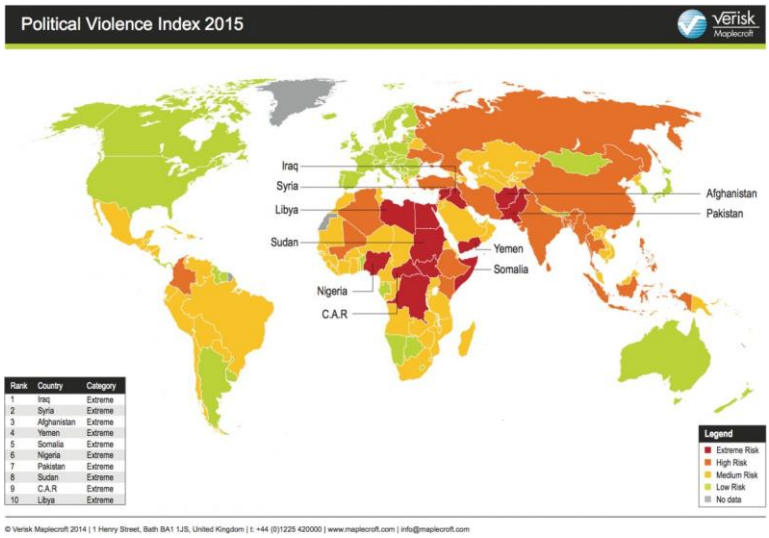
Kidnapping of Canadian highlights risk of mining in Columbia (August 28, 2013)

CBC reports on the kidnapping of mining executive, Gernot Woeber, VP of Exploration for Canadian firm Braevel mines in Columbia, and the resulting decision of Braevel to abandon the mine over security issues. In the report, CBC draws attention to the fine line between risk and reward for miners seeking to do business in Columbia due to the opposition of foreign exploitation of resources.

While these incidences focus on intra-country groups, larger forms of terrorism across the globe have also been experienced and pose a significant threat to mining and extractive resource industry security. At the 2014 mining security and crisis management forum, held in Capetown, Africa, attention has been brought to the rising concerns over terrorism and political instablity in the Africa and the Middle East, with specific reference being made to the 2013 kidnappings in Algeria. The forum reported that "Terrorism and the potential impact on extractive industries across Africa is a growing concern. In 2013 the mining world was shocked by the deadly terrorist attack on the Areva mine in Niger, which was carried out by the Signed in Blood Batallion (AQIM). It subsequently emerged that the assailants had meticulously studied their target and likely received inside help. Managing the flow of information and being highly alert to the insider threat is imperative for the security of mines; how to do this effectively will be an issue addressed at the Forum in November. In addition to physical security threats, there has also been a rise in cyber threats targeting the industry." (Mining Security Forum, 2014)

In order to get a sense of the level of risk to mining in geographic resource-rich regions we refer to the world map published by Business Insider with respect to current state assessments on the risk of political violence in respective regions.

Diagram 9 – Political Violence Index 2015



Source: Business Insider, 2014

Business Insider, 2014, reports that "Over the course of the next year, global stability is likely to continue to remain shaky as the world grapples with four major challenges: An increased threat from militant Islamism, aggressive Russian foreign policy, rampant global corruption, and elections in restive countries such as Myanmar and Nigeria". (Business Insider, 2014)

Ultimately, the issues for mining firm MNE's is to proactively study and determine whether the political and security threat of prospective host-countries can be mitigated in such a way that ensures the safety of its workers, its establishment, its reputation and its financial stability. Cost to secure perimeters, supply chain and mobility infrastructure can easily run out of control when security risks are not fully identified at the onset of a project, and most importantly, cost associated with human life that are both devastating and irreplaceable.

Risk #17: **Geographical operating location, and relative threat to personal, civil and project safety**

Risk #18: **Geographical operating location and degree of ability and cost to establish and/or maintain security infrastructure**

Chapter 4: Methodology

a. Risk Categories and Elements

This paper primarily focuses on evaluating non-financial risks, the degree of due diligence and planning around these risks, and the possible financial implications of these risks for mining project viability. Resource dependency theory is considered throughout the identification of risk elements, with reference to the relationship between environmental dependencies and uncertainties influencing firm strategy. (Hillman, et al., 2009)

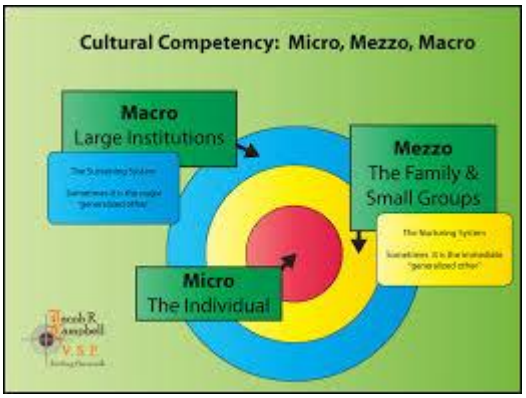
Risk categories are separated into financial and non-financial factors and a generally accepted list of financial risks are presented to further the reader's understanding of how non-financial risk might be translated into financial impact to the project.

A list of non-financial risk elements are devised through literature review, and absence of literature or research in areas thought to be critical to project success. The focus on relevant literature regarding non-financial risk categories was framed using professional publications, primarily top ten risks provided by E&Y (2015) and Deloitte (2015). Literature review relied on both professional and academic forms of relevant research in an effort to take a holistic and evidence based approach to understanding risk from an operating perspective.

b. Risk Diagram

We use the risk categories and elements identified through literature review to devise a risk diagram adopted from the socio-technical systems of organization development. The socio-technical systems approach identifies three levels of organization work design that recognizes the relationship between people and technology in workplaces, or the interaction between environments and human behaviour. (Ropohl, 2014) These three levels are demonstrated by the following general diagram:

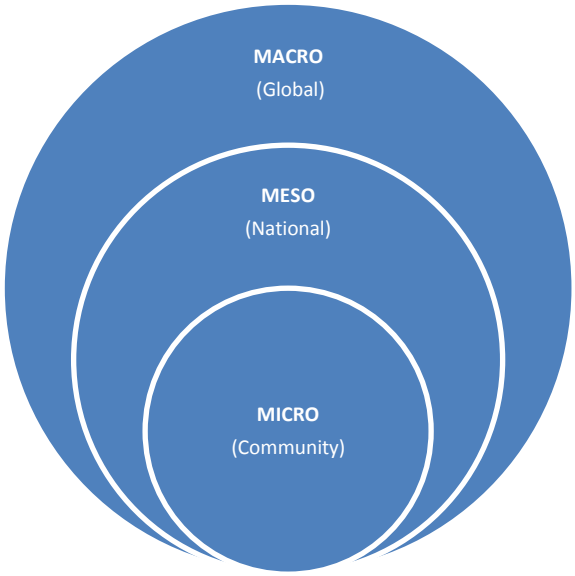
Diagram 10 - Micro, Meso and Macro factors representing Social-Ecological and Technical Interdependence



Source: Eastern State University, 2015

For purposes of our paper, we adopt this theoretical approach regarding resource dependency and environmental influences to mining production, and related MNE risk factors in the following way:

Diagram 11 - Mining MNE Levels of Risk Consideration



In developing our risk diagram, previously identified risk elements will be categorized according to the above Community (Social License), National (Resource-Nationalism) and Global (Country Level) concerns.

c. Case Study Selection

Selection of cases for analysis will be largely arbitrary and subjective. In order to control for validity, project similarities will be identified in terms of company structure (registered on the TSX or TSE, and publicly traded with equal reporting requirements under Canadian law). Both projects will also be compared against country and geographic risk rankings as provided for by Transparency International's CPI, BPI and Business Insider's Political Risk Index to determine relative levels of risk considerations and respective planning requirements. Projects selected for case studies will aim to show

similar geographic risk profiles, in order to demonstrate a similar level of challenge with respect to entry, sustainability and profitability in these regions.

Information collected for presentation of case studies will be entirely sourced through open sources, including company websites, news media and quarterly or annual reports released to the public through the System for Electronic Document Analysis and Retrieval (SEDAR).

d. Analysis

Comparative case analysis will be presented in terms of similarities and dissimilarities between company and project approach with respect to investment and due diligence towards non-financial risk elements. Analysis will take place referencing the Risk Diagram adopted above in respect of risk elements for country level, national level and community level concerns.

e. Findings, Recommendations and Limitations

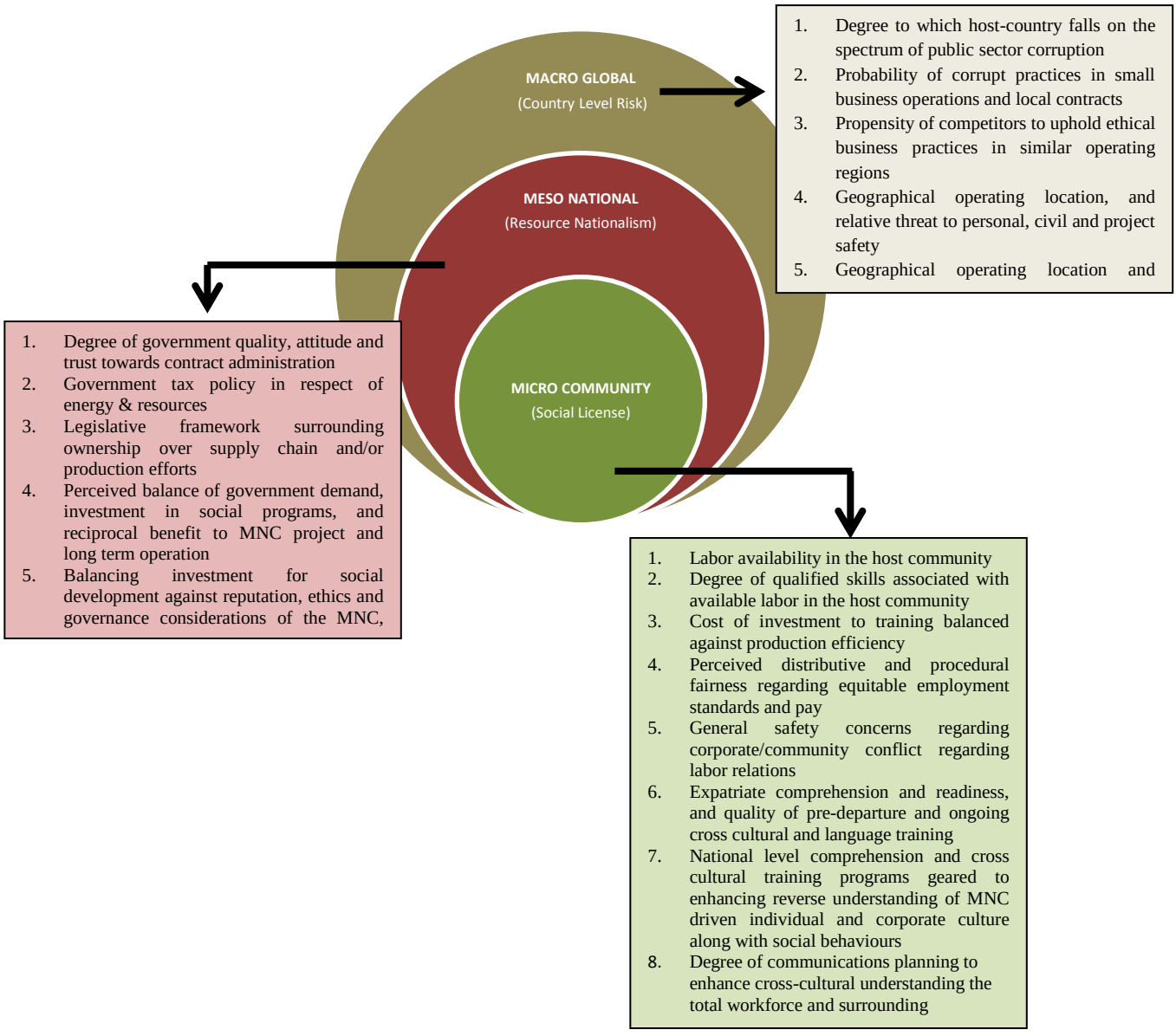
Categorization of implications, where possible, will be presented in a table with corresponding colour codes of risk (red for high, yellow for medium, and green for low), and where possible, relevant financial information will be presented with respect to cost, quality and resource implications to the project regarding due diligence investment on individual risk elements.

Recommendations for future research and limitations of the research undertaken for this paper will be discussed in a final section on practical implications for management.

Chapter 5: Risk Diagram for Non-Financial Risk Elements

We present the following risk diagram and corresponding elements to guide our analysis of case study materials.

Diagram 12 – Non-Financial Risk Factor Framework



Chapter 6: Case Study #1: Barrick Gold Corporation

Organization: Barrick Gold Corporation
Brookfield Place
TD Canada Trust Tower
161 Bay Street, Suite 3700
Toronto, ON M5J2S1
(Tel) 1.416.861.9911
(Web) www.barrick.com

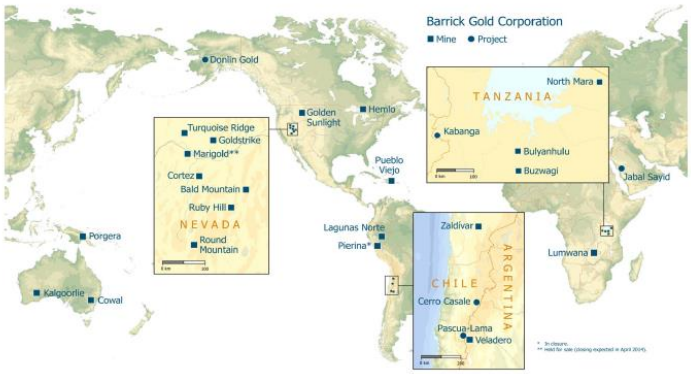
Project: Pascua Lama

Location: Chile/Argentina, South America

Company Profile:

Barrick Gold Corporation (Barrick) is a Canadian (Toronto) based international gold mining company operating 14 mines and advanced exploration and development projects across 5 continents. Country locations include Canada, the US, the Dominican Republic, Australia, Papua New Guinea, Peru, Chile, Argentina, Zambia, Saudi Arabia, and Tanzania. (Marketline, 2014) The below map, issued in the 2013 Annual Information Form, released on March 31, 2014, provides a visual representation of Barrick's operations and projects globally:

Diagram 13 - Barrick Gold Project Map



Source: Barrick Gold, AIF, March 2014

In addition to the above noted projects and corporate holdings, Barrick also holds a 63.9% equity interest in Acacia Mining plc ("Acacia"), formerly African Barrick Gold, plc. Barrick promotes its vision to be "the world's best gold mining company by operating in a safe, profitable and responsible manner" and articulates the following values:

- Integrity
- Respect and open communication
- Responsibility and accountability
- Teamwork
- Creating shareholder value

Source: Barrick Gold, Vision and Values, Retrieved 2015

Barrick's reports on its strategy to be anchored in the following five pillars:

- An entrepreneurial structure;
- Our balance sheet and financial flexibility;
- Maximizing free cash flow;
- A focus on our best assets and regions; and
- Profitable growth in the Americas.
-

Source: Barrick Gold, Annual Report, 2014, Retrieved 2015

Barrick trades on the Toronto Stock Exchange (ABX:TSX) and the New York Stock Exchange (ABX:NYSE), as well as global stock index centers in London, the Swiss Stock Exchanges, and the Euronext-Paris. (Newenham-Kahindi, 2011). It entered the global mining business in 1983 with 3 key areas of focus:

- Consistent investment in exploration and development;
- A district development approach, aimed at optimizing reserves on highly prospective gold belts; and,
- Highly developed systems of disciplined acquisitions and mergers with other potential business companies (Newenham-Kahindi, 2011)

Barrick employs approximately 25,000 people globally, including approximately 250 at the head office in Toronto, Ontario, Canada. The organization has undergone a significant amount of restructuring in recent years, shifting technologies support positions from the Toronto-based head office, to Nevada, USA, where it has a strong focus on prospective developments, leading to a number of resulting layoffs in Canada. This included management restructuring and over 100 employee reductions at the head office. Additional reductions were undertaken stemming from project closures and/or stoppages due to the falling price of gold in recent years. (Younglai, 2015) Barrick reports on the reason behind its reorganization and rightsizing in its 2014 annual report, released on March 27, 2015 where they state that "we have cut our head office by close to half and eliminated all management layers between Toronto and the mines. What remains are shared service centers in the field that provide support directly to our mines and projects, with costs charged directly to the relevant operation." By all accounts, Barrick is committed to restoring its founding culture based on the ideology of "partners as owners", while maximizing return on shareholder investment through disciplined focus on reducing capital expenditures.

The annual report describes the company's forward-looking strategy in the following areas:

- Restoring a strong balance sheet through reduction of capital expenditures (targeted at $3 billion for 2015), through the sale of non-core assets, and maximizing joint-venture and strategic partnerships
- Renewed focus on talent, and in particular, executive leadership

- Extension of their partnership model to include a new performance scorecard linked to executive compensation

- Broader shift towards organizational partnership culture, including a stronger commitment to collaboration with host communities and governments that promote shared accountability and responsibility

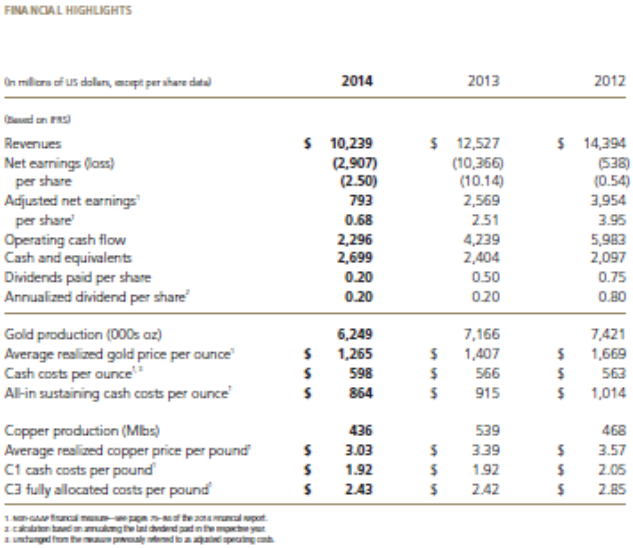
- Focus on growth prospects in Nevada, USA and the Andes, South America (primarily resuming production at Pascua-Lama after the project was suspended in 2013)

Source: Barrick Gold, Annual Report, 2014, Retrieved 2015

Financial Performance:

Barrick is reported to be carrying a US$13billion debt due to "cost overruns at a key project in the Andes" among other poor investment and acquisition decisions. (Younglai, 2015). The 2014 annual report provides the following financial highlights that indicate a steady overall decline in revenue, decline in net earnings per share, decline in revenues, a significant drop in operating cash flow. While this may in some part be attributed to the falling price of gold (price per ounce), Barrick's capital expenditures widely increased due to considerable challenges associated with the Pascua Lama project in the Andes, including a multi-million dollar litigation process filed by the communities over water contamination.

Diagram 14 – Barrick Gold 2014 FY Financial Report



FINANCIAL HIGHLIGHTS

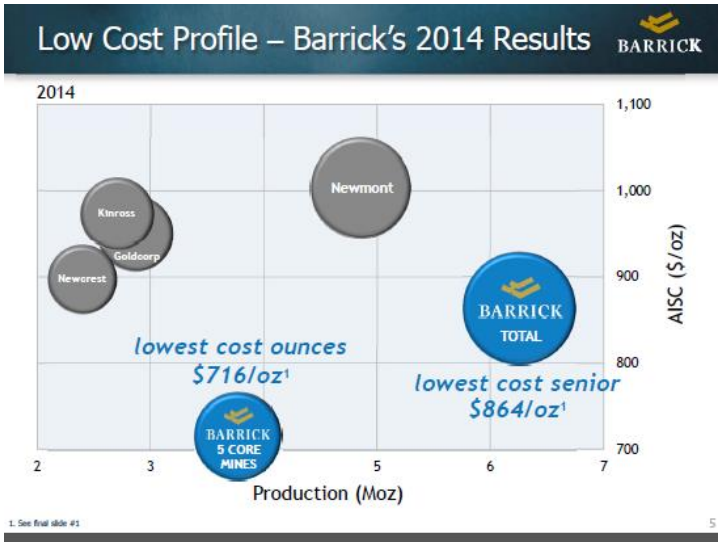
(In millions of US dollars, except per share data)	2014	2013	2012
(Based on IFRS)			
Revenues	$ 10,239	$ 12,527	$ 14,394
Net earnings (loss)	(2,907)	(10,366)	(538)
per share	(2.50)	(10.14)	(0.54)
Adjusted net earnings[1]	793	2,569	3,954
per share[1]	0.68	2.51	3.95
Operating cash flow	2,296	4,239	5,983
Cash and equivalents	2,699	2,404	2,097
Dividends paid per share	0.20	0.50	0.75
Annualized dividend per share[2]	0.20	0.20	0.80
Gold production (000s oz)	6,249	7,166	7,421
Average realized gold price per ounce[1]	$ 1,265	$ 1,407	$ 1,669
Cash costs per ounce[1,3]	$ 598	$ 566	$ 563
All-in sustaining cash costs per ounce[1]	$ 864	$ 915	$ 1,014
Copper production (Mlbs)	436	539	468
Average realized copper price per pound[1]	$ 3.03	$ 3.39	$ 3.57
C1 cash costs per pound[1]	$ 1.92	$ 1.92	$ 2.05
C3 fully allocated costs per pound[1]	$ 2.43	$ 2.42	$ 2.85

1. non-GAAP financial measure—see pages 70–80 of the 2014 financial report.
2. calculation based on annualizing the last dividend paid in the respective year.
3. unchanged from the measure previously referred to as adjusted operating costs.

Source: Barrick Gold, Annual Report, 2014, Retrieved 2015

Despite the range of debt, Barrick attests to its financial advantage being strong liquidity (ending 2014 with $2.7billion of cash and equivalents, along with another $4billion available on its undrawn credit facility, coupled with a modest debt repayment schedule (less than $1billion due through 2017). (Barrick Gold, Annual Report, 2015). They provide a competitive financial cost comparison to other major mining firms in their 2015 corporate presentation, which demonstrates their market leadership in production over their competitors:

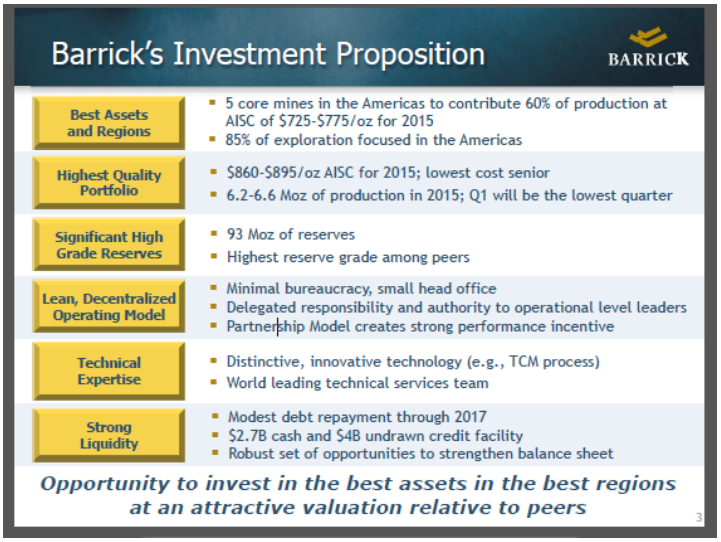
Diagram 15 – Barrick Gold Cost Profile



Source: Barrick Gold, Corporate Presentation, Retrieved 2015

Barrick states its primary 2015 outlook on restoring a strong balance sheet and advancing attractive opportunities in Nevada. (Barrick Gold, 2015), promotes itself for its commitment to "disciplined, profitable production", and highlights its investment proposition in its spring 2015 corporate presentation, as follows:

Diagram 16 – Barrick Gold Investment Proposition



Source: Barrick Gold, Corporate Presentation, Retrieved 2015

Risk Factors

The following represents an incomplete list of Barrick's risk factors, as identified in its 2014 Annual Information Form. Additional risks have also been listed, pertaining to specific company holdings or policies that have not been addressed below. The risks listed represent some form of external or environmental influence to operations:

- Metal price volatility
- Foreign investment and operations, consisting of currency fluctuations, permitting delays and governmental restrictions, import/export restrictions and restrictions on the repatriation of earnings, as well as social issues, namely, infectious diseases
- Environmental health and safety regulations, including costs of development, production, litigation and regulatory actions relating to environmental infringement
- Permitting delays due to social and economic issues in the surrounding communities affecting the environment, and human health and safety
- Replacement of depleted resources
- Economic feasibility of projects

- Liquidity and level of indebtedness (limited by the need to use cashflow to repay principal and pay interest on the $13.1 billion debt)
- Global financial conditions
- Inflation
- Accuracy of estimated mineral reserves and resources
- Price volatility
- Mining risks and other insurance risks, including labour force disruptions and civil strife, weather conditions, equipment availability and environmental and industrial accidents
- Production and cost estimates
- Security and human rights, including criminal activities such as trespass, illegal mining, sabotage, theft and vandalism resulting in the suspension of operations
- Community relations and license to operate, fuelled by opposing NGO's, community dissonance and adverse publicity affecting company reputation and perceived effect of mining activities on surrounding communities
- Government regulations and changes in legislation
- Anti-bribery laws, prohibiting improper/facilitation payments
- Interest rates
- Acquisitions and integration
- Employee relations
- Availability of skilled labour

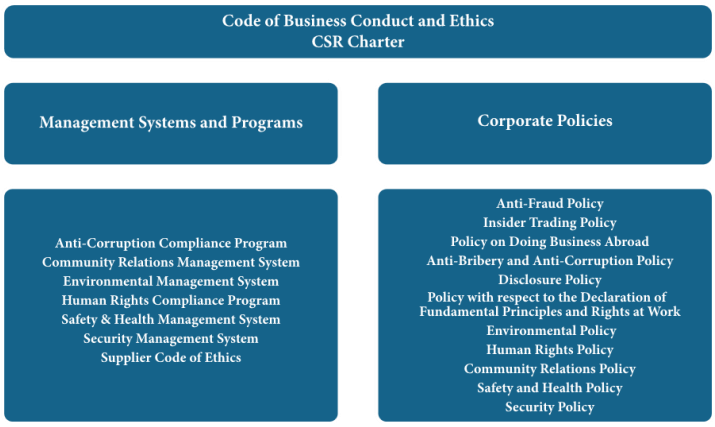
Source: Barrick Gold, Annual Report, 2014

Corporate Social Responsibility:

Barrick issues its responsibility report, which depicts the company's attitude and approach towards socially responsible business practices in the communities where it operates. Here they advocate their "priority on developing long-term and mutually-

beneficial relationships with host governments and communities, while working to minimize and mitigate the social and environmental impacts of our activities". (Barrick Gold, Responsibility Report, retrieved 2015) The organization makes the following policies and management systems publicly available in their organization and governance breakdown:

Diagram 17 – Barrick Gold Code of Business Conduct



Source: Barrick Gold, Responsibility Report, Retrieved 2015

Barrick has an external CSR advisory board, which provides an opportunity for the Board to interact with the senior leadership team to provide insight on emerging CSR trends and issues that could affect their business, as well as feedback on their corporate responsibility performance. Collectively, the policies and processes, under continuous review, address all spectrums of non-financial risk, with a particular focus on corruption compliance, security threats, and social licensing considerations. Barrick is a member of the United Nations Global Compact, a voluntary corporate responsibility initiative promoting strategic policy for businesses that are "committed to aligning their operations

and strategies with ten universally accepted principles, in the areas of human rights, labour, environment and anti-corruption." (UN Global Compact, retrieved 2015) [Also see Appendix B: UN Global Compact, Ten Guiding Principles, and Appendix C: ICMM Ten Sustainable Development Principles]

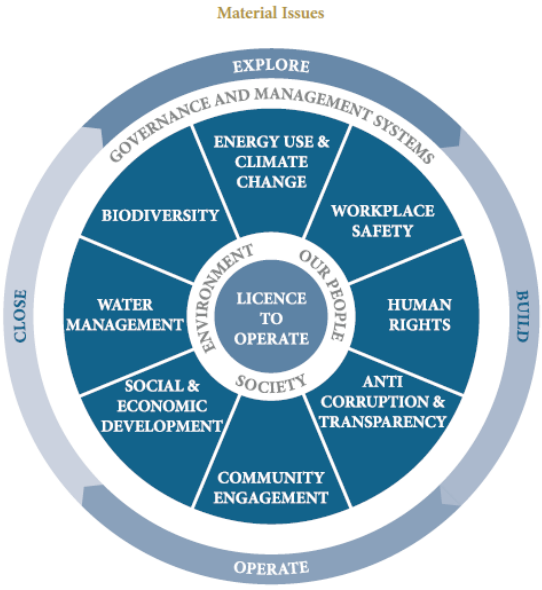
Barrick's CSR advisory board issues the annual global reporting initiative on socially responsible practices and performance. The most recent issue was released in 2013 and reported on combined requirements set forth through the UN Global Compact Communication and the International Council for Mining and Metals Sustainable Development Principles, with the following key highlights:

- 6th year listed on the Dow Jones Sustainable Development Index
- One of the top 100 companies, as listed on NASDAQ Global Sustainability Index
- Listed on the Corporate Knights Global 100 as one of the most sustainable corporations in the world
- Presents the Suppliers Code of Ethics, extending human rights obligations to its supply chain
- 3rd party completion of human rights assessments at 8 of Barrick's global sites
- Adoption of TRACE International's Trace Registered Access Code (TRAC), a technology enabled compliance tool geared towards anti-bribery standard setting
- Advancement of the Community Relations Management (CMS) system, a set of programs to provide sites with systems, tools and training that addresses social risks and community engagement
- Variety of international partnerships and alliances for the promotion of human rights and anti-corruption

Source: Barrick Gold, 2013 Performance Update

The report also puts forward the below framework for analysis and reporting of material issues:

Diagram 18 – Barrick Gold, Material Issues Framework



Source: Barrick Gold, 2013 Performance Update

Barrick appears to promote a comprehensive platform for the identification and mitigation of non-financial risks, with a heavy focus on community and stakeholder relations, and the global efforts to promoting anti-corruption, bribery and human rights initiatives.

Examples of Barrick's approach and response to systemic social issues in a host country are researched by Newenham-Kahindi, who provides an analysis of Barrick's project operation in Tanzania. The author evaluates the company's response to social problems in dealing with the local challenges of poverty, unemployment, and environmental concerns when entering new markets in a developing country. Generally speaking, he refers to new markets as "being characterized by complex institutional conditions,

corruption, weak legal and judicial systems, heterogeneous cultures, and a growing pressure for social stake-holding in local indigenous/communities". (Newenham-Kahindi, 2011). He reports on interviews conducted with Barrick executives regarding CSR initiatives and their commitment to CSR and community engagement, quoting that "responding to social and environmental issues in the communities where our business is based is no longer an option … we need a social framework that operates within the local communities … however, we have some challenges with strategic mechanisms (such as) how and with whom should we engage seriously in a committed manner in the communities and for how long?" The executive interview goes on to report that "dealing with the social problems of poverty, environmental degradation and social injustices that face this area exceeds the scope of our company. We need a responsible partnership with the government and local communities." The author reports on Barrick's efforts to bridge social gaps by establishing a locally based mining institution for training local artisanal miners and students, but that these efforts were not fully accepted by community members due to poor corporate-community communication, and lack of distributive fairness in compensation and government policy. In his assessment, he concludes that "in spite of its efforts to address the social and ecological issues, Barrick continues to face a complex and ambiguous stakeholder problem from the host nation and from the local communities." He cites the company's effort to "establishing partnerships with local stakeholders and then using those partnerships to tackle various social problems" but is faces challenges with translating global initiative into local context. While Barrick was considered to be one of the more "responsive" global corporations in the mining industry to sustainable social welfare programs, its integrated business operations are governed

from its head office in Toronto, Canada, and displayed a disconnect with its host country office in Tanzania, also influenced by the Tanzanian government's lack of strategy to dealing with social issues such as chronic sewage, crimes, poverty, unemployment and environmental problems. (Newenham-Kahindi, 2011).

Marketline SWOT Analysis:

Marketline provides the following SWOT analysis of Barrick, relying on information published at the company's December 2013 year end:

Table 5 - Marketline SWOT Analysis: Barrick Gold Corporation

Strengths	**Weaknesses**
• Strong market position • Wide geographic presence	• Huge impairment changes • Litigations and claims
Opportunities	**Threats**
• Rising demand for gold • Divestiture of non-core assets	• Strong competition • Risk from foreign investments and operations • Environmental laws and regulations

Source: Marketline, 2014

Marketline reports that the company's global operations give it "competitive advantage" and also indicate that the company has a "wider scope in increasing its revenues by utilizing its global presence", while "reducing exposure to economic conditions or political stability in any one country or region." (Marketline, 2014) Having said that, the

report also indicates huge impairment charges as a weakness, specifically citing "$5.2 billion loss related to carrying value of property, plant and equipment at Pascua-Lama". Total impairment charges for the organization's global operations amounted to $12.6 billion in FY2013, more than double FY2012. Additional challenges or weaknesses include a rising number of litigation claims, such as with its project, Pueblo Viejo, operating in the Dominican Republic, where the community claimed gross human rights violations such as slavery, human trafficking and bribery of government officials.

Marketline reports that Barrick is threatened by strong competition, and in particular, competition for the retention of senior executives and employees, facing loss of its employee base to its biggest sector competitors such as Kinross Gold Corporation, Newmont Mining, BHP Billiton (among others), which will impact Barrick's market share. Additionally, Marketline cites the risk posed from foreign investments and operations, which they summarize as risks "normally associated with any conduct of business in foreign countries", including: political and economic environment, war, terrorism, and civil uprising, legislative and/or regulatory change, permitting, and other similar factors.

Pascua-Lama Project:

Having presented highlights of Barrick's company profile, including geographic and financial position, as well as competitive position and corporate approach to addressing non-financial risk factors, we look to evaluate the company's level of due diligence in the context of the Pascua-Lama project.

Barrick acquired Pascua-Lama, one of the world's largest open pit gold and silver mines with 15.4 million ounces of gold reserves and 674 million ounces of contained silver, and the first bi-national mining project in the world. (Barrick Gold, Operations Report, retrieved 2015) Located on the border of Chile and Argentina in the Fronterra region, the project was expected to boost output at low operating costs. (Forbes.com, 2014) At its onset, Barrick promoted that "The Pascua-Lama project will generate enduring and substantial benefits for all concerned, through a combination of attractive economics, significant production at low cash costs, support by the governments of Chile and Argentina and robust environmental and community programs." (Barrick FAQ's) In its project FAQ fact sheet posted on the company website, Barrick provides the following information:

- Pascua-Lama underwent a rigorous environmental impact assessment (EIA) in Chile and Argentina prior to its approval. The EIA was approved in Chile in 2006, after a 14 month review and associated costs of approximately $15 million.
- The EIA in Argentina underwent 25 months of review, and involved extensive consultation with local communities, farmers and stakeholders, who were actively involved in the review process
- Over 100 professionals of multi-disciplinary backgrounds, as well as 8 international consulting firms, 2 Chilean and 2 Canadian universities were involved in the development of the EIA

- Significant concerns and mitigation strategies were put forward regarding water contamination and impacts to ice-fields and glaciers that led to an agreement for extensive and participative technical and social monitoring by local communities
- Barrick undertook more than 1000 meetings with local community leaders, 100 presentations to community groups, participation in multiple public events and a door-to-door visit program that reached 40% of community homes, as well as issued 15,000 copies of an information newsletter to encourage communications and community engagement

While Barrick intended to begin construction in 2004, unfortunately, Pascua-Lama ran into a considerable number of legal and regulatory issues that forced Barrick to suspend the project in the 4th quarter of 2013. In its 2013 annual report, Barrick recorded $5.1 billion in impairment charges by Q2 2014, and expected cash outflows of $700 million in 2014, with a further $170-190 million in cash outflows projected for 2015 for care and maintenance costs associated with the environmental regulations. Total losses account for approximately $8.5 billion in sunk costs. (Smith, 2014). Smith reports on an address by Barrick CEO Peter Munk following the suspension of Pascua-Lama, where he is quoted as saying "Today, the single most critical factor in growing a mining company is a social consensus – a license to mine." Barrick had halted the Chilean side of the project in the 2nd quarter of 2013, following a court injunction filed by indigenous communities over environmental concerns pertaining to water contamination stemming from the project's construction activities. (Forbes.com, September 2014) Despite Barrick's efforts to providing health and education projects, housing construction for victims of the 2010

earthquake, and sponsorship of a 60$ million fund to the government for water improvements over the life of the mine, Barrick is thought to have made the mistake of believing that support by the government would also garner support by the local community. (Smith, 2014). While the Chilean court suspended the project in April 2013 pending environmental assessment over claims brought about in the lawsuit, it later declared in March 2015 that no environmental damage to glaciers had occurred. (Canadian Mining Journal, March 2015) The Chilean lawyer leading the lawsuit argues that despite its strong commitment to Pascua-Lama, and "installing waste treatment infrastructure, long-haul roads, a cultural center, internet access, and creating scholarships for Valle de Huesco students, Barrick and [the project] are thought to be equated with crime, prostitution and migrant worker inflow, further stressing social licensing concerns. (Kirschke, 2014) A highlight of challenges facing the project, with consequent cost, schedule or quality overruns where available, are presented below:

1. Environmental and Regulatory Permits - Barrick intended to begin construction in 2004 however, challenges obtaining authority and permits from the host country governments, and host-country conflict between Chile and Argentina over taxation issues, delayed construction start times to 2009. (Forbes.com, September 2015)

2. Poverty - Communities with high rates of unemployment in Chile and Argentina who wholly rely on water-runoff from the Andes for their water supply, strongly opposed the mine and the government's lack of concern for community welfare, filing an

injunction and law-suit regarding environmental damage to the water from project construction efforts. (Smith, 2014)

3. Litigation - A Chilean Court ordered the project to be suspended while environmental issues were being addressed in response to the law-suit, in April 2013. (Smith, 2014)

4. Litigation - Chile's Tribunal Ambiental (Environmental Court) ruled on March 3, 2014 regarding sanctions mposed on Barrick's Pascua-Lama project over environmental violations… that up to 22 violations should have been considered individually and fines applied on an individual basis. The tribunal annulled the original fine and ordered a re-evaluation of sanctions. (Anonymous., 2015)

5. General Crime - Crime, prostitution and migrant worker inflow affiliated with Pascua-Lama (Kirschke, 2014) In this sense, the project attitude or culture of workers can be seen to have negatively impacted or advanced negative social behaviours in the local communities, through inciting prostitution, and providing opportunity for regional based crime.

Chapter 7: Case Study #2: Go Gold Resources Inc.

Organization: GoGold Resources Inc.
Suite 1301, 2000 Barrington Street
Cogswell Tower
Halifax, NS B3J 3K1
(Tel) 902.482.1998
www.gogoldresources.com

Project: Parral Tailings Project

Location: Chihuaha, Mexico

Company Profile

GoGold Resources Inc. (GoGold) is a junior mining firm based out of Halifax, Nova Scotia, Canada. According to the company website, GoGold is a well-financed Canadian-based silver and gold producer with properties in Mexico. The company operates four projects, the Parral tailings project in Chihauhua, Mexico, the Santa Gertrudis project in Sonara, Mexico, the San Diego project in Durango, Mexico, and the Rambler project in Newfoundland, Canada. In addition, the company holds rights to the Esmerelda Tailings Project, also in the Parral district of Chihuahua, Mexico, which is currently undergoing feasibility studies. GoGold's rights to the Esmerelda tailings project are defined by its proximity and association to the existing Parral tailings project currently being processed. As reported in the technical report and resource estimate released on April 2, 2015, The Esmeralda project is subject to monthly lease payments of $15,000 and net profit interest at 12% after deduction of operating cost and capital depreciation. (Puritch, 2015).

Diagram 19 - GoGold Project Location Map

Source: GoGold Resources Fact Sheet (2015)

The president and CEO of GoGold is a professional geologist and along with his executive team, have raised hundreds of millions of dollars in capital markets to bring mines into production. (www.gogoldresources.com) GoGold trades on the Toronto stock exchange (TSX:GGD) with stocks currently valued at CAD$1.50, and has approximately 162,000,000 shares outstanding. The company is classified as a junior miner, and was listed on the TSX Venture Exchange (TSXV) under the symbol GGD.P. in 2010. GoGold recently completed their acquisition of Aminas resources limited, (of which GoGold now owns and controls 100% of the issued and outstanding shares). (Bloomberg Business, 2015) In their December 2014 annual information form (AIF) filed on Sedar, GoGold identifies its subsidiaries to include Mexico Gold Holdings Corporation Inc., Absolute Gold Holdings Inc., both residing in Nova Scotia, Canada, and Animus Resources Limited, residing in British Columbia, Canada, and for all of which GoGold owns 100% ownership. The AIF describes GoGold as a Canadian-based junior mining company engaged in the production, exploration, and development of mineral properties currently, holding three material properties in Mexico, with the remainder of

properties under exploration and development stages. (Go Gold, AIF, 2014) The corporation promotes its production strengths through the following strategies:

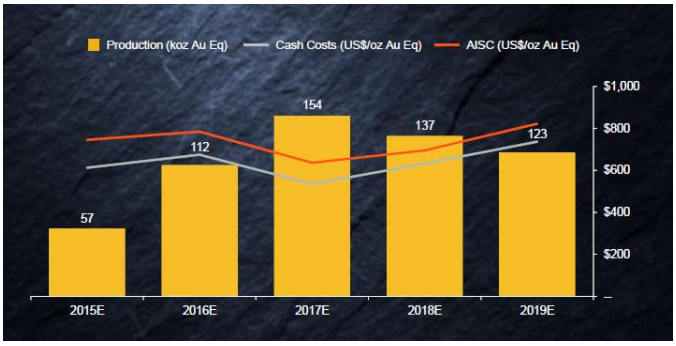
- Low entry costs
- Established land agreements in place for mining exploration,
- Building of new plants on existing foundations,
- Water already established
- Existing camp administration facilities

(Source: GoGold Resources, Corporate Presentation (2015)

Financial Performance

GoGold provides the below operating profile in their 2015 Corporate Presentation, which highlights "significant near term production growth with an attractive cost profile".

Diagram 20 - GoGold Operating Performance



Source: GoGold Resources, Corporate Presentation (2015)

The Company positions itself financially to be one of the lowest cost junior mining producers, which renders it attractive from an investment standpoint. They present a cash cost profile in the 2015 Corporate Report which provides a highlight comparison of cash

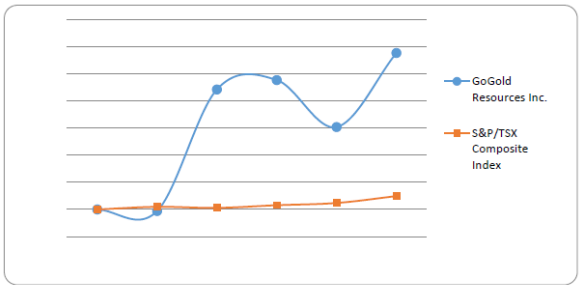
costs among GoGold's junior competitors, demonstrating their competitive position regarding low cost production

Diagram 21 – GoGold Cash Costs Comparisons

(Source: GoGold Resources, Corporate Presentation (2015)

Go Gold presents the total cumulative shareholder return on an investment of $100 of common shares against the total cumulative return of the S&P/TSX between 2010 and 2014. This demonstrates strong company performance and aligns with the organizations position as an attractive investment opportunity.

Diagram 22 - TSX:GGD Shareholder Returns



	February 12, 2010	September 30, 2010	September 30, 2011	September 30, 2012	September 30, 2013	September 30, 2014
GoGold Resources Inc.	$100.00	$94.23	$542.31	$576.92	$403.85	$676.92
S&P/TSX Composite Index	$100.00	$109.78	$105.88	$115.58	$123.82	$149.05

Source: Management Information Circular (Feb 2015)

According to recent reports by the company, and release of the Technical Report on the Esmerelda Tailings Project, GoGold is most strongly positioned to continue operating at a low production cost given their model of skimming from existing, historical tailings. This puts them at a financial advantage and strong competitive position at a time when commodity prices have been relatively unstable, and their competitors are struggling to control CAPEX budgeting and operational efficiencies.

Risks

Go gold speaks to risk management as a fundamental concern for the board of directors, which includes the review and approval of the corporations risk management and mitigation policies. These policies are:

- Review and assessing policies, controls and procedures
- Ensuring the integrity and functioning of the corporation's disclosure
- Monitoring internal controls regarding management information system and risk management activities;
- Review and assessing the corporations risk management policy and processes to identify, assess and mitigate strategic, operational and emerging risks to the corporation
- Review strategic risks … and provide advice on the effective mitigation of those risks

Source: GoGold Resources, Corporate Governance

GoGold identifies itself as a mineral exploration and developing-stage company with no track record of production. Where it has only recently become a producing company, a number of related risks and uncertainties may occur. Risks are most specifically addressed in their Annual Information Form, filed on Sedar in December, 2014. Highlights of the financial risks are listed in the AIF, as follows:

- Early-stage need for additional funds
- Negative operative cash flow
- Commodity price fluctuations
- Credit counterparty risk related to funding received for and capital investments
- Foreign currency risk.

Economic dependence refers to GoGold's dependence on the Orion's Off-Take Agreement, whereby GoGold is contractually obligated to sell back output to the financier at a rate of 1.5 to 3% less than the price of gold and silver on the open market. (AIF, 2014)

Additional nonfinancial risks are listed as:

- Substantial environmental and reclamation costs
- Community relations and license to operate
- Political and country risk
- Local groups and civil disobedience
- Violence and theft in Mexico.

Each of these risks is provided a more detailed description. In particular, GoGold identifies political and country risk for its potential factors, including royalty and tax increases or claims by governmental bodies, expropriation or nationalization, foreign exchange controls, import and export regulations, cancellation or renegotiation of contracts and environmental and permit regulations. GoGold states that it currently does not have any political risk insurance coverage against political and country risk. (GoGold, AIF, 2014)

Additionally, they discuss in the AIF the role of the Mexican Ejido, a local group that presides over the communal ownership of land, which is recognized by federal laws in Mexico. The Ejido controls accessibility rights to communal property, and GoGold recognizes that their existing agreements with the Ejido's have an impact on all of their properties in Mexico, and that some of these agreements may be subject to renegotiation which provides a risk of uncertainty to future operating viability. Finally, considerable increase in violence and theft associated with drug cartels in various Mexican regions, and surrounding areas where GoGold projects and properties are located are identified for their possible effect on financial performance of the company. Other mentioned risks include:

Skills availability - Due to its required specialist skills and knowledge in areas including geology and drilling, GoGold refers to possible difficulty competing for qualified resources due to the widespread availability of project choices globally, combined with a shrinking skilled labour force.

Procurement and supply chain - In particular GoGold reports that increased mineral exploration activity has caused difficulty with procurement of goods and services, including raw materials which may result in delays or increased costs in connection with undertaking exploration and development.

Environmental regulations are listed as a risk, where the company is subject to environmental regulations including environmental baseline studies and assessments which could delay operations. While GoGold received necessary environmental impact approvals in order to proceed with the Parral project, environmental precautions are required during construction and operation which include a requirement for reclamation and rehabilitation of the project when processing is complete. (AIF, 2015)

Corporate Social Responsibility

While GoGold does not currently have a published position or policy on corporate social responsibility, the company publishes its code of business conduct and ethics. The code of conduct "embodies the commitment of GoGold and its subsidiaries to conduct business in accordance with all applicable laws, rules and regulations and high ethical standards". The code speaks to compliance with the following:

- Laws, rules, and regulations
- Conflicts of interest
- Employment and outside employment
- Outside directorships, business interests and related party transactions

- Confidentiality, non-disclosure and whistleblowing policies
- Corporate opportunities

Additionally, CSR perspectives may be found in the company's position with respect to subsection 7 and 8 of its code of conduct and ethics, which refers to gifts, favors entertainment and payments received and/or given by employees. (Sedar.com:GoGold Resources) In particular, section 8 states that "gifts, favors, and entertainment may be provided only if the following conditions are met:

i. They are consistent with accepted business practices, are of sufficiently limited value
ii. They are in a form that could not be construed as a bribe or payoff
iii. They are not in violation of applicable laws and generally accepted ethical standards for public disclosure
iv. The facts will not embarrass Go Gold. *(Source: www.sedar.com/CheckCode.do)*

It is interesting to note that GoGold does not display any reports pertaining to a position on corporate social responsibility, or strategies or activities related to social licensing, community engagement or government relations in any news media, company filing or other publicly available report.

Parral Tailings Project

Our review of GoGold will center on the exploration and development of their launch project, The Parral Tailings gold and silver project located in Chihuahua, Mexico. The project landscape covers 141 hectares north of the city of Parral, and operates on the

model of skimming dry land tailings deposited from historical mine sites formerly operating between the 1600's to 1990. GoGold acquired the project through the acquisition of Absolute Gold Holdings in 2012, and the pre-feasibility study was completed in 2013. The project site is located in the city of Parral, easily accessible on well-maintained highways from the city of Chihuahua, and in order to secure agreements from the city of Parral to mine, GoGold entered into an agreement to issue a rental payment of US$30,000 per month for the land. (GoGold, AIF, 2014)

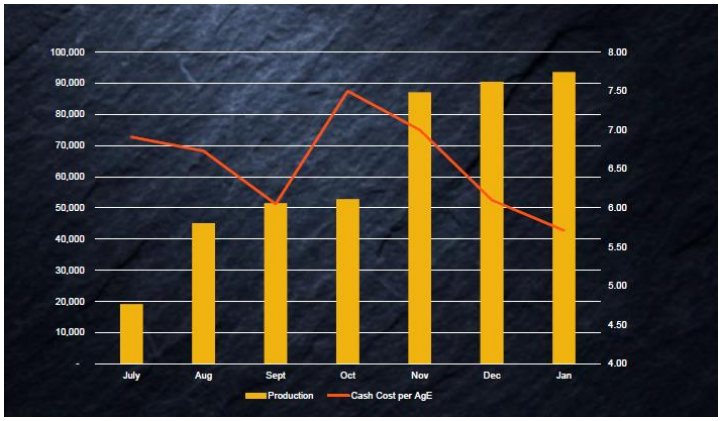
As reported in the 2014 AIF, GoGold poured its first silver bar from the Parral project on June 3, 2014, announcing that it had substantially completed construction of the process plant at a capital expenditure cost of approximately US$32.5 million (ahead of the budgeted cost of us $35 million). Additional reports on initial operating costs show mining and processing cost average of US$6.50 to $US8.50 per tonne of ore, which is much lower than reported in the pre-feasibility study (that predicted a cost of approximately US$12 per ton of ore in the first year of production). (GoGold AIF, 2014)

In order to fund the project GoGold entered into a credit agreement for financing with Orion MF investment holding company 2 (Cayman) limited, where Orion provided US$30million in secured debt, which binds GoGold to sell all of the refined gold and refined silver produced from the Parral project up to 250,000 ounces of refined gold, and 15 million ounces of refined silver, at an estimated 1.5 to 3% reduction from the sale price of gold and silver on the open market (Go Gold, AIF, 2014) According to the technical information on the Parral project, as of September 30, 2014, approximately

108,000 ounces of silver and 174 ounces of gold have been produced. (Go Gold, AIF, 2014).

GoGold presents the following position on the commissioning and production at the Parral Tailings Project in their 2015 corporate presentation:

Diagram 23 - GoGold Parral Project Production Report



Source: GoGold Resources, Corporate Presentation (2015)

The pre-feasibility study was completed by MDM Engineering Limited, and the 280-page report was released on SEDAR on March 4, 2013. The report provides a review of the following social and economic concerns surrounding the project geography, location and operating intention. The following sections are of particular interest to the study of non-financial risks:

4.1 Location

The project is located in the city of Hidalgo del Parral, in the Mexican state of Chihuahua, with municipality total population of 103,519 people. Location is 220 km

from state capital. The area of the project location is entirely owned by the municipality and does not include any private ownership. The town purchased all rights to the tailings material, along with the land, from the private mining company Grupo Mexico S.A.B., who retains mineral rights to mine and deposit. (Dodd., et al., 2013) GoGold would have been required to consider their strategy towards approaching negotiations with town officials regarding leasing and developing the land under the town's ownership, and in particular, may have been concerned about culture of transparency and commitment to negotiated contracts that could financially impact the capital expenditure budget.

4.2 Permitting

GoGold was required to obtain a series of licenses and permitting before they were able to perform any construction or operating activities on the tailing site. Related non-financial risks include opportunity for delay, government intervention, and town resistance to the issuance of permits, most specifically with respect to authorization on environmental impact and risk, authorization for change land-use, concession for domestic water use and permit of wastewater discharge, environmental licensing and registration as a generator of hazardous waste. Additional program requirements included prevention of accidents, import licensing of hazardous substances and land-use permitting. (Dodd, et al., 2013)

5.1 Accessibility, Climate, Local Resources, Infrastructure And Physiography

As was identified in the nonfinancial risk framework, precautions need to be put in place in order to protect against risks to supply chain movement. site accessibility, and climate

affecting access to the site and quality of materials in storage, as well as the availability of local resources, including but not limited to physical supplies, property, plant and equipment, and human resources and skilled labor. These essential factors require in-depth consideration and risk mitigation plans to deter cost, quality, and scheduling impediments to the project. The prefeasibility report issues that the tailings project site can be accessed on a well-maintained, paved highway from the city of Chihuahua, on national roads, with an estimated travel time of 2.5 hours. (Dodd., et al., 2013) Concerns with respect to increasing violence caused by drug cartels in various areas of Mexico would require mitigation strategies to be put in place surrounding security and supply chain movement during periods of ground transportation. The feasibility study reports on the location of the international airport with daily flights to the United States and Mexico City in close proximity to the town of Parral, with an airstrip in Parral that can accommodate small aircraft. Research and publicly available data provides no indication of whether GoGold has elected ground transportation for the 2.5 hour domestic travel from the capital city, or rather, flight options enabled by private aircraft to land closer to the site location. Cost implications would need to be evaluated in order to understand the greater impact between re-routing flights for personnel through US international airports directly into Parral, versus flying into the city of Mexico and driving to the site, and then weighed against probability of security risk for travel.

Resources include commercial businesses and restaurants, as well as skilled personnel, equipment, suppliers and contractors. The feasibility report provides that the town of Parral is historically a mining town, and therefore provides an ample supply of skilled

personnel equipment, suppliers, and contractors that would be sufficient to support the project. In addition, infrastructure is already in place to support generation of electrical power and water, which is both supplied through the town grid. (Dodd, et al. 2013) Ample availability of resources significantly reduces the risk of the company from having to import and train personnel, or inflate capital expenditures for infrastructure to guarantee self-sufficiency. In addition, the decision of GoGold to undertake the project on a ready-made tailings pond with existing infrastructure, has allowed them to ramp up speed to production while saving on heavy constructions costs.

17.8 Risk and Impact Assessment

The feasibility report identifies that GoGold had not established formal mining safety controls at the time the feasibility report was being conducted. As a result they relied on the South African Mine Health And Safety Act (29) of 1996 as a reference for health and safety standards. (Dodd et al., 2013) Health and safety risks are classified under subheadings: Chemical Stress, Physiological Stress, Physical Stress, including lighting and vision, and Heat and Cold Extremes, Vibration, Ventilation, and Radiation, along with biological stress and ergonomic stress regarding hazardous tasks. (Dodd, et al., 2013) There is no research or open-source information that indicates the degree of precautions that GoGold undertook to prevent or mitigate health and safety risks. Presumably, a considerable amount of strategic design would be required to mitigate these risks, especially in light of the potential for differences in operating health and safety standards, attitudes, or regulations between Mexican local subcontractors, and that of the Canadian Federal and Nova Socita provincial occupational health and safety codes.

The feasibility report was based on the assumption that the project implementation would take the form of the main contractor supervising local subcontractors and local labor wherever possible through design and construction of the tailings plant. The report stipulates that the mine infrastructure construction would be entirely carried out by local or Mexican sub-contractors. (Dodd et al., 2013) As such, GoGold would face procurement risk along with permitting risk and refinement of cost estimate, and would need to pay particular attention to local Latin American and Mexican culture for their aspects of transparency in negotiating commercial contracts or contracts for services. Available data sources, academic research, and open source information fails to provide any insight into whether GoGold was presented with any considerable amount of challenge with respect to negotiating contracts, and GoGold also fails to provide information as to their approach in contract negotiations with local authorities.

20. Environmental Studies, Permitting and Social or Community Impact

Arguably, this section is most critical to the research interest on non-financial risk, and negotiating or securing stakeholder engagement regarding GoGold's obtainment of a social license to operate. The feasibility study reported "impact on local town, the payment of taxes to the government, and the potential population increase." Most notable impacts were seen to be in respect of air quality affecting the local surrounding areas of the project due to emissions and dust, as well as changes to use of the soil in the overexploitation of natural resources that have resulted in modification of the structure and composition of vegetation. Additional concerns were included with respect to

endangered species of snakes and vipers that would be displaced by mining activities. (Dodd et al., 2013). Due to the hazardous characteristics of the project, rock acid drainage, and release of metals in a site close to the population of the city of Parral, significant attention should have been paid to relocation and process of the tailings, environmental mitigation strategies, and reclamation strategies prior to project implementation. (Dodd et al., 2013)

Positive socioeconomic impacts are identified as the generation of necessary employment, improvement of economy of business, and strengthening the economy of the municipality and state through taxation. Negative socioeconomic impacts are identified as incremental population of the city of Parral, not necessarily sufficient to support development activities of the project, along with economic distribution and population increase resulting in increases in the price of goods and services, and loss of employment opportunities and economic distribution following project closure. (Dodd, et al., 2013).

While the pre-feasibility study identifies high-level issues and concerns that would require consideration prior to project construction and implementation, a more detailed review of specific strategies, and corresponding costs or resource requirements impacting schedule, quality and/or cost of the project would be helpful in determining more specifically what risks were most prevalent or most widely impacting the mode of entry into the town of Parral.

Chapter 8: Comparative Analysis, Discussion and Practical Implications

Following our presentation of the two projects case studies, Barrick Gold's Pascua Lama, and GoGold Resources' Parral Tailings Project, this research study aims to provide a highlight of risks and challenges, with a specific interest to identifying overlapping risk factors, along with differences in corporate/company or project methodology and approach for mitigating these risks. Financial impacts have been identified where information was available pertaining to the costs associated with devising mitigation strategies, or where project quality or scheduling deficiencies are known to have occurred.

The below Comparative table presents a summary of non-financial risk factors, (taken from Chapter 5: Non-Financial Risk Framework), with corresponding project specific issues and impacts to the each respective case study organization.

Table 6 - Comparative Non-Financial Risk Issues and Impacts

		Barrick Gold Corporation Pascua Lama		GoGold Resources Parral Tailings Project	
	Risk Factor	Issue	Impact	Issue	Impact
Macro Geo-political	Public sector corruption	Undetermined	Member of UN Global Impact; policies on corruption	Undetermined	Undetermined
	Small business corruption	Undetermined	Member of UN Global Impact, corporate policies on corruption	Undetermined	Undetermined
	Competitors ethical practices	Undetermined	Undetermined	Undetermined	Undetermined
	Personal, civil and project safety	No real geopolitical threat	N/A	Increased theft and violence from drug trade ✓	No strategy identified
	Required security infrastructure	Undetermined	Undetermined	Site security and ground transportation ✓	No strategy identified
Meso (Resource Nationalism)	Government attitudes on contract administration	Regulatory challenges over permitting ✓	20 years of delays for project permitting; costs unidentified	Requirement to employ local labour	Cost according to acceptable Mexican labour rates for majority of workforce
	National E&R tax policy	Double-taxation system with Chile & Argentina ✓	Costs unidentified		
	Legislative framework re: E&R operations	Stringent environmental & regulatory requirements ✓	20 years of delays for project permitting; project cessation in 2013; $8billion loss	Land lease and NPI 12% ✓	Cost impact 30,000/month + 12%NPI
	Investment into social programs	Health, education and housing projects ✓	Minimum $60m investment in programs; 20 year project delay over permitting	Undetermined	Undetermined
	ROI of social investment to MNC investment	Court ordered cessation to the project ✓	$8billion write downs and 20years of delays, without government buy-in	Undetermined	Undetermined
	Reputational Risk	Stock decline $34ps to $15ps from 2012-2014 ✓	Reactive redesign of strategy and rekindle partnership model	Positive cash cost profile ✓	Maintains dedication to small mining and company operating model
Micro (Community Level Social Unrest)	Availability of local skilled labour	No skilled labour amongst indigenous people ✓	ILO mandated inclusion of indigenous people in strategy & labour contracts	Abundant skilled labour from mining town ✓	Employed majority of local labour for all construction and production activities
	Training costs and impact to production efficiency	Healthcare & education costs ✓	$60m commitment to build community infrastructure & social programs	No reported investment for training; local skills ✓	Able to maintain low-cash cost profile and develop under budget
	Equitable pay practices for local labour	Undetermined	Undetermined	Wages in accordance with Mexican labour law ✓	Able to maintain low-cash cost profile and develop under budget; less expats
	Labour related corporate-community conflicts	Extensive conflicts with indigenous people ✓	Indigenous leveraged Chile's ILO to cause estimated $50billion in various capital project delays (Nolan, 2014)	Undetermined	Undetermined
	Expatriate readiness and cross-cultural training	Undetermined	Undetermined	Undetermined	Undetermined
	National readiness and reverse cultural training	Heavily attempted community engagement ✓	1000 meetings, 100 presentations, 15,000 flyers and door-door programs; no buy-in	Undetermined	Undetermined
	Effectiveness of Communication strategies	Community engagement ineffective ✓	No social license; numerous litigation claims; project delays and cancellation	Undetermined	Undetermined

**Note – Full Sized Table attached as Appendix A*

Discussion

We provide our assessment on a matrix of similarities and dissimilarities, where risk factors represent all risks identified in the risk framework presented in chapter 5, and in accordance with the socio-technical approach to evaluating risks at a micro, meso and macro level.

On an assessment of similarities and dissimilarities, we draw the assumption that micro is community level risk with the most direct, day to day interaction with the project. These risks tend to take the form of any impact to the local community and surrounding

environments where the communities live, relocation requirements, opportunities and risks associated with availability of skilled labor, as well as cultural interactions and related corporate and community communication efforts. Meso level is considered to be mid-level, national which we identify with as nationalism, or resource nationalism, largely driven by political and government interactions with the corporation. Most of these issues tend to revolve around government attitudes towards procurement and contract administration, tax policy, and legislative framework guiding the mining operations. Considerations with respect to social impact management or social programs is given to the extent that some governments mandate investment by corporations into government selected social programs, which do not necessarily provide a realized benefit to the operating project. Reputational risk represents the degree to which the corporation or the project can suffer from risk associated with government interactions that would have impact on project viability and associated cash flows or investment attractiveness. Finally we look to macro level geopolitical risks in the context of global geography and global security risk. Company concerns associated with macro level risks include the degree and likelihood to which the corporation will find it needing to engage in unethical negotiation practices with public-sector representatives or small businesses, and the degree to which those decisions are influenced by competitor's ethical practices, as well as personal and project safety requiring heavy security infrastructure based on the level of global terrorism or civil terrorist, violent or criminal threat deemed to be present in the host country.

Our visual analysis presents checkmarks in all risk categories where each company has experienced some form of challenge associated with those identified risks. This allows for a simple determination of overlap and quick understanding of the most prevalent risks facing the organization. Columns identified as undetermined represent a lack of research availability or lack of available information on issues specific to those risks, or company approaches to risk mitigation.

An initial review demonstrates that Barrick Gold was challenged by many more non-financial risks and cost impediments than was seemingly experienced by GoGold resources at the Parral tailings project. In particular, Barrick was afflicted by a high degree of government and legislative intervention that restricted their permitting issuance and delayed project start up over the course of 20 years. As Barrick was heavily invested into the project, they were not in a position to offset limitations posed by the government and spent a considerable amount of time trying to come to an agreement with both national level legislative frameworks, and local indigenous communities that government had empowered to intervene in the progress through the international labor organization in Chile. The ILO mandated the inclusion of indigenous people in strategy and labor contract negotiations regarding major capital projects. (Nolen, 2014)

Additional issues with respect to Barrick included heavy amounts of investment into social programs where the company guaranteed a $60 million investment into benefication for housing, earthquake relief, education and healthcare over the period they were aiming to operate. Unfortunately they did not experience a good return on their

investment of those social programs, as the project never received full approval to go forward with commissioning and development. It is interesting to note that they never did receive social license to operate, and that the biggest concern causing delays, frustration and finally cancellation of the project, was in respect of community dissonance towards mining in the glacier region, because mining activity was perceived to have negative impacts to water quality. While this issue overlaps with environmental concern, one can also make the argument that Barrick's failed to effectively engage with the local communities, and convey their message and their intention with respect to water quality, usage and potential contamination provides the basis for our assertion that local communities, and a social license to operate (more so than the government in this case) had the greater impact to project viability. As a result of a series of litigation claims brought against Barrick by local indigenous communities regarding their livelihoods, and geographic residential area, it was forced to cease project activities in the fourth quarter of 2013. Consequently, Barrick reported $8 billion in write-offs and lost 20 years of negotiating time, while ultimately not realizing the anticipated reciprocal benefit of the labor contribution from the local population for which they were helping to develop skills and economic standing.

By comparison we can see that GoGold seems to have had much greater success with moving their Parral tailings project into production. GoGold did experience many of the same conflicts or challenges that Barrick faced, however it appears their corporate strategy for project development was undertaken on a much different platform and met with a greater level of success and receptiveness by both government and local

communities. While Barrick chose to invest in the first ever cross-border project spanning geographic boundaries from Chile to Argentina, and costing billions of dollars in infrastructure development, training programs, and government and community negotiations, GoGold, by comparison, elected to develop a ready-made facility in a geographic region with a long history of mining activity, fully available resources, and supportive township and community. GoGold was able to secure their social license through their agreement with the Ejido's to obtain accessibility rights to land, and through their commitment to payment of $30,000 montly in lease fees along with 12% net profit interest. This seems to have been a successful strategy for GoGold to secure a partnership with the local township to both support and protect the site, while engaging the local township in the majority of labor contracts associated with project development. This partnership with community stakeholders and governmental officials has also allowed GoGold to pursue new development opportunities and feasibility studies with respect to projects in surrounding areas of similar size and scope to the current Parral Tailings. These collective benefits enabled GoGold to take their projects from feasibility to production on schedule and ahead of budgeted cost.

The GoGold business strategy with respect to Parral Tailings contrasts with Barrick Gold's aspirations at Pascua Lama. Barrick undertook a project in a community with completely unskilled and undeveloped indigenous peoples, who did not demonstrate understanding or receptiveness to the project from its inception, and who did not possess the skills associated with and required for mining activity. As a result, Pascua Lama required considerable amounts of investment of time and money associated with

additional communications platforms, training programs, and stakeholder engagement practices.

We draw the conclusion that GoGold may face sizeable risks to personal, civil and project safety, and most-likely incurred significant costs associated with required security infrastructure. While there was no specific strategy or cost impact discovered through our research specific to GoGold strategy and expenditures on the issue of safety, general geographic research reveals an increasing level of violence in Mexico associated with drug cartels, especially towards foreign operators, workers and travelers, as is seen by the recent murders of four employees from a Canadian-based mining company in Mexico. This would allow us to draw the conclusion that GoGold would have considerable costs associated with respect to security infrastructure that appears to be more pressing then what Barrick experienced in Chile and Argentina (a geographic region that generally speaking, is more open to the mining sector, and more stable with respect to political and intra-country violence).

We reviewed the rank of Chile and Mexico on the Corruption Perception Index put forward in Table 2.1 by Transparency International, where Chile ranks 21 and Mexico ranks 103 on a scale of 1 (least) to 174 (most) corrupt countries to do business. In our analysis we note GoGold, as a junior miner, does not possess the stringent reporting parameters, policies, procedures, or corporate ideology that Barrick appears to have extensively developed and made publicly available for all operating activities, from the range of CSR to foreign corruption standards. As a result of limited information, there is

no way to verify whether or not GoGold, in the course of its business in Mexico, at any time engaged in public or private sector negotiations that would not have matched the ethical standard of some of their larger competitors.

To conclude discussion of our analysis, while we recognize that both companies have attempted to establish projects in complex geographic regions that are afflicted by poverty, and to some degree, levels of foreign corrupt practices, or at the very least, strong government intervention in foreign investment, we draw the conclusion that nonfinancial risk is underrepresented in research, and yet presents highly probable impacts to capital expenditures and production efficiency, with cost, quality, and schedule restrictions. As in the case with Barrick, non-financial risks have proven to pose considerable implications for reputation and investment attractiveness of mining organizations.

Our research demonstrates practical implications for management seeking to operate in remote and arduous geographic regions, where political and social stability is wavering, such that organizations may appear to underrepresent reporting of costs and resource efforts associated with nonfinancial risk. While reporting metrics for listing on the TSX and NYSE requires stringent financial issuance over corporate performance, organizations must give consideration to the financial implications of nonfinancial risk line items in their budget sheets. Furthermore, it is probable to draw causation between non-financial and financial risks, such that non-financial risks directly influence creeping capital expenditures, along with reputation that in turn influences investment

attractiveness and stock valuation. It would be a useful learning exercise for organization's to share best practices with respect to forward-looking mitigation strategies for those non-financial risks that have proven to cause project delays beyond a point where the investment can be recovered. It may be worth organization's considering the potential that nonfinancial risk, and in particular nationalism and social license concerns, would largely impact the investment opportunity and investment decisions over large capital expenditure projects. Based on the operating platform of GoGold and its perceived success, we consider the possibility that smaller scope projects with lesser complexity may present higher earning potential in terms of net present value, due to their likelihood to be brought to production on time, within budget, and to some degree of quality standard.

Finally, risk factors were devised using an evaluation of combined academic and professional resources, and risk categories were identified through combined professional resource publications. These reports on business risks facing mining and metals, and trends for mining and metals provide globally acceptable definitions of non-financial risk factors representing industry-wide understanding and with little variation between definitions among major competitor firms and/ or industry stakeholders. These nonfinancial risks apply not only to mining, but to the broader space of energy and resources, including oil and gas and renewable power, and can be commonly applied to any international organization seeking to do business in emerging market. As such, the results of this study, and any future studies pertaining to cost impacts and strategies associated with non-financial risk would greatly benefit global organizations in their

assessment of entry barriers into emerging markets. Where resource rich countries also tend to be primarily characterized as emerging markets, energy and resource sector corporations must continuously seek new and creative ways to balance corporate, cultural, community, and political conflicts between developed and emerging market stakeholders. Results of this research, and any future research, provides a new mechanism of mutual understanding, not only for corporations, but for officials in emerging markets to evaluate their negotiating platforms, and attitudes towards negotiating with multinational corporate investors.

Chapter 9: Limitations and Suggestions for Future Research

The research presented in this report is subject to a number of limitations. First, no primary data was collected in the course of this research initiative. It would be useful for future research studies to consider specific issues of nonfinancial risk, and conduct a qualitative study to validate the data in the context of projects or geographic regions of interest. Qualitative data could then be used as the basis for performing quantitative analysis on the cost-benefit impact and return on investment with respect to more thorough implications of nonfinancial risk to operating viability.

Secondly, the conclusions and analysis are drawn based on information that was obtained through widely available open source, academic research, and company reports as well as news media reports and publicly filed documents. There appears to be an absence of information on line item issues pertaining to nonfinancial risks that were identified in our framework. Those risks were primarily devised through academic, peer-reviewed papers, and while we sought to verify the costs associated with those nonfinancial risks through an analysis of two operating projects this research was challenged by lack of availability of specific information pertaining to identified non-financial risks. Additionally, open source information is subject to varying degrees of transparency by the issuing organization, and/or bias or abstract contextual frameworks as issued through media reporting. Consideration must be given to the degree of accuracy of information published and available through open source, where validation is made difficult due to a lack of verification through the collection of primary data.

Thirdly, researcher knowledge, experience, and understanding of the energy and resources sector, and in particular, challenges associated with the mining project lifecycle influenced decisions with respect to research categories, risk categories, and nonfinancial risk factors. Projects that were the subject for comparative analysis were selected largely based on the arbitrary interest of the researcher, with some controls put in place for comparative geography and home-country operating standards.

Finally, the two projects selected for comparative analysis were not of the same size and scope, and were wholly owned and operated by corporations of considerably different expertise in the mining sector. Future research may address the possibility that outcomes would differ if comparative analysis was conducted on two organizations operating projects of similar size and scope.

Chapter 10: Conclusions and Recommendations

To conclude our research, we revisit our initial research questions and provide insight and recommendations.

1. **To what degree does non-financial risk impact financial operating ability in mining related capital expenditure projects.**

Based on our analysis of Barrick's Pascua Lama Project located on the border of Chile and Argentina, we have been able to demonstrate a direct correlation between non-financial risk factors and operating viability. Our visual analysis provides a representation of most frequent risks, and overlapping risks that are non-financial in nature and that require a significant amount of pre-acquisition feasibility, beyond high level identification. In particular, it would appear that micro-level risks posed by the host-country's most affected surrounding communities in fact hold a considerable degree of power over the social license to operate, and have a direct bearing on project viability and associated capital expenditures. It would be of great benefit for mining organizations to openly share their experiences, including challenges, successes, costs and benefits associated with obtaining social license, and to provide this information in much more detail than is currently reported by professional standards. This would help to educate all stakeholders, not only to community related challenges, but associated costs and probability of project success.

2. **What elements of non-financial risk planning should be undertaken in the early stages of a project that would improve the probability of successful outcomes?**

Based on our analysis, we uncovered that social license concerns and related risks have a considerable amount of influence over project success. While efforts are undertaken during pre-feasibility and feasibility studies to determine high-level concerns pertaining to community, environment and social impact management, we suggest that it would be useful for organizations to undertake this review at a much more detailed level at a stage prior to project acquisition. Organizations would also want to consider investigating history of the country cultural attitude towards mining, with a view to determining how community culture impacts resource nationalism. This was demonstrated at Pascua Lama when the community incited the Chilean Supreme Court to shut down the project while the community claim remained under investigation. Mining organizations must not assume that because they have national level buy-in that the community concern would not take priority with government policy enactment.

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Appendix A: Comparative Non-Financial Risk Issues and Impacts

(See attached Power Point)

Appendix B: UN Global Compact, Ten Guiding Principles

Human Rights

- Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
- Principle 2: make sure that they are not complicit in human rights abuses.

Labour

- Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- Principle 4: the elimination of all forms of forced and compulsory labour;
- Principle 5: the effective abolition of child labour; and
- Principle 6: the elimination of discrimination in respect of employment and occupation.

Environment

- Principle 7: Businesses should support a precautionary approach to environmental challenges;
- Principle 8: undertake initiatives to promote greater environmental responsibility; and
- Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

- Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

Source: UN Global Compact, Ten Principles

Appendix C: ICMM Ten Sustainable Development Principles

The 10 principles

01. Implement and maintain ethical business practices and sound systems of corporate governance.

02. Integrate sustainable development considerations within the corporate decision-making process.

03. Uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities.

04. Implement risk management strategies based on valid data and sound science.

05. Seek continual improvement of our health and safety performance.

06. Seek continual improvement of our environmental performance.

07. Contribute to conservation of biodiversity and integrated approaches to land use planning.

08. Facilitate and encourage responsible product design, use, re-use, recycling and disposal of our products.

09. Contribute to the social, economic and institutional development of the communities in which we operate.

10. Implement effective and transparent engagement, communication and independently verified reporting arrangements with our stakeholders.

(Source: ICMM 10 Principles)

Appendix D: List of Diagrams

Appendix E: List of Tables