Gordon Institute of Business Science
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Determining the role of the operating context on business model innovation in Botswana's mining Industry

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Abstract

The global economy continues to be pummelled by effects of volatility, uncertainty, complexity, and ambiguity (VUCA), as the world continues to experience the effects of emerging from an unprecedented global pandemic and transitioned into a geopolitical storm due to the Ukraine – Russia War. The resilience of the global mining industry finds itself under pressure to deal with competing demands for responsible and sustainable mining in which there is creation of shared value and heightened governance and reporting expectations which must be considered within the continuum of global, regional, and national contextual settings.

The study thus undertook to determine the effects of the local operating context of mining firms in Botswana on their ability to reconfigure their mining business models to create sustained value and capture it whilst meeting the varied expectations on competitivity, sustainability and social responsibility. The study explores how firms innovate on their business models considering the contextual antecedents at paly and how firms exploit their dynamic capabilities to effect business model innovation (BMI). The ability to leverage dynamic capabilities for BMI will also be determined through the lens of the complexities levied upon by the organisation models in a country where most mining firms are owned and/or co-owned by multinational companies (MNC).

A systematic theoretical and analytical literature review was carried out with 12 candidates interviewed using a semi-structured interview protocol. Key insights emerging from the study confirm extant literature on the criticality of understanding the contextual antecedents on BMI and their factors that moderate or mediate BMI performance. A conceptual framework is proposed for application businesses and may also adapted by other sectors to enable key strategic choices and decisions in re-thinking business models to meet multiple and pressing competing business imperatives. The researcher concludes with recommendations for further studies to extend further with empirical support the theoretical underpinning constructs and drivers of BMI in different context and industries.

Keywords

Business models, business model innovation, dynamic capabilities, search behaviour, operating context.

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Philosophy in Corporate Strategy at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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Chapter 1: INTRODUCTION TO RESEARCH

1.1 Background to the research problem

Since Ernst & Young first published a report on the mining and metals industry's top risks in 2007, mining business models have appeared to take into account the reported need to review business models to address the impact of climate change, rising production costs and the threat of digital innovation disruptions (EY, 2022). However, the global market environments in which firms currently operate exert excessive pressure on their leaders in their attempt to navigate market volatility and uncertainty.

A 2022 Ernst & Young report highlights a significant reversal in trends from when mining executives recognised Environmental Social and Governance, geopolitics, and climate change as being amongst the top 3 risks with the license to operate and operating costs and productivities completing the top 5 risks. The convergence of factors such as the increase in demand for minerals and metals, rising production costs, technical complexities in reaching ore bodies, as well as societal and governance pressures have forced the global mining sector into innovation and business model re-evaluation (Dunbar et al., 2020) whilst at the same time demonstrating deliberate efforts to create shared value for host communities and host governments.

1.2 The Research problem

Since the 2007 Ernst & Young report by on the mining and metals industry's top risks, mining business models have appeared to address key economic downturns, rising production costs and the threat of digital innovation disruption (EY, 2022). The distinct emergence of the need to manage scarce and finite resources, such as a water and land, are forcing leaders in the mining industry to leverage technology in re-valuating their business models to explore more compelling ways to manage these risks to capture and deliver value (Bocken & Geradts, 2020).

The convergence of factors such as the increase in demand for minerals and metals, rising mining cost and technical complexities in reaching ore bodies, societal and governance pressures thrust the mining global mining sector into embarking on innovation and business model re-evaluation (Dunbar et al., 2020). The emergence of COVID-19 in March of 2020 dealt the global mining industry a substantial blow as operations shut down and trading in commodities ceased. Whilst the world tries to recover from the effects of COVID-19 and navigate the complexity imposed by the Russia-Ukraine war, mining firms find themselves

Exacerbating the situation is geopolitical instabilities which in turn bring challenges in predicting ambiguous future business outcomes. The global mining industry has been thrust into a much more heightened need for acceleration of transformation which can be captured as the intersectionality of innovation, dynamic capabilities and rapid technological adoption in order to effectively develop new innovative business models (Arora et al., 2021). As a consequence, business models in the mining and metals industry are increasingly coming under pressure to review how their activities, resources and systems are organised to create convincing value propositions for their various stakeholders.

Nations and regions have unique national systems of innovation (NSI) as was witnessed with the Asian Tigers (Fessehaie et al., 2016). These cannot be ignored when seeking to further understand how organisations can be effective in transforming business models. This research explores the ability of firms to leverage dynamic capabilities for lasting and sustainable innovative business models in extreme conditions in alternative contexts such as Africa (Barnard et al., 2017).

1.3 Rationale for the Study

Research points to the positive effect of BMI on firm performance, and most notable as a distinct type of innovation separate from process and product innovation (Snihur & Wiklund, 2019). Whilst research has been conducted to understand the effects of business operating context on BMI (To et al., 2019), there is lack of information in literature pertaining to operating context, especially of firms in the mining industry in Africa (Barnard et al., 2017). To further distil and focus the study, this proposal will focus on understanding the effect of the operating context of mining firms in Botswana, especially as

Over the past 10 years, Business Model Innovation (BMI) has gained significant attention in the field of strategic management and has been lauded by some scholars as key to improved firm performance, and offering more sustainable forms of innovation to help firms weather the storms of disruptions (Snihur & Wiklund, 2019).

Management scholars and practitioners are still exploring and seeking to better understand how to integrate the complex systems of BMI, and how moderating factors such as dynamic capabilities of a firm could be key to their ability to navigate dynamic environments in order to sustain or enhance value. This required the ability to evolve and transform existing business models to deliver or capture value (Matysiak et al., 2018).

As a mature industry in Botswana with over 50 years in existence, the mining industry needed to fine tune their dynamic capabilities in order to navigate complex, uncertain, and dynamic

operating environments.

1.4 Research purpose and aim

The purpose of this research was to explore how the operating context affects a firm's ability to effectively leverage BMI to improve firm performance and enable the transformation of existing business models in a way that is sustainable and beneficial to all stakeholders (Teece et al., 2016). Whilst scholarly interest in BMI over the past two decades has advanced understanding in the constructs and antecedents of BMI, there still exists a need to understand how firms and managers operate within uncertain and complex environments to overcome pressing internal and external factors that might inhibit effective leveraging of firms capabilities (Velu, 2017).

The context in which this research was conducted is Botswana. The research is motivated by the disruptive nature of events such as COVID-19 and the war in Ukraine which have heightened the urgency to determine the relationship between operating context and leadership's ability to innovate business models as a more sustainable option. According to Snihur & Wiklund (2019) innovation is often associated with lasting performance improvement and sustainable business models. The majority of mining companies in Botswana are subsidiaries of multi-national companies (MNCs) with head offices in developed countries such as the United Kingdom, Canada, and Australia. Drawing focus to the Botswana context expedites the ability of strategic managers to navigate uncertainty with robustly innovated business models landed with agility (To et al., 2019).

According to (Foss & Saebi, 2017), the operating context has an impact on the implementation of innovation and transformation of business models. The main research question for this research is how does the operating context affect a firm's ability to effectively leverage BMI to improve firm performance and enable transformation of existing business models (Snihur & Wiklund, 2019).

1.5 Research contribution

This research adds to the body of knowledge by identifying how the operating context affects a firm's ability to effectively leverage BMI to improve firm performance and enable the transformation of existing business models (Teece et al., 2016). Using Botswana as a context where the mining companies operating there are subsidiaries of companies whose head offices are in developed countries suggests that their existing business models will have to be transformed to fit the operating environment. As (Barnard et al., 2017) points out, much still needs to be known in this area.

The study therefore contributes towards determining how local firms and Business Units of Multinational Corporations operating in Botswana can leverage the dynamic capabilities of their parent companies to innovate on mining business models BMIs as way of maintaining competitive advantage in rapidly changing economic environments (Altman & Tushman, 2017; Matysiak et al., 2018).

1.6 Research scope

The theoretical scope of this research is anchored in Business Model Innovation Literature focusing on Botswana as the operating context of the research. Given that Business Model Innovation is the preserve of top-management teams, the theoretical underpinning of this study is dynamic capabilities (Teece, 2018), and the population of this research will be confined to this population.

1.7 Outline of research report

This chapter introduced the topic of this research as well as the background, the research problem this research aimed to address as well as the rationale, objectives, and the research question. The next chapter will present the literature review which enabled the identification of the research question. Chapter 3 will restate the research question and introduce the supporting research question while Chapter 4 will present the methodology followed in conducting the research. This methodology was guided by the research question of this study. The results will be presented in Chapter 5 and discussed in Chapter 6 with the conclusions presented in Chapter 7.

Chapter 2: Literature review

2.1 Introduction

The purpose of the literature review is to critically review literature to establish what is known and what still needs to be known in the field of study in order to better position the current study in the body of knowledge (Boote & Beile, 2005). In this chapter, the researcher sought to understand to apply the concepts, theories, and constructs derived from literature to identify an opportunity to make a meaningful contribution to the existing body of knowledge on BMI within the context of this research. The ultimate objective is to contribute to the body of knowledge by proposing new frameworks for future application to firms operating in mining and across other social contexts.

The outcome of this research is to determine the role that the operating context of firms plays on the ability of the firm to innovate on mining business models. Therefore, the literature review will interrogate concepts at the convergence of business model innovation, dynamic capabilities, and other theories such as innovation, and complexity(Arora et al., 2021; Foss & Saebi, 2017; Teece, 2018). The literature review also seeks to draw insights from the causal relationships between business models, BMI, dynamic capabilities, and the role in innovation and complexity (Foss & Saebi, 2017; Teece, 2018; To et al., 2019).

2.2 Literature review structure

This section serves two main purposes, to structure the review extant literature on BMI and related key concepts of interest and to provide a roadmap which the reader can follow in the process of situating the study in the existing body of knowledge.

The purpose of structuring this review of extant literature is to enable the evaluation, discussion and critiquing the literature in order to propose the areas of focus for the study whose focus is on decisions by leaders and managers. According to (Kurzhals et al., 2020), leaders and managers are expected to sustain and grow value for shareholders and stakeholders of the firms they steward, especially in times where this comprises navigating rapid advancements in technological innovation development.

Situating this study in the existing literature enables the study to contribute to the body of knowledge on the phenomena of BMI. The emergent theoretical framework from the literature review will guide the research process towards understanding key contributing themes and constructs to the theory of BMI (Merriam & Tisdell, 2015).

2.3 Concepts: Business Models, Business Model Innovation, Dynamic Capabilities

According to (Zott et al., 2011), Business Model (BM) literature made its earliest appearances in the 1950s in the field of operative activity for systems modelling for information technology. It is said to not have gained popularity until entrepreneurship and strategy scholars started applying its constructs as a description for a firm's business processes and their linkages mainly to stakeholders who were in one way or another part of the business model's complex ecosystem (Zott et al., 2011). Teece (2010, p. 172) defines BM as "the "design or architecture of the value creation, delivery, and capture mechanisms" of a firm (Teece, 2010).

By recognising the implication of their description as having an orientation to architecture, scholars agree that this implies that BMs, as conveyors or arrangement of interconnected composable-decomposable systems, infer complexity in dealing with their innovation for value delivery and capture (Foss & Saebi, 2017; To et al., 2019). Teece (2018) further recommends that there is a need for the considerations of the convergence of BMI, dynamic capabilities, and strategy to be further refined to explore the mechanisms that can impact strategy managers to effectuate their mandates that could have a significant bearing on BMI. This position emphasises the need to draw boundaries of the roles and accountabilities placed on strategic managers regarding the actions and decisions that they take at a microfoundational level of an organisation, and the delineation at which the dynamic capabilities are attributed to individuals (managers) visa vie the being those of the organisation and its various business unit components(Loon et al., 2020; Molina-Azorín, 2014).

According to (Ammirato et al., 2022), Business Model innovation (BMI) provides leaders with a strategic process that, when effectively implemented, can help firms improve their performance and sustainability. The definition of the BMI construct as "designed, novel, and nontrivial changes to the key elements of a firm's BM and/or the architecture linking these elements" was first proposed for framing and standardisation by Foss and Saebi (2017, p. 216). This definition is consistent with Teece's (2010) definition of BMs as the architecture or design of how a firm organises its resources, processes, and capabilities to create value for its customers and capture value for its shareholders. The definition of BMI has also enabled the incorporation of business models to integrate dimensions for sustainability driven stakeholder value propositions. This industry-wide pressure to review measures of firm performance to reflect shared social value creation, care for the environment and responsible production and consumption, has extended the definition of sustainable business model innovation. According to (Geissdoerfer et al., 2018), sustainable business model "can comprise the development of entirely new business models, the diversification into additional

business models, the acquisition of new business models, or the transformation from one business model to another." (p. 407).

The proliferation of technology, digital innovations coupled with the added dynamism of complex and uncertainty filled operating environments, has contributed to the increased need for firms, including to innovate on their business models as a way of capturing additional value and remaining relevant (Dunbar et al., 2020; Teece, 2010). More is now understood with regards to how BMI as a process enables firms to capture value, improve firm performance, and enable adaptive agility as well as the contextual triggers that push firms to innovate on BMs (Foss & Saebi, 2017; To et al., 2019). The architectural attributes that form the core of the widely accepted definition of BMs, however, also imply that BMI as a concept needs to be understood within the parameters that define its success as a process or outcome.

According to (To et al., 2019), advances in BMI literature have fuelled interest in areas such as business and strategy. This has been mainly due to BMI's purported benefits as both a process and BM outcome that enables sustained competitive advantage and adaptive agility. In a charge led most notably by Foss and Saebi (2017), there has been an increased intensity by BMI scholars to improve the establishment of BMI theory in defining its constructs, its antecedent conditions, and outcomes in order to provide practitioners and business leaders with guidance on key considerations when seeking to undertake BMI, especially where effective utilisation of resources should be considered in the broader picture of sustained growth and value creation (Achtenhagen et al., 2013; To et al., 2019). In this regard, To et al., (2019) further expound on an internal antecedent and extend its understanding to business co-creation networks that enable internal actors between interconnected units within a business model to interact, foster knowledge diffusion and intensifying the adaptability and responsiveness of actors to changing environments.

Analysis of extant literature reveals that BMI research still remains focused on differentiating BMI processes and outcomes at the level of comparison of existing firms and start-ups and predominantly in developed countries and none in mining in Botswana. There is thus a need to augments efforts to build onto the establishment of BMI theory with more empirical studies to help establish replicability across industries and, or between economic contexts (developed and emerging economies).

2.4 Business Model Innovation and Dynamic Capabilities

With BMI defined as “designed, novel, nontrivial changes to the key elements of a firm’s business model and/or the architecture linking these elements.”(Foss & Saebi, 2017), it follows that effective BMI lies in the remit of organisational leaders for successful implementation. According to (Teece et al., 2016) the intersectionality of BMI and DCs is recognised as one with clear strategy interfaces. Conversely dynamic capabilities of a firm are also an antecedent of BMI as a process (Foss & Saebi, 2017). The significance to the ecosystem of business and strategy is the ever-present pressing need for leaders to leverage both dynamic capabilities and BMI to ensure that firms remain resilient in the face of complexity and fierce competitive environments (Teece, 2018).

Drawing closer to the focus of this study, the mining industry has been criticised for lack of innovation in its mining business models (Dunbar et al., 2020). This is despite increasing complexities in global economies and diverse stakeholder demands that call not only for profit, but protection of the planet, care for people and maintenance of profitability of operations. This has imposed an urgent need for the re-think of business models in mining (Dunbar et al., 2020; EY, 2022). With a significant portion of economically viable mineral resources being located in developing and emerging countries, (Drusche & Krause, 2021) point out that sustainability and creation of shared value for host communities provides an opportunity for BMI with sustainability underscoring the desired BMI outcomes.

With this in mind, the positioning of BMI as a business survival response to extremely challenging operating market environments seems, according to (Buliga et al., 2016), applicable to the mining industry as leaders need to draw deep to reposition customer and investor value propositions. This is particularly so as (Geissdoerfer et al., 2018) points out that environment, social and governance (ESG) now play a key part of the value creation, delivery and capture mechanisms within current and future business models.

According to (Bocken & Geradts, 2020; To et al., 2019), BMI offers established firms the opportunity to innovate business models to develop capabilities to manage increasing demands including those of sustainability. (Bocken & Geradts, 2020; To et al., 2019) point out that contextual antecedents such as mastery of technology and business complexity have been identified as being critical for positive BMI outcomes. Dynamic capabilities are thus seen as a necessary pre-existing condition for the navigation of complexity in reconfiguring business models, exploiting technology and creating knowledge and resource alliances. This is in order to transform business models through the sensing and seizing of threats and opportunities in the environment to transform or pivot the organisation (Matysiak et al., 2018; Teece, 2018). It

is in this context that Teece's (2018) insistence for the concurrent considerations of the convergence of BMI, dynamic capabilities, and strategy to be further refined to explore the mechanisms that can impact strategy managers to effectuate their mandates that could have a significant bearing on BMI. This position emphasises the need to draw boundaries of the roles and accountabilities placed on strategic managers regarding the actions and decisions that they take at a microfoundational level of an organisation, and the delineation at which the dynamic capabilities are attributed to individuals (managers) visa vie the being those of the organisation and its various business unit components (Loon et al., 2020; Molina-Azorín, 2014).

Matysiak et al. (2018) put forward a compelling case for the researcher to explore advantages associated with dynamic capabilities of multi-national enterprises (referred to in the research study as MNCs). MNCs offer dominant logics behind MNE's sensing capabilities (anchored on the resource-based view of the firm), seizing (internationalisation theory and ability to leverage global perspective as a strength trading and working across different countries and industries), and transforming capabilities (based on agency perspective and ability of firm) will be of benefit if applied as BMI enablers (antecedents).

2.5 Conclusions on BMI

A review and theoretical analysis of the literature on BMI, its constructs, antecedents, and outcomes concludes that BMI is conceptually complex and requires an understanding of the network of relations of business models (Foss & Saebi, 2017). Foss and Saebi (2017) note that it is key to understand the causal web of relations within BM architecture in creation, delivery and capturing of value, which according to Teece (2018) can be leveraged through the internal dynamic capabilities of an organisation to help navigate the external agents of the dynamic environments and complex macro-environments. According to (Foss & Saebi, 2017), the complex nature of BMs elicits a need for actors to understand the vast and intricate interactions of mechanisms for value creation, delivery and capture, when attempting BMIs on often tightly composed interdependent subsystems in an attempt to emerge with novel and impactful new BMs that enhance business competitiveness and sustainable firm performance. Such BMIs, as claimed by To et al. (2019), require a mastery of technology and business complexity, both of which confirm the need for dynamic capabilities as internal antecedent (Foss & Saebi, 2017).

The continuing growing interest in BMI, however, is evidenced by the growing body of literature that has sought to define the linkages which have historically been in short supply. The interrogation of the BMI processes and outcomes now has evidence emerging from studies

that have identified a significant finding, which makes a positive correlation between BMI drivers such as the processes within the subsystems, the BM architecture, and organisational resources to be necessary contextual antecedents that when applied correctly results in positive BMI performance (Ammirato et al., 2022). This finding is significant for earlier calls by scholars such as Teece (2018) for the ned for clarity and management of these interfaces.

2.6 The impetus for BMI

Business leaders and their top management teams are mandated with the creation of value for investors, maintaining competitive advantage, as well as balancing diverse stakeholder expectations amidst increasing calls for sustainable business practices. This section explores literature on the antecedents of BMI and compares emerging themes as well as critique or support claims made in prior research. The areas explored will be the organisation and the operating environment and the organisational capabilities in response to change in strategy.

2.6.1 The operating environment - An external BMI antecedent

Foss & Saebi (2017) define the organisation's external operating environment as an antecedent of BMI with existing firms seeking to sustain competitive advantage while start-ups and entrepreneurial firms seek to break into new markets. This view is supported by To et al. (2019). According to (Geissdoerfer et al., 2018), the increasing calls for integration of environment, social and governance into strategy (Compact, 2020) has added to the need for radical innovation on business models with a requirement for integration of sustainability planning to new strategies and plans. (Ferlito & Faraci, 2022) see internal and external businesses environments as requiring mindful design and reconfiguration of business models to implement sustainable business model innovation processes. Such business models should take into consideration plans for the achievement of the United Nation's Sustainable Development Goals (SDGs) in novel ways that increase the appeal of firms to an array of stakeholders.

For the mining industry, the challenge to innovate business models requires a shift beyond the adoption and adaption of technology (Dunbar et al., 2020). The requisite organisational capabilities to sense threats and seize opportunities to transform the business, vital for maintaining profitability over the long term (Teece, 2018), means leveraging knowledge co-creation networks that enhance mastery of technology to a point where actors in the BM systems transcend simple technological-based innovation towards effecting changes in architectural configurations and building adaptive agility (To et al., 2019). Altman and Tushman (2017) identified another key capability driven by the top management team and leadership orientation to open innovation platforms. The researcher proposes that, seen as a

dynamic capability, this orientation to seek partnerships externally enhances the BMI outcomes of a firm and enables extended capabilities through leveraging those of resources outside the firm.

2.6.2 Conclusion on The Organisation's Operating Context

It therefore follows that firms must work on their evolutionary fitness. There is an iterative interplay of conditions which require firms to change strategies through leveraging dynamic capabilities, integrating technology and reconfiguring resources, processes and systems to challenge value creation and capture mechanisms (Teece, 2011, 2018). Whilst knowledge and the understanding of the BMI concept continues, it also remains evident that there is a gap in building better understanding and extension to many industries, including mining which remains a significant contributor to global economic development.

2.7 Enablers and Barriers of BMI

In a conceptual framework where scholars attribute the relational attributes of BMI such as dynamic capabilities as antecedents of BMI (Foss & Saebi, 2017) and BMI, dynamic capabilities and strategy being interdependent to the point of BM performance outcomes include improved DCs (Teece, 2018), the researcher argues that the delineation of enablers and barriers, depending on themes of these constructs, can be a source of inconsistency. For this study, the researcher as reviewed organisational structures and the regulatory environment.

2.7.1 Organisational structures – An enabler or barrier?

Organisational structures are a key component of any interconnected complex architecture of sub-systems in business models that form part of the mechanisms by which resource requirements and delivery models are defined as well as resources are allocated to perform activities that make the interactions of various value creation, delivery and capture happen (Foss & Saebi, 2017; Teece, 2010). If top management teams are responsible for BMI and dynamic capabilities, organisational structures should be considered a BMI enabler. However, Foss and Saebi's (2017) identify the organisational structure as having a moderating effect on BMI. (Foss & Saebi, 2017) add that when elements of the organisation's structure, such as its work teams and managers are looked at, their orientations toward BMI may have a negative impact and as such may slow down the process to a point of risking the organisation's obsolescence in the face of increasing market competition. Therefore, management's position is tied to having the authority to make decisions and take actions that ensure that the strategies

and the changes are well understood and communicated (Teece, 2018), at the requisite speed to stimulate an innovation cocreation network within the organisation, a point at which BMI demonstrates a non-linear progression (To et al., 2019).

2.7.2 Regulatory environment – A BMI barrier

Regulations, rules, and governance are a necessary part of the macroeconomic landscape that helps balance the interests of commercial entities, regulatory and social stakeholders. It is therefore imperative that strategy managers and TMTs in any firm that aspires to undertake BMI must develop the acute awareness of the rules and governance structures of both the internal and external operating environment (Foss & Saebi, 2017; To et al., 2019). Additional requirements for ensuring strategies and business models embed sustainability goals and outcomes into business models (Ferlito & Faraci, 2022; Geissdoerfer et al., 2018). This further provides an impetus for leaders and innovators to ensure that the whole system complies and satisfies rules and governance in order to remain relevant with social value propositions. Such value propositions ensure that a diversity of stakeholders remain convinced of the products and values.

2.7.3 Conclusions on BMI Enablers and Barriers

At the convergence of BMI, dynamic capabilities , innovation and complexity (Foss & Saebi, 2017), leveraging open innovation to identify and leverage partnerships for exploitation of additional and different resource capabilities is hailed as an enabler BMI, in which broader innovation search behaviours extend the BMI capabilities of the otherwise one firm (Altman & Tushman, 2017; Snihur & Wiklund, 2019). For strategic managers of mining firms, this approach also enhances its integrative capabilities which are critical for the firm's ability to continuously reconfigure its resources within the business model for the firm's adaptive agility and improved performance in an increasingly unpredictable global operating environment (Pang et al., 2019; To et al., 2019). The researcher recognises the limitation of the validity of BMI measurements. The studies of these measurements have thus far been limited to small manufacturing industry and are unable to define the measurement component of BMI dimensions and scope in relation to the complex subsystems and architecture of business models (Clauss, 2017; Foss & Saebi, 2017; Zott et al., 2011). Furthermore, no studies have been done to review BMI outcomes for firms that have joint ownership structures such as those of mining firms in Botswana that are mostly subsidiary firms of MNCs. The extension of organisational structure validity claims, including the design of organisations and their cultures

(including behaviours), needs to be tested further for social context including the orientation of actors to innovation as potentially disruptive as BMI.

2.8 BMI outcomes

This section reviews extant literature for the understanding and clarity of BMI outcomes. Having been lauded as an enabler of firm performance and sustained competitive advantage, it is thus important for the study to delineate from previous research the known outcomes of BMI as part of its construct.

2.8.1 Firm Agility

Leaders in strategic positions managing in complex and unorthodox business contexts where success must be achieved within the context of high dynamism require masterful skills to sense, seize and transform(Teece et al., 2016). According to (Matysiak et al., 2018), local top management teams exposed to the parent company's dynamic capabilities should leverage the opportunity to adopt technological advancements. (Gasser et al., 2020) added that local top management teams should also be agile and bold enough to repurpose technological innovations and re-skill their workforce to navigate complexity. Developing this capability stands firms in good stead to create the fluidity to share knowledge, create innovation ecosystems, enable innovation capabilities, and leverage external capabilities to manage businesses in dynamic environments.

To et al. (2019) suggests that outcomes of BMI, regarding adaptive agility and resource capability, are in part the result of casual effect of the value creation network in which efficient distribution of information enables the resultant capability to reassign resources to adapt to unfolding environments. The researcher argues that this view is similar to the interpretation and definition of dynamic capabilities being BMI antecedents with organisational structures and capabilities of leaders being moderating factors (Foss & Saebi, 2017). The slight difference picked here is that in the case of To et. (2019) the actors in the value network creation ecosystems in the configuration of relational antecedents are proposed as mediators of BMI.

2.8.2 Conclusions on BMI outcomes

Interestingly, throughout this review, there have been more calls for empirical research of BMI and its theory by almost all scholars whose research involved carrying out BMI literature reviews. These include Foss and Saebi (2017) and To et. (2019). (Clauss, 2017) has developed a scale for measuring BMI. (Clauss, 2017) claims the scale advances the theoretical and empirical understanding of BMI theory as it also supports managerial decisions

on BMI initiatives and strength of their strategies. The study developed a comprehensive measurement scale for business model innovation which could measure outcomes of BMI along the three dimensions of value creation, value delivery and value capture, supporting the need to develop strong theoretical underpinnings for BMI.

Whilst the ability to measure BMI is an exciting prospect, the researcher has noted that the measurement was limited to one industry (manufacturing) in relatively small businesses. The duration of the observation of BMI as well as measuring the dimensions of BMI was not stated. It is also interesting that whilst this study was published around the same time as that of Foss and Saebi of 2017, no attempts have been made to review, refute, or add onto this proposed measure of BMI.

For the purposes of the study, the two main takeaways for BMI outcomes, in relation to mining business models and their innovation, is the need to pursue optimal resource capabilities which include dynamic capabilities of a firm and its enabling structures (Foss & Saebi, 2017; Matysiak et al., 2018; To et al., 2019). The pressure to sustain relevance and managing different competing stakeholder demands is a crucial capability for leaders to develop to continuously interpret the emergent challenges to pivot within complexity and chaos and achieve firm resilience(Gaspar et al., 2021).

2.9 Conclusion

The literature review underscores the theoretical need to explore the impact of the operating context and its complexities, including local regulatory framework social systems, organisational structures, and capabilities of local firms in order to better identify systems that need to be in place to enhance the chances of realising additional value through innovative mining business models. Linkages between broad search behaviours of firms for innovation (Snihur & Wiklund, 2019) could open opportunities for collaboration across industries, stimulate open innovation platforms (Altman & Tushman, 2017) and foster entrepreneurial thinking in established firms (Jeffrey et al., 2017). By so doing, further the management capabilities of MNC firms (Matysiak et al., 2018) for effective BMI.

In reaching the objective of this chapter, the review of literature has led to considerations of invitations for further research which were taken forward in this study. There is a need to explore whether and how the operating environment affects local firms and their MNCs partners to innovate on current mining business models. As (Barnard et al., 2017) points out, there is a paucity of research on this topic in African countries. Key considerations for the anchor research question is to explore how management is structured and capacitated to take

advantage of technological innovations, emergence of digitisation and digitalization landscape in mining, and what role the local environmental, including the social and governance considerations, affect the ability to effectively innovate on business models (Mbunge et al., 2021).

The figure below presents a conceptual framework drawn from the literature reviewed with regards to the known antecedents of BMI, its moderating and mediating factors as well as its outcomes.

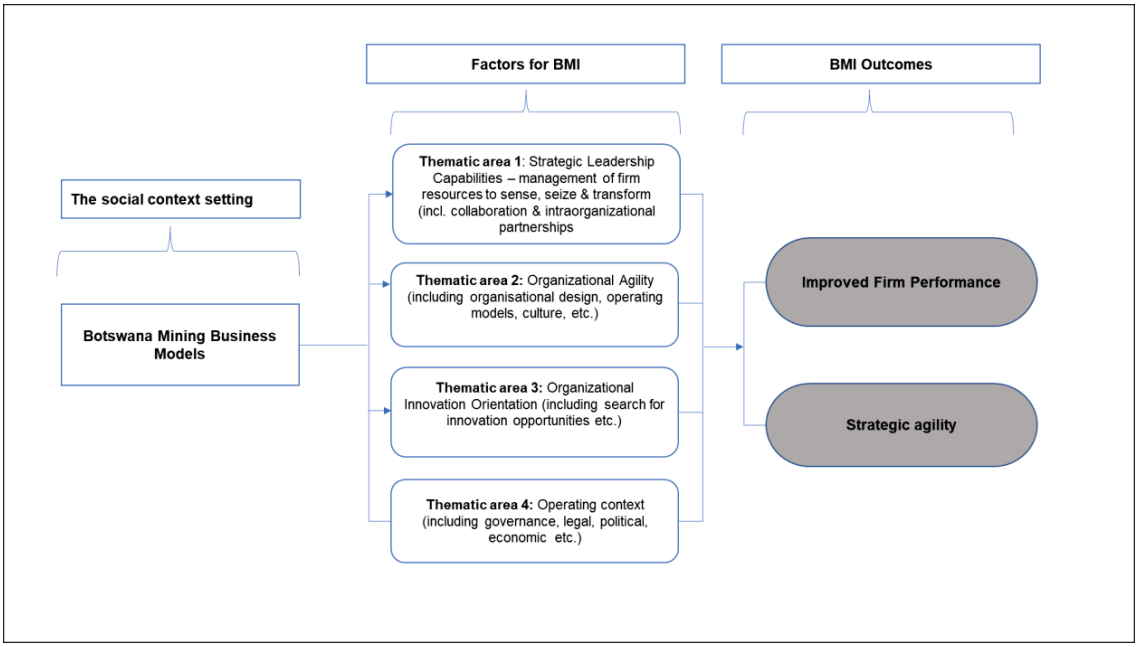

Figure 1: Conceptual framework from literature review

The conceptual framework summarises, through the theoretical analysis and various arguments, the conditions for BMI in mining and how these may play a pivotal role in the ability of leaders in the Botswana's mining industry to navigate complex operating environments and extend the business viability of their operations in the midst of competing strategic goals. The conceptual framework draws both on seminal and recent work by scholars, articulating the role of the environmental context (including country specific factors), the firm's strategy and its evolutionary fitness (dynamic capabilities), innovation search orientation (innovation and value co-creation networks) and organisational design (a resource based view) to manage complexity and radically reconfigure the business models for sustained competitive advantage and resilience (Dunbar et al., 2020; To et al., 2019); (Matysiak et al., 2018).

Due to the observed nature of the focus of current and extant literature on entrepreneurial firms, and rarely on the mining industry, an opportunity exists to further the knowledge and

understanding of the applicability of these concepts on MNC dynamic capabilities and dynamic capabilities within the context of DC's. DC has been chosen as the underpinning theory of the study. Clarity is still sought on the moderating and mediating factors of DCs on firm performance (Bitencourt et al., 2020) in Botswana's mining sector. The researcher wishes to further explore whether the hybrid ownership models of firms affect the ability of firms to leverage their capabilities to innovate on mining business models.

The research project sought to determine the role of the operating environment on BMI in Botswana's mining firms as well as to develop a framework that could be used by businesses to foster deep organisational search behaviours that leverage wider co-creation networks to transform current business models for sustained value creation and capture (To et al., 2019). Therefore, as a process, the emphasis of BMI on the capabilities of an organisation, its leadership competencies, and learning mechanisms being critical for its success ties it closely with dynamic capabilities being an internal antecedent (Foss & Saebi, 2017). This supports claims that the ability of firms to navigate dynamic environments cannot only depend on technological innovation but also on the firm's ability to leverage its competencies such as its people, infrastructures, and existing technologies (Snihur & Wiklund, 2019).

The conceptual framework (Figure 1 above) is used to frame the research sub-questions that provide a lens through which the interview questionnaire will be based upon in the following chapter.

Chapter 3: Research questions

3.1 Introduction

1. How does the differing operating context of Botswana to that of the parent multi-national company (MNC) affect the firm's management's ability to leverage dynamic capabilities for business model innovation?

The purpose of this question is to determine factors at play that enable or hinder local TMTs from employing their DCs or leverage those of the MNC firm to contextually sense (internal/external opportunities & threats), seize (opportunities incl. those availed through association with MNC) & transform organisations for improved BM performance outcomes.

2. How do top management team teams in Botswana's mining companies translate challenges posed by increasing complexity and rapid technological innovation search for BMI opportunities?

The purpose of this question is to determine the processes by which TMTs leverage their organisations core competencies (knowledge, resources, processes & systems) to elevate innovation to the dimension and scope that drive BMI? The question is premised on the characteristics of BMI capable firms as those able to search broadly (across industries and beyond simpler product, process innovation and technological adoptions). *The comparison of literature reviews borrows primarily from papers that talk to on Search behaviours of a firm(Snihur & Wiklund, 2019) and the DCs of MNE(Matysiak et al., 2018), as well as contextual BMI(To et al., 2019).*

3. How does the firm's organisation structure affect the management's ability to innovate on business models?

The purpose of this question is to determine whether the dynamics of being a subsidiary firm, its organisation design (organisation of its work, resources i.e., people, processes, systems, governance etc.) have an impact/effect on ability to innovate on BMs i.e., issues of autonomy in decision making, ownership structures enable/hinder BM & innovation search behaviours.

The following chapter discusses the research methodology that will be applied to the data collection, analysis, and interpretation of findings.

Chapter 4: Research methodology

4.1 Introduction

The research proposes to determine what impact the operating context of the firms have on their ability to effectively innovate on their business models to improve delivery of value to their stakeholders. The qualitative research methodology has been chosen because of its ability to study a phenomena in its natural observed environment. The basic interpretive framework underpinned by constructivism affords the researcher the opportunity to determine what the phenomena of BMI means for the actors as they interact with it in their environment (Merriam & Tisdell, 2015).

The basic interpretive framework will support an inductive approach in which data gathered from interviews will be analysed using thematic analysis to extend understanding of the BMI phenomena and how mining firms operating in a context different from their parent MNC navigate the dynamism of a foreign context.

4.2 Population

The population of this research was highly experienced individuals from different mining companies, mining sectors players such as senior government ministerial departments members and representatives of industry players, such as the Botswana Chamber of Mines. The selection of the population was intended to comprise of top management team members such as Managing Directors/Chief Executive Officers, C-suite teams including technical senior managers, managers influential to strategy management, top management teams of oversight bodies such as the Botswana Chamber of Mines, the leadership of government ministry such as permanent secretaries and directors. The inclusion of government top ranking officials is due to the fact that they form part of the oversight bodies of some of the mining companies which fall within the unit of the analysis of the study which is the Mining Sector of Botswana and from time to time, might present divergent experiences (Bloor & Wood, 2006). The design of the sample population was intended to draw depth and width of perspectives based of the dynamic interactions of industry players in Botswana's mining sector.

4.3 Sampling

The purposive sampling, augmented by snowball sampling method was chosen due the need to get a specific understanding of the perspectives of a representative group such as executive level managers who belong to mining firms that are partially of wholly owned by multinational companies (Merriam & Tisdell, 2015). Participants criteria was executive level leaders representing top management teams of the firms operating in the mining sector. Participants

were also chosen to represent members of a typical executive leadership team including Finance, General Managers of operations, Senior Executive Level Technical Managers and MD/CEO level. Snowballing was chosen as a provision to back up the depth and seek further clarity in the case that any member of the sample would recommend further investigations or at the researcher's discretion.

4.3.1 Sample Size

Whilst review of extant literature of determining the appropriate sample size indicated not to have yielded definitive guidelines on the most appropriate sample size, data saturation was identified as the principle which researchers ought to prioritise (Guest et al., 2006). In their review and analysis, Guest et al., (2006) concluded that saturation, defined as a point at which no new information emerges and no further coding can be done, can be reached by 12 interviews. The plan in this study entailed a plan to interview between 12 to 15 participants through semi-structured interviews, with a provision to build in time to schedule any recommended participants by the respondents as were to be expected with a snowballing purposeful method (Merriam & Tisdell, 2015) further. Purposeful sampling method would for the researcher to extend the interviews as information emerges during analysis or if transcripts saturation was not achieved was achieved within the planned sample population. The data collection stage was only targeted to interview between 12 to 15 participants of executive level top management teams within mining companies in Botswana who had association with multinational.

4.4 Unit of analysis

Due to the exploratory nature of the study, the research will focus on studying companies which operate only in Botswana's mining sector with a further delineation for firms whose ownership comprises partly or totally of foreign overseas multinational companies (MNCs). The duration allocated to the research study also imposes a limit to the horizontal reach towards other mining companies. As such, only individuals within companies that fit the herein specified criteria of the unit of analysis. This selection at the firm level of analysis based on the criterion of firms selected is in line with recommendations by Merriam and Tisdell (2015).

4.6 Time Horizon

The study was a cross-sectional design. As opposed to a longitudinal study, data was collected at a point in time for this study.

4.7 Data collection instrument

On the basis of the research method chosen, the researcher designed a semi-structured

interview guide that was used as source of primary the data collection. This method was chosen to provide prompts of areas are being covered in semi-and ensure all areas of enquiry critical to the quality of study outcomes would be addressed (Bell et al., 2018). The interview guide was designed, and questions segmented according to the conceptual framework proposed in Chapter 2. The objectives of each question and its meaning was explained to the participants in the interview. This approach of using a semi-structured interview guide was to draw deep rich insights from the participants of their experiences of the phenomena of BMI within their social context. The semi-structured interview guide is found as appendix E of this report.

4.7 Data collection

On the basis of the research method chosen, the researcher designed a semi-structured interview guide that was used as source of primary the data collection. This method was chosen to provide prompts of areas are being covered in semi-and ensure all areas of enquiry critical to the quality of study outcomes would be addressed (Bell et al., 2018). The interview guide was designed, and questions segmented according to the conceptual framework proposed in Chapter 2. The objectives of each question and its meaning was explained to the participants in the interview. This approach of using a semi-structured interview guide was to draw deep rich insights from the participants of their experiences of the phenomena of BMI within their social context. The semi-structured interview guide is found as appendix E of this report.

4.7 Data collection

As an exploratory qualitative study, the intended method of data collection will be through semi- structured interviews which will enable the adjustment of questions and further probing as more data is gathered (Bryman et al., 2018) or as may emerge after analysis of transcripts (Fusch & Ness, 2015). The interviews were conducted using various Microsoft Teams videoconferencing and transcribing application. The transcripts were reviewed and cleaned up for variances in the sound to text transcription which mostly occurred due to inaccuracies in capturing accents of participants and then imported into the Atlas Ti software for further analysis.

4.8 Ethics

This research was conducted in adherence of strict ethical protocols as guided by the University of Pretoria's ethical guidelines for conducting research involving humans. In an age of increased data security threats, it is critical to assure participants that all precautions would be taken to keep their information safe and confidential. The researcher adhered to the

requirement of the ethics clearance committee of the University of Pretoria's Gordon Institute of Business Science. The research design takes into consideration the Protection of Personal Information Act 4 of 2018 (POPIA) and as such together the with ethics clearance process, the researcher will always ensure all considerations are taken with regards to POPIA. The following confidentiality assurances were made to participants and organisations:

- The report does not contain names of individuals or organisations even when known to the researcher (as in the case of interview data collection method)
- Information will be reported in an aggregated format
- Data is stored with any identifiers as illustrated by table 1 below.

Data access will further be password protected to further mitigate the risk of authorised access.

Table 1 provides a guide for the reader on the coding of names to maintain participant anonymity.

Table 1: Coding for Participant Anonymity

Identifier	Descriptor
Par	Short code for participant
1, 2, 3…	Participant Number - In interview chronology
Div	Short cdoe for division category
01, 02, 03….	Number representing division category

4.10 Data Storage

Data collected for this research was in the form of voice recordings and notes. Data will be stored on password encrypted cloud-based platforms such as Microsoft OneDrive where backups are accessible from anywhere in the world through security-controlled access log-in. At the conclusion of the research, the report will be submitted to GIBS as part fulfilment of the MPHIL-CS requirements which will be kept for a minimum of ten years.

4.10 Data analysis

The data analysis process involved the identification of recurring patterns that characterize the data in which recurring patterns in responses are identified (Braun & Clarke, 2006; Merriam & Tisdell, 2015). Coding was conducted to explore emerging themes. Saldaña (2016) further affirms that whilst themes are not codes, but rather an outcome iterative coding which enables generation, supports the use of thematic analyses as part of a progressive method. Braun and

Clarke (2006) also recommend that when applied appropriately, the thematic analytic method enables the researcher to reach the identification of emerging patterned data tin which the themes and their meanings capture some essence of the research question. The researcher used ATLAS ti for data analysis. This ensured a structured and trusted method to analyse data for effective analysis and interpretation. Figure 2 below (Saldaña, 2016), captures how through coding, the researcher followed a structured approach towards contributing meaningfully through decoding of different perspectives of participants.

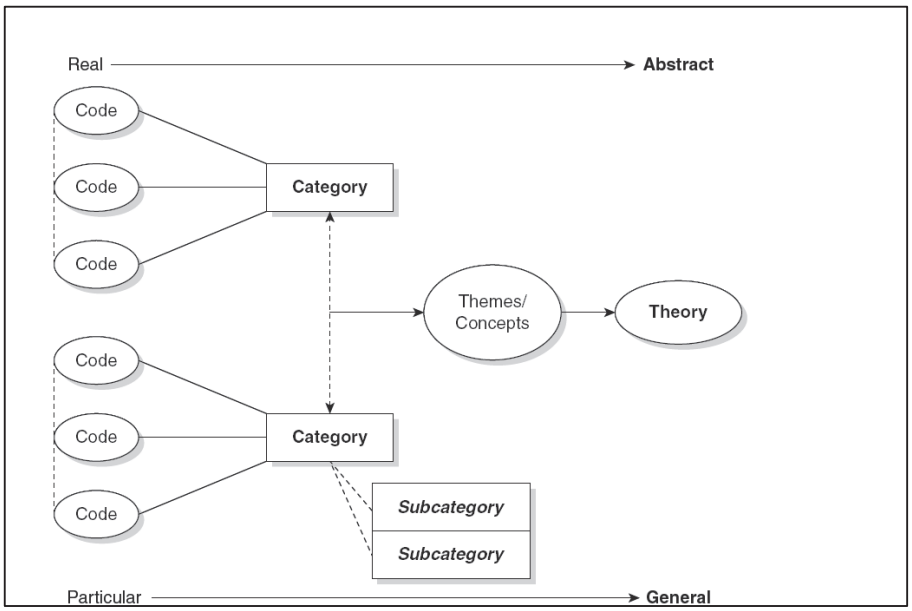

Figure 2: A streamlined codes-to-theory model for qualitative inquiry
Source: (Saldaña, 2016)

4.12 Credibility and trustworthiness

Cope (2014) emphasises that one strategy that can be employed to ensure trustworthiness of data is to maintain audit trails and support emergent themes with quotes from respondents. This implies that the study should allow sufficient time to be built into the data collection and analysis stages of the research. This is further consolidated in the reporting stage through a descriptive summary of the strategies undertaken in data collection, analysis and assurance of credibility and trustworthiness.

4.12 Data Validity, Reliability and Transferability

The use of the exploratory and interpretive qualitative method of research raises concerns of whether the researcher can remain objective and apply rigour in ensuring data does not skew the outcome and can be replicated across other studies (Merriam & Tisdell, 2015). The researcher employed a form of triangulation in which the researcher included in the sampling

population participants from firms across the mining sector in Botswana including oversight role holders in the mining regulatory landscape and oversight bodies such as Botswana Chamber of Mines which mandated by the government of Botswana to monitor activities of the mining companies in Botswana (Palinkas et al., 2015).

4.13 Researcher bias and assumptions

As a researcher coming into this study, there are implied interests both as a concerned citizen, an employee of a mining company (which is a 50:50 Joint venture between government of Botswana and De Beers, part of the Anglo American Group of companies) and as an entrepreneur. There is acknowledgement of possible bias towards the need for companies to innovate on the company's business models as the survival of the mining industry is of crucial importance to future generations. As an employee, especially a programme manager of the Transformation and Innovation Programme, the researcher has a vested interest in the success of the programme. As an entrepreneur, the successful innovation of mining companies in Botswana translates to innovation across the value chain and opens opportunities for citizen owned companies to do business with the firms as well as creating lasting socio-economic impact for the communities that these firms operate within. The researcher carries into the study an assumption that the purpose, vision, and strategies of the mining companies are aligned to the nation's strategic vision of economic diversification and creation of a knowledge-based economy. This implies that the researcher could be biased towards a critical assessment of what may be deemed as hesitation and inadequate capacitation of local top management teams as a critical component for successful BMI.

To safeguard against the researcher's bias, particular attention was applied by carefully capturing participant responses as close to their original responses as possible (Guest et al., 2006). The researcher applied rigor during coding to review the saturation analysis before proceeding to interpretation and analysis (Fusch & Ness, 2015). The researcher maintained objectivity through an iterative process of remaining rooted in the underpinning framework, concepts and constructs of BMI as being studied in the context of the research to report on the emerging insights and their analysis to contribute to the body of knowledge.

4.14 Research limitations

The researcher's early anticipation of study limitations was primarily ring-fenced to time/duration of the study as well as possible challenges to access interview participants. With the on-going dynamic environment posed by COVID-19 as the region heads into the winter months, leadership teams may be pre-occupied with issues of safety and balancing production pressures, possibly relegating the interviews to a lesser priority. The research was limited to

mining companies that were partly owned by multi-national companies to maintain the posture of comparison with regards to contextual factors on the BMI effectiveness of mining companies operating in Botswana. The study was limited to Botswana and the sample population was restricted to individuals in top management teams and leadership.

4.15 Conclusion

This chapter presented the methodology followed in conducting this research. The next chapter will present the results of this study.

Chapter 5: Research findings

5.1 Introduction

The purpose of this chapter is to present the findings from the analysis and interpretation of data collected for this research project. A total of twelve semi-structured interviews were conducted using Microsoft Teams. The interview transcripts were imported into Atlas Ti data analysis software for coding. Before the presentation of the findings of this research, demographic details of respondents as well as the data analysis process followed to reach the results being presented. The findings of the research will be presented thereafter with the themes that emerged from the analysis.

5.1 Demographic details of respondents

The demographic details of participants are presented in the table below. The identities of the respondents have been removed to maintain anonymity.

Table 2: List of Research Participants

Participant No.	Division	Division Code	Participant Code	Designation	Mining Sub-Sector
Par1	Executive	Div01	Par1_01	CFO	Diamonds - HQ
Par2	Regulatory Oversight	Div05	Par2_Div05	CEO	Regulatory - SOE
Par3	Technical Leadership	Div03	Par3_Div03	Country Manager	Metals
Par4	Regulatory Oversight	Div05	Par4_Div05	Director - Ministry	Regulatory - Gov't Minis
Par5	Executive	Div01	Par5_Div01	Managing Director	Diamonds - SOE HQ
Par6	Gen. Management	Div02	Par6_Div02	General Manager	Diamonds - Operation
Par7	Technical Leadership	Div03	Par7_Div03	Strategic Business Planner	Metals
Par8	Executive	Div01	Par8_Div01	CFO	Coal - HQ
Par9	Executive	Div01	Par9_Div01	General Manager	Diamonds - Operation
Par10	Gen. Management	Div02	Par10_Div02	Country Manager	Mining Contractor
Par11	Technical Leadership	Div03	Par11_Div03	General Manager	Metals - GM
Par12	Executive	Div01	Par12_Div01	Managing Director	Diamonds - SOE HQ

Table 3 below is a short key to guide the reader to understand participant categorisation.

Table 3: Participant Division Coding

Division Code	Code No.
Executive	Div01
Gen. Management	Div02
Technical Leadership	Div03
Regulatory Oversight	Div04

A standard proforma informed consent letter was signed by each respondent before the interview was conducted. This was stored separately from the data collected. The consent form was sent by email to participants for signature once interviews were confirmed. To ensure that all ethical issues were followed, the researcher explained to participants that they had a right to withdraw at any time and that their identity would be protected as the results would be presented in an aggregated form.

5.2 Data Analysis process outcomes

An inductive data analysis method process was followed. This involved coding data and, through an iterative process, grouping data into categories, following patterns that emerged and analysing them for themes that allowed the decoding of constructs from the themes (Braun & Clarke, 2006). The primary analysis resulted in 178 codes which were then grouped into 14 categories as illustrated below by the adopted from Saldaña (2016).

Table 4: Data Analysis Process

Data Analysis Process	
1.	**Interview Transcription**
	Reading and reviewing Transcripts - The candidates were interviewed using Microsoft Teams. Transcripts were then downloaded by the researcher. The researcher proceeded to edit the identifiers using a custom coding system to remove names in order to protect anonymity of participants. - This step is in line with the University's requirements to protect the identity of participants.
2.	Data Analysis
2.1	**Coding** - The researcher used ATLAS Ti 22 as the data analysis software - The first coding produced a total of 327 codes - The researcher reviewed the codes and to primarily clean up the repetitious codes and merged those that were similar - This process reduced the codes to 177 codes
2.2	**Categorising** - The researcher went onto a phase of aggregating the coded data and created categories using an approach that applied the lens of the conceptual framework created from the literature review in chapture 2 of the report. This enabled the researcher to progress on to the phase of thematic analysis and emerge with themes. - This process resulted in the emergence of 14 categories, also referred to as groups in Atlas TI22
3.1	**Thematic analysis** - From the process of creating categories, the researcher looped back onto a processes of convergence of data. - The categories enabled the researcher to establish trends in the data being analysed from the research participants. - The categories grouped responses that were similar and started to create a semblance of flow towards key areas that reflected the areas identified as factors that affected the ability to the firms to innovate on business models. - The data also reflected sentiments shared and expressed by participants which allowed the researcher to identify themes and asses data for any emerging new trends of sentiments.
3.2	**Constructs and concluding analysis** - The final step in the process followed by the researcher was to collate the themes that emerged from the analysed data into constructs which represent emerging concepts that reflect alignment to the conceptual framework that was synthesised from the literature review in chapter 2. - These constructs are composed of themes and the groups of coded data that reflect the participants experiences and insights as captured in the interview transcripts. - The constructs and their themes were collated into a table and the emergent additional concepts decoded from the data analysis were also reflected and added to the relevant areas of the conceptual framework form chapter 2.

Figure 3 below depicts the progression of coding to a point of saturation. Coding saturation was reached at the 12th participant as this was the 2nd consecutive interview at which no new codes emerged.

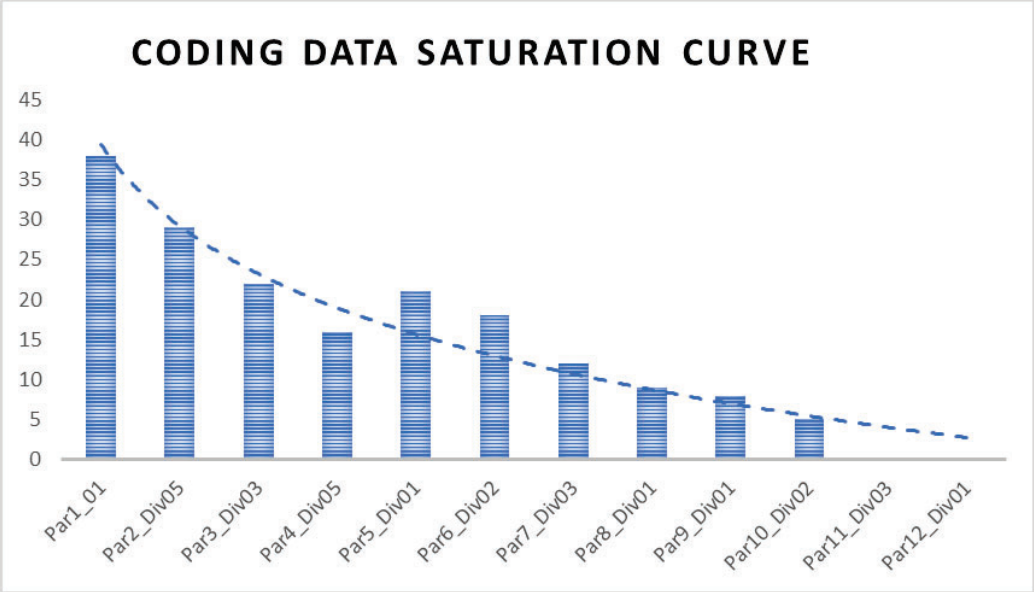

Figure 3: Data Saturation Curve

5.3 Themes and constructs

This section will present themes that emerged from the analysis and interpretation of data. The results have been presented in line with the design of the research questionnaire (found in the appendices section) in which questions were grouped into thematic areas in line with the conceptual framework developed from the summary of the literature review in chapter 2. This approach enabled the study of the BMI phenomena, drawing insights from the experiences of the research participants within their social setting (the mining sector in Botswana). These themes were identified enablers of contextual BMI through the following key areas: The ability of the top management teams to define context-appropriate BMI enabling strategies; leadership innovation orientation (search behaviours); organisational design and factor at play imposed by the operating context of the Botswana's governance and regulatory landscape.

The section layout is for the presentation of the construct, the evidence for the themes within the constructs, an analysis of evidence and a conclusion of every construct area.

5.3.1 Construct 1: Construct 1: Strategic Management as Dynamic Capabilities

Participants were asked for their experiences and observations on the of role played by leaders in creating and managing strategies that enable an environment where BMI thrived. This section of the interview served to determine factors that enabled or hindered local top management teams from employing their dynamic capabilities or leverage those of the

multinational corporation to contextually sense (internal/external opportunities & threats), seize (opportunities incl. those availed through association with MNC) and enable the transformation of organisations for improved BM performance outcomes.

5.3.1.1.1 Evidence:

Leadership capabilities to create BMI enabling strategies

Most participants indicated that local top management teams of MNC subsidiaries and those of wholly owned local firms had experience and capabilities in the areas of strategic management that support BMI. Most participants said top management teams in Botswana's mining sector possessed leadership capabilities that enabled them to co-create strategies with their MNC partners and peers and to translate this to suit local operating contexts. A few of the participants, however, went on to suggest that local TMTs must invoke strategic decision making when working with MNC counterparts.

The figure below illustrates the categories of grouped coded data that formed the theme of strategic management.

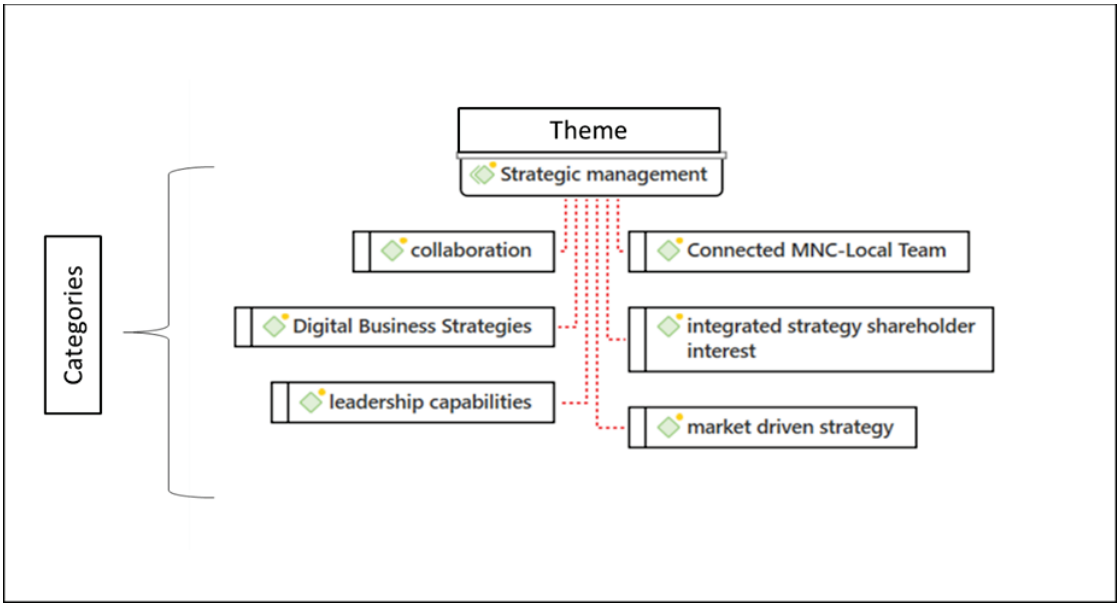

Figure 4: Strategic management theme

Quotes selected from the data collected from participants indicate the participants experiences of the observed and know phenomena under investigation, in this instance, evidence of the top management teams' strategic management capabilities leveraged to direct the local strategy making process.

According to Participant 12:

> *"My response is yes, context actually matters. And there's also a need for relevance and be conscious of the socioeconomic issues that are you are dealing with. Any responsible company would be conscious of what is happening in that environment and the companies that I'm talking about are part of the larger groups of MNC Companies some which have formed partnership with the Government of Republic of Botswana therefore what would they do? We should also be conscious of this a balance between the commercial issues and the issues that are also relevant to the other stakeholders when crafting our strategies."*

Leadership Capabilities

Even though the majority of participants expressed that they are confident in the strategic management capabilities of the local top management teams, some respondents also expressed concern that local TMT had in the past abandoned their strategic plans even if these appeared to be aligned and appropriate to be retrofitted into an incoming bottom down MNC strategy. Participant 7 attributed this to self-doubt:

> *"I think in my experience, I am going to use different contexts from different companies, even across the board. You realize that the multinational companies sort of have dominion over the local operating. To such an extent that you realize that locally we don't have much of an influence. We highly depend on these multinational companies. I think primarily because we tend to believe that because they are multinational that they've got a lot more experience than us. For lack of a better word, that they've seen it all with regards to mining, so much that we tend to withdraw, we tend to sort of take the back seat and let the multinationals lead and also, I think I don't know whether it's also an issue of Culture. We tend to also believe a lot more on leadership thinking that leadership has a lot more correct answers than we do so in terms of innovation."*

Participant 7 added that local teams tended to undermine their own capabilities to drive innovation and as a result allowed MNC to overrule local-strategies and their plans:

> *"So, I think generally that's just my view, so even if we were to have an innovative idea, we sort of let the multinationals either approve or disapprove of the idea, though, we know in the Botswana context, they can actually work."*

Market driven strategies – Scanning/sensing

Most participants said local TMTs were empowered as they had the liberty to make strategic decisions based on insights drawn from their scanning of internal and external operating environments for risks and issues. Participant 4 pointed out that strategy development could at times be affected by the ownership model. According to Participant 5:

> *"The parent company will be sitting somewhere in Australia and Canada and anywhere else in the world. But then you'll be having companies like X, where part ownership is government and the other is the MNC, there partners have a board and decisions are agreed. Other companies like Y Mine now, this one you know, it doesn't have a parent company anymore out there, so therefore I think the management and maybe let me say the decisions taken will be emanating from here. So, I have those two scenarios in mind who are partly owned by MNCs, and local players are not very strong and those are the ones that MNC usually have a stronger say. But that is my opinion."*

Collaboration – Leveraging MNC dynamic capabilities

Even though some participants expressed concern that local TMTs do not hold their ground when challenged on their local strategies, the dominant sentiment was that leaders demonstrated the capability to leverage existing local capabilities as well as willingness to leverage those of the MNC, which were derived from exposure to the global operating context and best practice in scenario-informed strategy development. According to Participant 1:

> *"The Company X the strategy so far has been a collaborative effort. It's bottom up and top down simultaneously. It has sort to harness ideas and viewpoints from its stakeholders, including employees who are the vastest and most important stakeholders. I think that just like you are currently seeing by yourselves in the strategy review exercise, it's a process that seeks to get feedback from the employee body and from other stakeholders. It is in the same fashion that these strategies are also created."*

Participant 1 added that:

> *"Secondly Debswana's leadership is exposed to Content from our group and De Beers. Taking a line of sight for what that strategy is, so it is really a pure process of just simply having line of sight. I will recall that to be De Beers' building forever strategy has been directly shared with Debswana, so it's through those sharing and those mutual learnings. That this alignment that is continuously calibrated to make it more effective."*

5.3.1.1.2 Analysis for emerging theme - Dynamic Capabilities: Sense, seize & transform

Most participants expressed having observed and experienced the capabilities and abilities of local TMTs to interpret MNC and shareholder interests in the adoption, creation, and contextualisation of the local strategies. In some instances, some respondents expressed concern for an apparent lack of self-confidence of local leaders and a tendency to rely on MNC leadership to sign-off or endorse local strategies. Some of the sentiments expressed extend to other themes and calls for local TMT to leverage diversity and focus on the local communities and ecosystems for collaboration.

5.3.1.1.3 Conclusion on Construct of Strategic Management as Dynamic Capabilities

Most participants indicated that whilst local TMT demonstrated the ability to translate top-down MNC strategies and were often able to develop local bottom-up strategic plans to implement agreed strategies, they lacked autonomy to make strategic decisions on how they should contextualise the local operating entity's strategy. All respondents expressed an appreciation and recognition for the advantage of having an MNC partner. They indicated that they believed that the top-down strategies had the rigor and benefit of the international experience that developed from strategies and innovations across multiple jurisdictions.

Participants said when TMT are empowered, they have the liberty to make strategic decisions from the insights drawn from scanning internal and external operating environments for risks and issues. Even though some participants expressed concern about the apparent lack of local TMTs to hold their ground when challenged on their local strategies, the dominant sentiment was that leaders demonstrated the capability to leverage existing local dynamic capabilities as well as willingness to leverage those of the MNC.

5.3.2 Construct 2: Leadership innovation orientation (search behaviours)

Leadership innovation was put forward to participants as the innovation search behaviours of the firm and its leadership. This was explained to include how the firm is inspired to search broadly for innovation and seeks to challenge current business models in operation/utilisation across the global firm, the local mining sector as well as to seek inspiration in other unrelated industries. The researcher expanded to share insights from literature that broad search behaviours also enabled teams to challenge commonly known typed of innovation which are typically confounded to a focus on technology adoption, process optimisation, product, and productivity considerations such as cost-efficiencies.

5.3.2.1 Evidence for search behaviours

Most respondents identified familiar and common types of innovation as being around process optimisation and productivities improvement, which are often underscored by the adoption of technological innovations or advancements made elsewhere.

The figure below illustrated the categories of grouped coded data that formed the theme for innovation search behaviours.

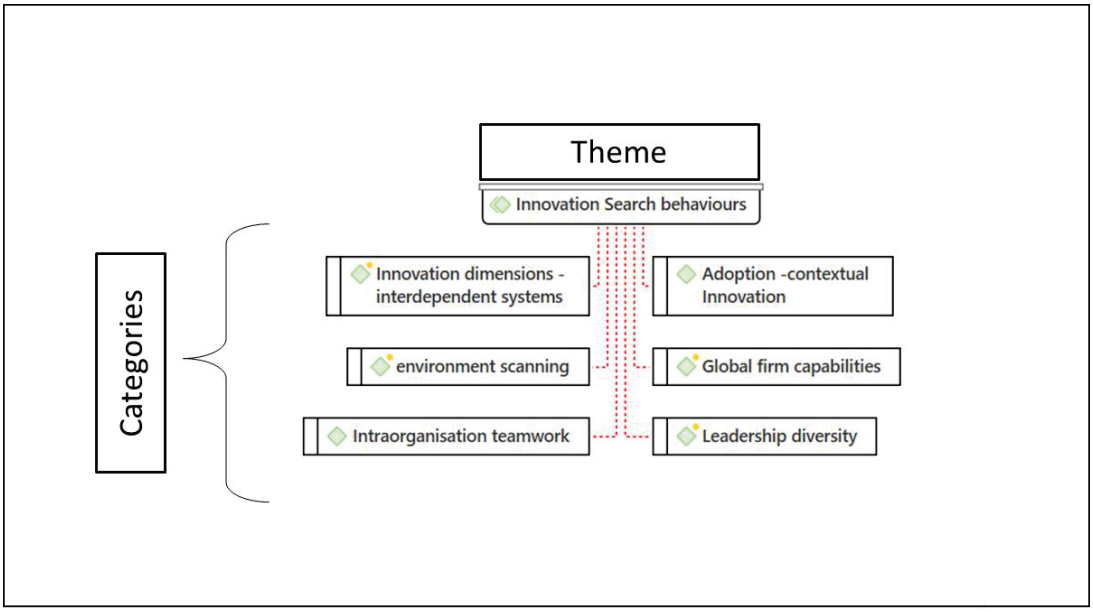

Figure 5: Innovation search behaviours
Source: Researcher

Innovation dimensions on interdependent systems

A few participants recollected historic innovations that they believed qualified for broad search behaviours which looked beyond what was known or being practices in mining both globally, regionally and within their MNC group of companies. In two of such instances, examples were given for collaboration that included the MNC, academia and research institutions abroad and collaboration with a sister-company within the group across borders and another that challenged the way shareholders appropriated funding for stay-in-business projects. Participant 2 recollected:

> *"Let me give you another example that will actually make you to understand that you have to do research and innovation. In the early 90s we engaged University of Brisbane, QLSD, Australia to give us a better understanding of how explosives work*

and interact with the rock types. Around that research that we did, and we invested in. To tell you it was a quantum leap for both MNC in South Africa and the Government of Botswana and then we suddenly had so much efficiencies improvement in throughput in the plant."

Most participants also highlighted a need for innovation-purposed funding mechanisms. The expressed that shareholders usually have different priorities and preferences to where funds should be directed. The quotation below is evidence of participant who went as far as giving evidence of how as a senior leadership team once challenged the shareholders on the revenue models of the company as the prevailing one at the time disadvantaged the local operating entity:

"So, I remember when, we were not able to satisfy a Sight (sales), we literally didn't have money left to run the organization. And I mean in a company the size of Company X, not having any money? That was unheard of, so, we (local company) had to push to change that and insist that from now on after every sight we have to retain some funds. You know, but it wasn't the practice then. So, on the one side, this is the impact of being part of a multinational. You know, depending on the complexity of the that structure, you (local operating company) could be a big entity in Botswana but a small entity in the global space."

The participant's concluding statement went to express how this ownership complexity plays out in the parent company's decisions, especially for capital intensive projects:

"So, if projects are looked at a group scale to say, "where do we go and invest, which country, which operation?" They compare to where are these big projects, maybe in in gold, maybe in copper, maybe in all this. So, the local entity in Botswana terms is seen as big entity in Botswana, but to group where they belong, you know, they are swallowed, I think the structure. So, this structure brings some constraints."

Adoption as an innovation search behaviour

Most participants revealed that the actors tend to look primarily at technology and its adoption and adaption as a method of innovating to optimise operational performance and revenue. Some expressed concerns that companies operating in the African continent tend to wait for innovation and adopt the technology.

"But as long as we as Africa wait for the technology to come from outside, we will always be the last adopters because they tested in it in their backyards first and made

sure that it worked and it was stable and could be relied on and all that by the time we adopted, they've lost interest in it themselves because they've moved to the next best thing. So I think that's really what I see the biggest challenge and I've seen it happen even with the Company E, we know the automation journey that we are taking it's already working in in other places you know to a point where they are now taking it to South America and, in Africa, we probably will be the last," said Participant 10.

However, the realisation of the need to collaborate and innovate beyond just mining was also met with some advice from respondents that the local context in Botswana called for its own unique views and considerations which were even different from the ones in the Southern African regions., but still calls for leaders to manage the different interests of shareholders. According to Participant 5:

"…but what's going to be interesting for Botswana in the mining sector going forward, is really how we look to innovate around based on how we are set up. We are managing different competing demands on the industry and shareholders and not just the industry. We have look across industries and across sectors. We must look around agriculture, will need to think about ESG, manufacturing, will also need to think about it and when we think about things like these, you're just transitioning. As much as we'd like to say, "No, we are not in the same position as South Africa or Zimbabwe." What remains is, it's very much for the business leaders to ensure that we are still looking at this shared value propositions in managing the businesses that we are entrusted with."

Intra-organisational teamwork for broader innovation search and learning

Most of the participants lauded the good relationships they had with other operations within the group of MNCs. They cited that these relationships allowed them to collaborate and learn from their innovation journeys as a way of leveraging MNC capabilities within mining in the global context. However, some respondents called for the increase and integration of the diversity of teams and their backgrounds including the acceptance of non-technical leaders into the fold of leading transformation of the mining industry as a possible improvement. Participant 1 lauded the infusion of diversity into mining TMTs as something that is bound to bring diversity of thought and inspire searching for innovation beyond what is known in mining technical spaces. According to Participant 1:

"There used to be a thinking that said, the person who leads company X should always be an engineer. And that person was taken between the mining engineer, the

metallurgical engineer. Now the government does something totally different and puts an economist. But what we're seeing is that because of that cross functionality, they are different, and the new MD is able to bring a different flavor, a, different background."

Participant 12 cautioned on the risk of celebrating internal collaboration to the detriment of collaborating widely and across sectors.

"Sometimes what we do internally within your environment is quite good. But you also miss opportunities in the sense that when you go outside your environment, work with other entities, they can also bring a different perspective. That's where diversity comes in."

5.3.2.2 Analysis of evidence

As participants were probed with questions on the different types of innovations, most participants conceded that the local mining sector was predominantly innovation adopters. Some respondents also recognised the importance of considering the context under which the participants and the firms were operating. Participants also cautioned against direct comparisons with other countries as contexts especially, ownership models differed.

Most participants identified MNCs as enablers to adapting best practice. These practices, which they deem key to BMI innovation opportunities, include integrating sustainability matters such as planning for shared value creation with communities. Participants also acknowledged formation of alliances with communities as an innovative change to the business model with regard to ownership. Most participants were eager to break the current mould of looking inwards into mining for innovation inspiration. They also mentioned the adoption of technologies from other industries and sciences, such as space engineering, as inspiring adaptation and fast tracking implementing changes to mining BMs. A common theme was the recognition of existing resources from various local sectors such as academia, research institutions and the strength of a national strategy that explicitly outlined an agenda premised on digital transformation and industry diversification as an opportunity to collaborate across and use resource capabilities of other sectors for transformative and innovative programs. According to Participant 7:

"But other industries are thriving on what other people have done. People out there are already thinking of mining in the moon, you need astronauts to go to the moon. So, mining companies are already in that sphere of actually collaborating with astronauts and understand the environment. it's no longer about being a mining

engineer. It's also about understanding people are nowadays mining data you get a mining engineer who's an excellent programmer, not just a mining engineer."

5.3.2.3 Conclusion on Innovation business eco-networks

Participants seemed to agree that there was an opportunity and room for improving the level of collaboration amongst eco-system players in the Botswana mining sector and in other countries as well as in other industries. Participants also recognised that local TMT ought to elevate their businesses and develop abilities to be innovative and search for innovation inspiration in other industries across the world.

5.3.3 Construct 3: Organisational design as a BMI enabler

The question posed to participants sought to establish how they perceived the appropriateness of current business models to enable firms to remain competitive and sustain their ability to continue operating in a world and economic contexts that were increasingly characterised by volatility ad uncertainty. Business models were further explained to them through definition lens of Teece (2010) as ways in the architecture of the business was set up and arranged and rearranged to create and capture value through the interconnectedness of the processes such as in the processes of mining value chains which include processing, production, and production support functions, their suppliers, communities, host government stakeholders and investors etc.

5.3.3.1 Evidence for Organisational design as a BMI enabler

The probing and follow-up questions in this subsection of the interview guide sought to further explore what was being done to enable interconnected sub-systems of a business model beyond just the physical production structures such as fixed and mobile plants and their primary technical support services. The figure below illustrates the connected themes that contribute to the emergent construct of organisational design as a BMI enabler as extrapolated from participant responses.

The figure below illustrated the categories of grouped coded data that formed the theme for innovation search behaviours.

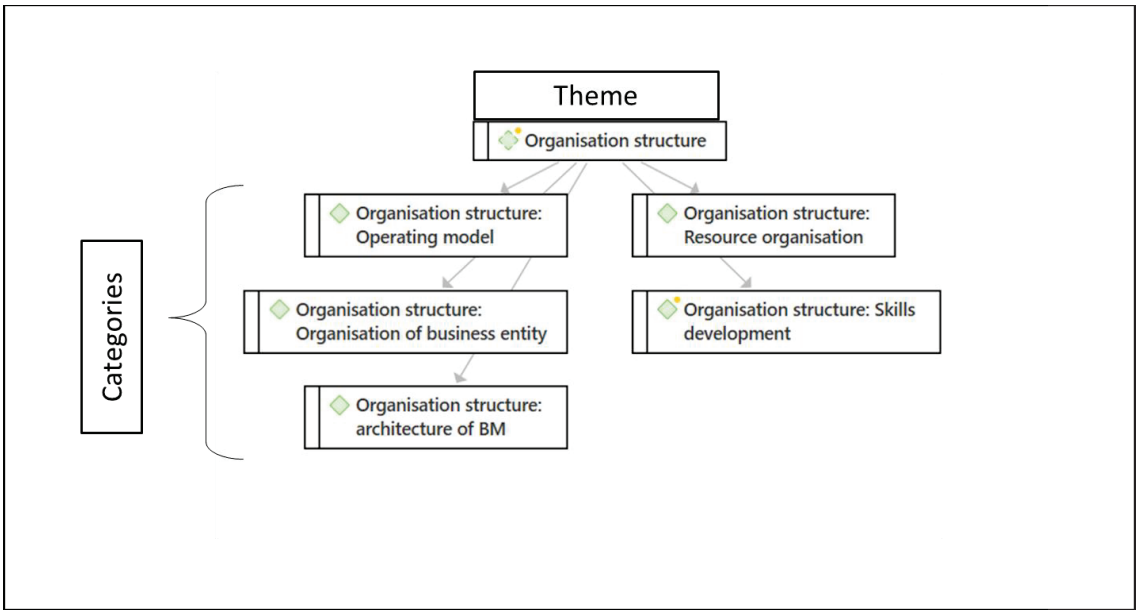

Figure 6: Network diagram - components of a BMI enabling organisational design

The responses to this question were varied as participants mostly associated the significance of the organisation of resources to the organisation's structure such as the functions that formed the organisation (e.g., Mining, Supply Chain, Finance, Human Resources, Engineering etc.). Most participants pointed out the benefits of being associated and connected to MNCs as this provided access to an MNC's structures and capabilities. This was identified as contributing to the reduction of the costs of operationalising strategy and accessing leading innovations and thought leadership. According to Participant 2, this is

> *"…because the multinationals will always have a structure that is supported across the borders of countries…so you can always shop around you know share ideas between yourselves."*

Organisation of the Business entity: MNC and local subsidiary organisation

Interestingly, some participants had worked for subsidiaries of the top global mining houses. Some of these participants expressed sentiments of frustration with the bureaucracy that came with the multiple governance layers and their subcommittees. They cited this as slowing down decision-making efficiencies. In some instances, this was seen as a curtailment of local autonomy to innovate. According to Participant 5

> *"Their parent companies are very active in the industry, and they have tended for a long time to really dictate in all aspects of innovation. Whether it's in terms of your*

technical; solutions that you come up with; or how you basically structure and run your business. They are always there, because they are big players, already in the area."

Organisational structure: Resource capabilities

A few participants went as far as citing the need to invest in capacitating lower-level employees to be able to confidently form part of innovation ecosystem. They pointed out the need to change how firm performance was measured and being able to link performance to robust local sustainability innovation. According to Participant 9:

" We have seen how companies now report some training and development they say a 5% of our proceed or whatever is going to training and development we and then if the number exceeds some global standard or benchmark you haven't seen as a great organization to work for because you invest in the training and development of your people and you know we also need to look at those kind of indices."

Participant 11 suggested the need to have a contextual lens on what the human resource base needs were instead of applying a blanket approach. According to Participant 11:

"I particularly think the professional workforce in Botswana is very educated and on a different level of thinking. So, when we apply ourselves, it's quite key that we align to the level of professionals that we have in Botswana, right. Because it's quite easy to think that South Africa is a bit ahead of us. Therefore, we should look at what they've done. My, opinion is when you take, a mining engineer or I'll take a mining engineer because I'm one with over ten years' experience. When you look at their thinking, their application of innovation etcetera, etcetera and compare it to certain other countries, it's quite different and it's specifically because of the context of the country how we get trained, how we, you know, and how we then strategize must be able to incorporate all these key things. Yeah."

A few participants mentioned the need to incorporate youth into the organization's leadership as way for inclusion of diversity citing that youth also have a different way of thinking. This was supported by Participant 11 who had experimented with including younger people in decision-making:

"I identified one young guy who was 30 years old. I put him in a D4 position. Everyone was saying to me, this is the biggest plant he can't be the plan manager. I spoke. So

what? He's so young then what? Right now, he's the best performing. Plant manager in that operation and he took that plant from 30th percentile to I don't know what I can say to you now beyond 100+, Yeah, I even go there with him to the MD, and I just keep quiet. I don't say anything. He speaks, finishes his conversation and he goes. And I said to the MD that I think I've done my job. I have identified somebody who will take over from me."

Citing one of the top 3 commercial banks in Botswana whose have a majority workforce was young people, Participant 11 added that mining needed to learn to trust people who were different to the current old crop of baby-boomers and follow trends like those in banking. This was supported by Participant 10 who identified the need to review the approach to building organisational capacity to drive innovation at a global scale and impact, thus challenging current leaders to shift their mindset of organisational development. According to Participant 10:

"The best thing we can do for ourselves as a country is focus on the youth as they also have their own generational thing. Like I'm saying the four-year olds are already practicing your Five Why naturally? So, it's generation after generation and the two generations behind us. Right now, you know 30s and all that are doing things very differently from the way we did them. But if you take 18 years 15,16,17, that is the crème-de-la creme that is going to change the way we do things in Botswana and that is where we need to invest. That is why we need to invest as a country, as leadership in Botswana whether political leadership or business leadership, especially business leadership, that's why we need to invest in youth."

The Business Models

Whilst many participants were confident that the TMTs in Botswana's mining sector could lead and overhaul current mining business models, there appeared to be an interchangeable application of the world business models to that of ownership models, which aren't entirely the same things even though both are part of the business model ecosystem of a firm. Participant 10 suggested that current leaders should trigger the challenging of current business models as follows:

"Let's just say a team is made-up of your own employees, that society is made-up of your other key stakeholders that society is made-up of the general community, it is made-up of the legislators, it is made-up of the different policymakers and including the likes of groups like the Chamber of Mines, even churches. To certain extent they

come into play. So. Your ability to deal with all these different, you know, members of society that you operate in makes a big difference in terms of how you can actually cope with this globalization and operate the business."

5.3.3.1 Analysis of construct 3: Enabling Dynamic capabilities - Evolutionary fitness

Most participants had worked across the various companies operating in the country. As a result, they were able to make informed comparisons of the various companies. Most participants favourably compared local subsidiaries in the top 10 major mining houses in Botswana rather than the MNCs. This was due to the ability of taking advantage of more robust structures that spread across multiple jurisdictions.

Participants regardless of their roles in the sector, were confident that Botswana's TMTs in the mining sector were capable of leading an overhaul of the current mining business models. Participants also noted that this capabilities depended on the leeway given by the MNC as well as the TMTs' abdication of accountability to drive innovation. Participant 12 suggested that the abdication of accountability robbed the country of "indigenous innovation" despite availability of facilities and knowledge across sectors.

"I'm going to be partial to engineers as an example. What have we done in terms of engineering and simple engineering. I often hear this term about African problems, application solution. What does that mean? If I think it means what it means, can you tell me what you are doing to do that? I mean it, it may sound very brutal, that as engineers, we can even design a plough or a more robust wheelchair. We get a wheelchair from out there, why if we have so many mechanical engineers? We have process engineers and all we are looking at is BITRI or the food technology institute, so we tend to look at the government a lot. We tend to look at the companies a lot, but as individuals, I think we need to stand up to be able to also build our societies in the country and that's why innovation also come from because you got insights in terms of our experiences and what is happening on the ground."

5.3.3.2 Conclusion on enabling Dynamic capabilities - Evolutionary fitness

Whilst most participants seemed to realise subsidiaries of larger MNC Groups seemed to be adopters of BMI, they believed that this could also be used to learn and leverage the MNC capabilities in BMI. There was a general view that local leaders should work together to embed innovation as a competency, bring diversity into the workforce, leverage youth and their different mindsets to help redefine the organisation that was fit for innovating business models. There was also recognition for a need to challenge the way business were set up, how they

organised their resources and capabilities including funding towards a better disposition to innovate and impact business models. Most respondents expressed strong views on culture, taking an inwards look to local firms, local TMTs and even going as far as acknowledging that the topic of business models, and organisational structures needed a fresh think and better understanding of BMI.

5.3.4 Construct 4: Operating context – Rule and governance

The emergence of the construct as pertaining to governance and regulatory environment emerged from participant responses. The questions around how TMT led in complex and unpredictable environments, what support could MNC TMTs provide to sponsor BMI and what were the factors that affected local TMTs in innovation elicited responses from all participants. Issues of governance (enable oversight and decision-making structures) and the host environment featured prominently.

5.3.4.1 Evidence

Most of the respondents indicated that governance structures such as the boards and their subcommittees introduced complexities into the ability of local TMTs to act autonomously on matters of innovation.

The figure below depicts code categories which resulted in themes that emerged as parts of a construct on governance and regulation.

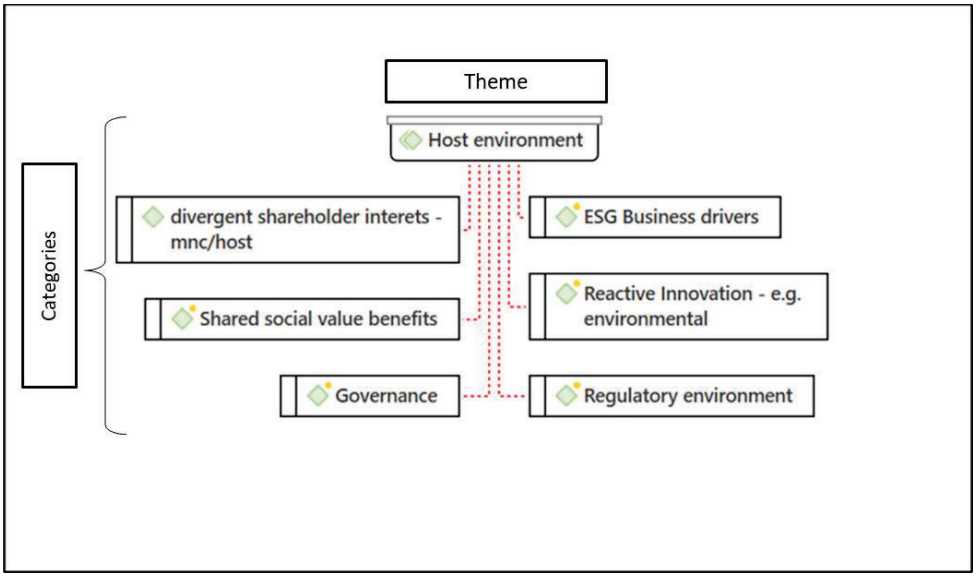

Figure 7: The Impact of the host environment – Governance & Regulatory
Source: Researcher

Governance structures

Some of the reasons cited by participants included the approval processes imposed by internal procedures such as delegations of authority and multiple layers of approvals. This also tied in with most responses about multiple and diverse stakeholder who sat in the same governance structures but had different interests. These insights were interesting in that, participants are citing that whilst it may appear that all stakeholders are on board with regards to driving the achievement of ESG targets, they however differed greatly on how this was to be achieved. Participant 9 suggested an alternative to the current make up of governance structures that can help drive an integrated agenda on innovating for sustainable business models. According to Participant 9:

"When one looks at, say, maybe the organisation structure such as an EXCO, they are mandated to look at sustainability, but is it really ESG or just Safety and sustainability? When you look at the makeup of boards, are we elevating the makeup of boards to take care of ESG? whether its Subsidiary A or B in Botswana. How are we elevating board membership to ensure ESG is not seen as a by the way? In mining, we can proritise to go and fix the plant and then only after some money Is left over, then we can think to that we will channel it towards ESGs. So, I think coming up with a with a Board that will ensure that ESG is placed in the right structure and when one look looks at the at the hierarchy of the organization. Yeah, that has to come out here. I will still go back to the example that I made that there has to be a deliberate creation of a foundation, separate from the business. For any mining entity, which will ensure ESG is driven"

Divergent stakeholder interests

Most participants cited divergent shareholder interest as a hindrance in prioritising and allocating funds for ESG and other competing areas of business interest such as community empowerment initiatives. These theme was also connected to concerns on the lack of clarity on the national strategy for a more private sector led economy. A participant suggested challenging the interpretation of the constitution to elevate concerns for a government expectation on mining firms that might complicate matters of addressing ESGs and SDGs around equitable distribution of wealth from natural resources. According to Participant 2:

> *" We must never lose sight of the fact that the government that runs this nation, runs this country therefore they have their own NDP 1 up to NPD 12. I think we're only 11 now in terms of development so we must leave the running of the country to the government. The mining companies and indeed any other commercial entity in this*

country must just contribute to ESG and that contribution should not be perceived to be National Development Plan which is where a lot of people make the error in distinguishing between NDP, ESG and SDGs."

Shared value creation

In addition to the expressed need for clarity and separation of roles, some participants called for the local TMTs to elevate their approach for addressing challenges that hamper innovative thinking and advance agendas on sustainable mining models that advocated for a focus on intensifying efforts for the creation of shared value for host communities. Participant 9 highlighted how their MNCs in the developed world utilised models in which the firm established a foundation, saying that local TMTs should push for the adoption of the same in order to support local requirements for social upliftment and lasting impact on communities;

"Your companies can form foundations. You know, and through that they create a fund, and from those proceeds they put their money in there or they come up with a relationship or some form of partnerships with financial institutions, whether it's world bank so that this fund will then go out there and carry out sustainable development in the community, dedicated funds looking at that."

Citing the need to balance demands that may come from the host government against those of the MNC group, Participant 5 delineated the different challenges that firms might experience depending on the ownership models. According to Participant 5:

"Partnering with the government of Botswana may be different. Uh maybe the government wants some programs that offer social impact included but the multinational company may not really want to put as much energy or emphasis in that part of the business. So those are some of the issues that have to be tactfully managed. It makes it a little bit easier if you take a company that has no government involvement. However, sometimes it makes it harder if the company is fairly small as the international company literally dictates to it."

Regulatory environment

Participants were aware of the significant role that the regulatory environment played in supporting the efforts of mining companies to be innovative and drive business model innovation. This view was associated the ability of mining to contribute to driving economic diversification and mining responsibly. Most participants suggested that the local mining sector was already at an advantage to advance this agenda as the majority of their TMTs were locals

technically and strategically competent to navigate the local landscape. Some participants referred to having the right business eco-networks to have these conversations on broad collaboration for defining a unique proposition for Botswana as a destination of choice on deep innovation. Such a sentiment was expressed by Participant 9 who said:

> *"The platform exists we need to maybe make it more effective when one looks at like in the Chamber of Mines. We can take the items to the Chamber of Mines, because then you've got to put mining houses there. We can set the priorities of the industry and at the space you know. So again, you know, we must be saying are we discussing it in the right agenda at the Chamber. Recently I've seen that yes, you know, because we have now passed a team and to look at citizen inclusion in mining, through procurement and all that. So, you've got a team. Yes, from the Chamber of mine that there is looking at it now, but I think it demonstrates that the platform exists, we just have to display maybe a stronger character to make use of that kind of platform."*

Another theme that emerged with regard to navigating the rules and regulatory environment was the need for host government to set clear parameters on expectations. Participant 5 suggested that:

> *"Government needs to be very, very clear about what it wants and what it expects out of the mining houses so there's no ambiguity. They need to be very clear, especially when we talk to beneficiation. We have to understand what beneficiation is and what it means and why we are benefiting and why we are insisting.*

5.3.4.2 Analysis of Rules and governance for effective SBMI

The emerging themes relating to the rules and governance of the host country paint a picture in which participants seemed to be aware of how Rules and governance for effective SBMI worked as well as how opportunities could be explored to improve and innovate on current mining business models. Most participants suggested that the responsibility to shape the agenda that influences a conducive regulatory environment was theirs as TMT and leaders in the sector. There was no evidence of disgruntlement with the current regulatory environment, save for cautionary advice that government needed to set clear roles as it was sometimes also a shareholder in some mining businesses.

5.3.4.3 Conclusion on Construct 4: Rules and governance for SBMI

The interpretation of the need to innovate current business models in Botswana's mining sector were diverse and bold. Participants also shared the need to be measured and to be careful not to believe it was innovation just for the sake of innovation. Incidentally, the emergence of rules and governance seemed in part a self-check to balance the needs for diverse stakeholders; create awareness that these requirements need to be taken in the context of purpose; and greater calls for equitable participation of all stakeholders in the mining BM ecosystem. One such call for collaboration is witnessed in the above quote in sub-section 5.3.4.2, and in some other areas of the interviews in which participants call for broad collaboration.

5.4 Conclusion on research findings

This chapter concludes with a summary of the findings of the study's data collection and analysis. In table 5.

From the interviews and data analysis, the key themes that emerge from this study's observations is that there is a common thread of a shared view that firms operating in Botswana's mining sector whether subsidiaries or wholly owned, need to review their orientation to innovation of business models. Whilst the participants did not use the same framing of words, it is evidenced that most shared the view that the local TMTs and their people within the organisation had the capabilities required to bolster broader search behaviours for innovation opportunities. This was often coupled with a sentiment that there was an element of culture for local teams to rely on MNC teams to drive innovation and thus resulting in what was expressed by one participant as an abdication of ownership to innovate and own locally developed strategies that might otherwise have better contextual drivers and considerations for BMI.

Enabling fit for purpose business structures and operating models were also discussed in relation to a need to review how local business structures were set up, a need to review the investment and prioritisation of capacitating local structures and ensuring these innovation-supportive structures and their resources were prioritised at the right level with autonomous governance and oversight bodies that can make decisions efficiently. These findings also align with participants views that there is a need to delineate better the roles of government as a regulator/legislator and in some instances a shareholder in mining joint-venture firms. The participants highlighted the need to actively drive an agenda in partnership with government and other stakeholders to ensure a balanced and fair regulatory environment that does not chase investors away, whilst pushing for decoupling management of issues that were deeply

unique and contextual to an SBMI agenda to address pressing needs of ESGs, SDG, and the Just Transition.

Two further insights of the antecedents of contextual BMI emerge under construct 2 as the need for right people – diverse thought leadership and integrated workforce and another being navigating rules and governance for purpose-drive SBMI. These new themes will be discussed as part of the finding discussion in chapter 6. The new theme on diverse workforce is strongly underpinned by a call by some participant for an intensified drive for capacitation of youth and their inclusion into the workforce, whilst some participants are appealing to the search for leaders that come from outside the mining industry. The emerging theme on rules and governance is predominantly around the mining sector leveraging existing platforms of industry collaboration to influence the regulatory frameworks as well as to challenge current governance structures towards those that can influence independence of local firms to drive sustainable and purposeful BMI.

Table 5: Themes and constructs emerging from the literature review and research findings

	Thematic Areas
Constructs	
Construct 1: Strategic Management as Dynamic Capabilities	Market-driven integrated business strategies (Scenario planning) - Sensing
	Collaboration – Subsidiary TMTs leveraging MNC capabilities, Technical and technological knowledge (seizing)
	Fit for purpose strategies -Digital Transformation design- orientated strategies
	Intraorganisational collaboration and adaptation
Construct 2: Innovation business eco-networks	Search behaviours and motivation for innovation search
	MNC capabilities and intraorganizational teamwork
	Innovation dimensions
	Environmental scanning and contextual adoption
Construct 3: Evolutionary fitness as a dynamic capability for BMI	Enabling organisational design
	Fit for purpose organisational structures
	Appropriate business operating models
	Resources capabilities – invest in innovation capabilities ***Right People – Diversity of thought leadership and integration of youth into innovation driven-mining***
Construct 4: Rules and governance for SBMI	Host country regulatory environment ***Navigating Rules and regulation for purpose-driven SBMI***
	Governance and oversight structures
	Host community expectations – ESGs
	Diverse multiple stakeholder interests & competing priorities

Discussions of the results presented in this chapter will be made in chapter 6.

Chapter 6: Discussion of Findings

6.1 Introduction

The objective of this study was to determine how mining firms operating in Botswana may mediate or moderate the process of BMI and BMI outcomes of the mining business models. The format of this chapter will be as follows:

1. An overview of the findings presented in chapter 5. These will be discussed in connection with the literature reviewed in chapter 2.
2. Points of similarity and convergence with the literature will be identified. Conclusions reached will add to the final summary of this chapter.

Figure 8 below depicts (Foss & Saebi, 2017) BMI Framework developed as a contribution to BMI theory. The framework is instrumental in the discussion on the outcomes and implications for future work made in this chapter.

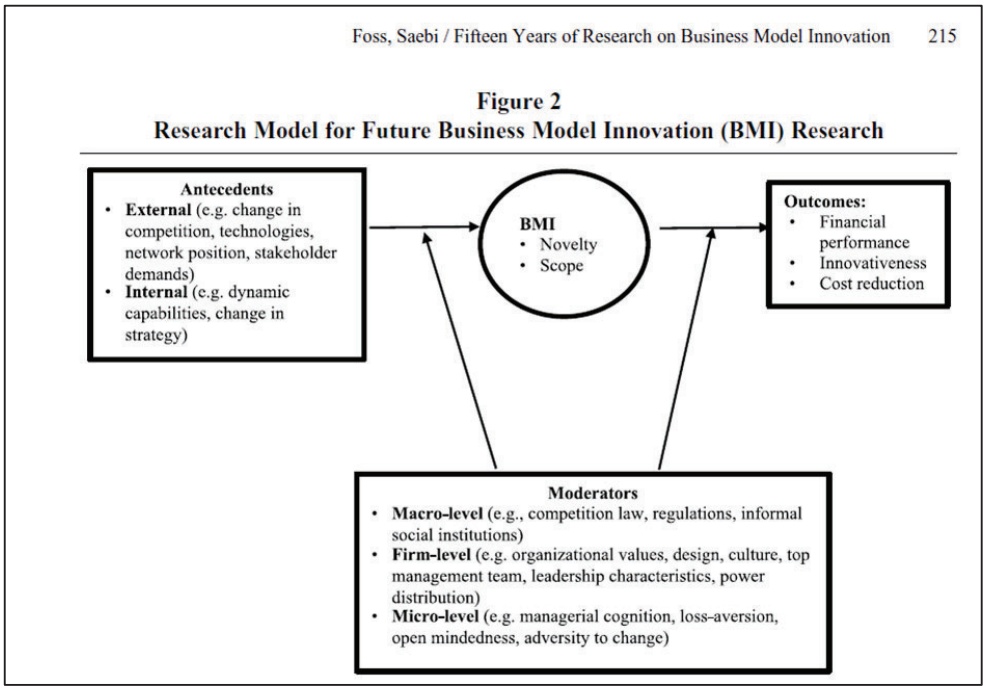

Figure 8: BMI Framework
Source: Foss & Saebi, 2017; p.215

6.2 Discussion on Construct 1: Strategic management as a Dynamic Capability

Strategic management is the remit of a firm's top management team who are mandated to envision the future direction of an organisation after considering possible scenarios (Teece,

2018). It also serves to plan and direct the organisation's resources to execute strategic initiatives that will ensure that the firm gains or maintains its competitive advantage. Teece (2018) argues that this is a firm's dynamic capability and is interdependent with BMI. While strategic management capability of a firm is widely accepted as a dynamic capability; BMI literature differs in its situation of dynamic capabilities as an antecedent, mediator or BMI outcome (Foss & Saebi, 2017; Pang et al., 2019; Teece, 2018). The themes that emerged from the study as influencing strategic management capability were leadership capabilities, market strategies and collaboration of local TMT and MNC stakeholders.

6.2.1 Recap on Literature review – Construct 1: Strategic management as a Dynamic Capability

Foss & Saebi (2017) argue that need for establishment and grounding of the BMI theory to the level which studies build congruency in definition of the BMI constructs, their antecedents, conditions, and outcomes. To this point, the role of strategic management emerges as one that needs such unpacking and delineation and long its macro-micro foundational boundaries in order to account for its positioning in BMI theory. Whilst Foss & Saebi's (2017) literature review acknowledges the ability to sense, seize and take advantage of opportunities and deal with threats to transform may happen along the hierarchies of a firm, they do not conclude on delineation or articulation of the role the micro or macro strategic management component will play in DCs as an antecedent of BMI. Teece (2016) however, in his submission on the interdependencies of BMI, DCs and strategic management, zooms in to identify the micro-foundational level of strategic management, being the interactions and decisions of individuals in making decisions in the DCs continuum that pay a role in BMI. This submission whilst from a resourced-based view anchoring, converges with To et al., (2019) submission on value cocreation networks as a contextual BMI antecedent to which the knowledge-based view anchors the modalities of efficient knowledge led innovation on BMs is triggered. The insights from the literature review are observed to all be agree able to the firm's strategic management capabilities being a firm contextual BMI antecedent. The literature also recognises that firms' interorganisational interactions affirm the role of open innovation as a BMI antecedent that is underscored by the DC framework to the point of decisions made at firm's organisational levels to pursue open innovation (Matysiak et al., 2018; Teece et al., 2016).

6.2.2 Recap of the findings - Construct 1: Strategic management as a Dynamic Capability

The question posed to the participants on the strategic capabilities sought to determine the extent to which the actors understood the role that strategic management plays on the ability of a firm to pursue BMI in order to realise the benefits of BM innovation outcomes. The themes

emerging from the findings cut across the recognition of collaboration between local TMT and the MNC Leadership teams; the connectedness of the local TMTs in strategic management (this including strategic development; management and ability to drive firm performance from the firms resources); and the demonstrated abilities of local TMT in sensing and developing market and scenario related strategic business plans that sought to position the team to seize opportunities for improved performance.

Responses from participants translated transformation within the current prevalent trends of transformation themed organisational strategies rather than the theoretical component of dynamic capabilities, as such, leadership seizing and transforming handover point of DCs capabilities were rather attributed to the demonstrated collective capabilities of TMT and their executive level members (including and executive committee/ EXCO, a governance structure managing the interests of the MNC-Local firm) being able to curate strategies whose goals and objectives is to transform an organisation. Insights from the finding curiously also indicated that the participants were perplexed by a tendency within the local social eco-systems of strategic leaders to undermine their strategic management capabilities and abandon them in favour of those that arrive top-down from MNC. Interestingly this finding is also associated with a positive sentiment that the exposure of the local TMTs to the MNC's wider group of companies as an advantage that helps build or foster strategic management capabilities. The themes and insights emerging from the findings do not in any way appear to be a contradiction of the literature review insights and interestingly touch on the components of BMI antecedents that are identified belonging to the dynamic capabilities framework.

6.2.3 Comparison on findings and insights from literature - Construct 1: Strategic management as a Dynamic Capability

Innovating on business models requires of strategic managers to function across both the macro and micro managerial continuums, engaging with decisions that need to be made in order to organise and deploy capable resources to analyse and reconfigure the complex interdependent systems of a business model's architecture(Foss & Saebi, 2017; Teece, 2010, 2018; Zott et al., 2011) in order to translate the outcomes of BMI for sustained competitive advantage, improved firm performance whilst ensuring the competing expectation of various customers and stakeholder are met. The comparisons between the literature review and findings did not yield any noticeable and thus the finding support the literatures. However, the remains a need for exploration of empirical studies that will lay to rest the gaps that exist on validity of claims on BMI antecedents including that of determining and delineating strategic management as a micro or micromanagement dynamic capability and whether it has a contingent (moderating or mediating) effect on BMI outcomes.

The findings agreed with the literature reviewed in chapter 2 these emerged as the recognised importance of inter and Intraorganisational collaboration as key to sensing, seizing and transformation capabilities. The participants often referred to this as collaboration and connectedness between the MNC and local TMTs in their roles of strategic management and leading the organisation to remain competitive and enabling innovation. At a closer look, when exploring whether the notion of delineating the level at which strategic decisions are made, be it organisational/interorganisational which is classified as micromanagement, or at individual decision making level that influenced and are influenced by firm behaviour, a difference view emerges from literature on integrative capabilities effect on BMI. This view offers a combined position that connects another the organisational design as an antecedent and offers that the combined organisational and individual level dynamic capability of integrative capability (Pang et al., 2019). Discovered post the literature review and used to compare and contrast the findings and chapter 2 literature review, the dimensions of integrative capability perhaps ring closer to the themes emerging from the findings, without negating the insights from the literature review. The strategic management capabilities that were offered by the participants were reflective of the four dimensions of integrative capabilities being; opportunity recognition, partner selection, resource matching and risk control(Pang et al., 2019). A key insight from additional literature review carried out as part of the comparisons between the findings and previous literature review from chapter 2 is a key connection that, there is a perception of BMI as a strategic tool is based on the premise that BMs operate at an intermediary level between strategy and operational processes (Cortimiglia et al., 2016). Whilst this insight is not a recent research outcome, the researcher recognises that this has a bearing on the micro foundational strategic making decisions within a firm and may be influenced by a mangers own knowledge and understanding of BMs and BMI during strategy making processes.

6.2.4 Conclusion on findings of construct 1 - Strategic management as a Dynamic Capability

The discussion therefore concludes that comparisons from extant management studies around strategic management, dynamic capabilities and BMI converge are confirmed by the findings of the study on the strategic management capability being a conditional and contextual antecedent BMI. As an enabler for managers to gain sustainable competitive advantage and drive positive firm performance (Molina-Azorín, 2014), findings of the study confirm that, the known decisions made by their observed local TMT on organising and deploying resources and capabilities of the firm of partners to sense contextual threats/opportunities and seize opportunities to transform the business or innovate the BM (Teece, 2018) aligns with the view of strategic capabilities as dynamic capability, which when

applied enables realisation of firm performance and has a positive mediating role on BMI outcomes.

6.3 Discussion on Findings: Construct 2 - Leadership innovation orientation (search behaviours)

The orientation of the firm's leadership teams (TMT) to innovation bears a significant mediating role on the firm's BMI outcomes and BMI processes (i.e., why, and how the firm innovates on BM). Extant literature reviews, both for chapter 2 and discussions chapter show that different studies and research have contributed to the build-up of the BMI theory, despite continuing lack of congruency and conceptual build up to close gaps in BMI theory. While some studies have made empirical contributions to the theory of BMI such as the establishment of the connection between strategy making and BMI, thus establish where in the strategy making processes managers undertake BMI (Cortimiglia et al., 2016), the insights from literature and findings indicate that this gap also may affect strategic manager ability to frame BMI opportunities and understand both how to tackle the complexity that innovating on BMs entails.

6.3.1 Recap of the literature review - Construct 2: Leadership innovation orientation (search behaviours)

Broad search behaviours also challenge most typical innovation which is typical limited or focused on technology, process optimisation, product, and productivity considerations such as cost-efficiencies which currently dominate mining business models (Dunbar et al., 2020). Extant literature convergence of the intersectionality of strategy, dynamic capabilities, integrative capabilities, and BMI as key ingredients for fostering the evolutionary fitness (Pang et al., 2019; Spieth et al., 2016; Teece, 2018; To et al., 2019) that drives BMI outcomes.

To et., (2019) puts a strong case for the need of strategic managers and actors in the BMI environment to recognise the importance of their actions, decisions, and interactions to transcend loss-aversion tendencies through effective management of organisation cultures and behaviours that could be detrimental to BMI. These view support position of BMI mediating between integrative capabilities and firm performance as strategic manager analyse strategies and reconfigures business models as part of strategy management processes (Pang et al., 2019).

6.3.2 Recap of the findings the findings – Construct 2: Leadership innovation orientation (search behaviours)

The sub-question on leadership innovation orientation was intended to solicit views on the way local subsidiary and local top management teams inculcated innovation and its search into

their strategic management roles and strategy-making processes to drive BMI. The question was framed in line with the conceptual framework drawn from chapter 2 and sought to understand whether there were any contextual factors at play that positively or negatively affected the ability of local TMTs to innovate on business models.

The participant responses produced a mix of perceptions reflecting both an introspective view of current performance on innovation search for BMs and an optimistic view of opportunities to leverage dynamic capabilities of MNCs for driving BMI. The noteworthy themes that emerged were the dimensions of BMI (the evidence of past BMI leveraged from broad innovation search) behaviours; innovation adoption and contextual adaptation and intraorganisational teamwork (leveraging MNC dynamic capabilities) which confirms assertions by Teece (2018) and To et al., (2019).

Participants indicated that local mining firms had demonstrated spurts of innovation on components of the mining value chain interdependent subsystems in collaboration with MNCs, international academia and MNC Group sister operations across global jurisdictions. This was similar to open innovation (Foss & Saebi, 2017; Teece, 2010). This suggested that TMTs of subsidiaries had often tapped into the dynamic capabilities of MNCs (Matysiak et al., 2018) on a micromanagement level and managed to navigate the strategic choices that often demonstrated corroboration of low-level scope and dimensions of BMI (Foss & Saebi, 2017) as well as elements of higher order TMT dynamic capabilities to take advantage of opportunities within the ecosystem of partners within the MNC group to transform certain value creation activities and reorganise resources for improved firm performance(Teece, 2018).

Participants also noted tendencies of low degree innovation search behaviours which were limited to mining, their commodities, and even own operations without a demonstrated determination to explore innovation collaboration platforms beyond their technical fields. Whilst this element was also linked to discussions on organisation culture, it was a fitting insight to reflect on both sides of search behaviours and later on organisational design.

6.3.3 Comparisons of the finding and insights from literature - Construct 2: Leadership innovation orientation (search behaviours)

The findings of this study were aligned with the literature review. Participants noted the existence of broader collaboration within their MNC group of companies, leading to learnings from the networks formed by these associations. This could be likened to the value creation co-creation networks (To et al., 2019) and open innovation platforms (Altman & Tushman, 2017). Respondents were positive on the historic successes which emerged from cross sector partnerships in effecting the re-engineering of business models in Botswana's mining sector.

When explaining the strategy-making processes of their TMTs, albeit at a microfoundational level, participants demonstrated processes akin to dynamic capabilities in which the organisation's strategic choices were influenced by sensing, seizing and integrative processes (Pang et al., 2019; Teece, 2018). Participants recognised opportunities but were disempowered to address issues of BMI complacency due to dependency on MNCs. They did also highlight that locally driven BMI should be the responsibility of local TMTs who better understood both the internal and external factors that must be observed.

6.3.4 Conclusion on findings- Construct 2 - Leadership innovation orientation (search behaviours)

Insights that emerged from literature review shed light on the often lesser order BMI of innovation dimensions akin to lower order BMI complexity associated with modular components of a BM (Foss & Saebi, 2017). Cortimigilia et al., (2016) demonstrates support for a claim made by Teece in 2010 that BMs form part of a key aspect of strategy execution. This view is consistent with insights drawn from both the findings of this study and the literature reviewed that the organisation's leadership search behaviours, especially supported by access and association to MNC's, have an influence in innovation of BMs. Whilst Cortimigilia et al., (2016) sampled a broad selection of national and multinational companies operating in different industries in Europe, an opportunity to repeat this study for emerging markets exists as well as the comparison of MNCs and their subsidiary firms operating in emerging economies.

6.4 Discussion on Findings of Construct 3: Organisational Design (a mediator)

The discussions on the finding on construct 3 regarding organisational design emanate from responses to the question pertaining to the appropriateness of BM models to an organisation's design ability to support BMI. Themes emerging from the findings included the organisation's structure, resources, the organisation of MNC-Subsidiary organisation and the architecture of the business model

6.4.1 Recap on insights from Literature review on Construct 3: Organisational Design (a mediator)

Teece (2018) sought to clarify the interplay between BMI, dynamic capabilities, and strategy. Teece (2018) also explained the role of the organisation model comprised of its structures and the strategic choices and interactions that affected business model outcomes, the behaviours, and cultures of the organisation. These form the basis of the micro-foundational aspects of dynamic capabilities that influence BMI as well as the governance structures that enable the management of processes that are part of the complex systems of the business model in its

quest to create, deliver and capture value for all stakeholders affected by the BM (Teece, 2018). This also corroborates earlier studies such as Zott & Amit (2010) and Foss and Saebi (2017). The understanding of the role of the organisation's design proves key to understand other parts of BMI theory and its constructs, such as value co-creation networks that depend on the behaviours of firm actors to share knowledge and information as other antecedents for BMI (To et al., 2019) or perhaps even the decisions that lead strategic managers to explore open innovation as an enabler of BMI(Foss & Saebi, 2017).

6.4.2 Recap in the findings on Construct 3: Organisational Design

The question on organisation design sought to get views on how local subsidiaries could be enabled or facilitate BMI. This was explained to include organisational design, its operating model elements and its governance structures in the delivery of work, arrangements of its structures and their interactions as parts of decomposable subsystems of the business model architecture (Foss & Saebi, 2017) as well as any aspects of the organisation and the relationships with the MNC firm and their stakeholders.

Four theme areas emerged from participant responses. These included the operating model (the ways of work including governance structures such as the board sub-committees); the organisation's structures with regards to its resources (including functions and operations); the composition and arrangement of the businesses from the MNC to the local subsidiary ownership as well as the views of the mining business models that were used to create, deliver, and capture value.

At least two participants referred to the delineation of boundaries of the business model components prevalent in the local mining sector. They described these to be primarily production operations. This delineation was insightful as it indicates that participants were aware of the potential limitation that could be imposed by the boundary limits of the business on the ability to look at a mining business model in its entirety (value creation, delivery, and capture mechanism). It was also insightful to see how such a business model viewed the arrangement and deployment of its resources and organisation as primary value creation and capture entities with little contribution to the value delivery mechanisms of marketing and customer relations. The role of the local culture affecting the TMTs of local subsidiaries in their strategic management capabilities to engage in BMI within their strategy-making cycles and mandates (Cortimiglia et al., 2016; Teece, 2018) came up strongly.

In general, the findings revealed that participants were aware of the competencies and capabilities required for innovation beyond process, product, and efficiencies (Dunbar et al., 2020). Participants expressed a need for new approaches in developing lower order dynamic

capabilities across the lower levels in the organisation (Teece, 2018). They gave examples such as infusing thought leadership diversity, investing in capacitation of youth, developing a degree of freedom from dependency on MNCs and leveraging the benefits of technology and digitisation to pursue cross-industry (Altman & Tushman, 2017; Foss & Saebi, 2017) collaboration for open innovation as potential ways of doing this.

6.4.3 Comparison of findings and insights from literature - Organisational Design

There emerged no contradictions in the participants insights to extant literature reviewed compared to the findings of the study. The responses from participants confirm claims made by scholars to ground the BMI theory and its dynamic capabilities as a BMI moderating factor (Teece, 2018). Whilst scholars still tout BMI for lacking congruency in its research, there is a growing body of literature that also seeks to connect the connected web of BMI with other management fields such as strategy. Whilst the is an agreement on the lack of empirical evidence, the finding align with literature as participants recognise the top management team's strategic management abilities to direct the firm in uncertainty as strength.

The reviewed extant literature from chapter 2 and additional searches did not yield any guidance or reflect focus on issues of diversity and inclusion as a strategic management area to be explored as an enabling organisation resources capability. However, research claims on knowledge-based value co-creation networks (To et al., 2019) and leveraging the MNC dynamic capabilities could be put forward as areas of future research interest to ensure strategic making processes consider this as a component of BMI and dynamic capabilities.

6.4.4 Conclusion on findings- Construct 3 Construct 3: Organisational Design

The findings of the research provide an encouraging picture on the emerging understanding of key enablers of BMI in Botswana's mining sector. This is particularly significant as this is an environment in which complex ownership models dictate a high awareness of internal and external factors and antecedents as well as capable strategic managers that understand the relationships between actors and the orientation of their organisations to BMI, the interactions between players and the activities that enable the BM mechanisms (Foss & Saebi, 2017; Teece et al., 2016; Zott et al., 2011). Where mining firm ownership models in Botswana also have government as a shareholder, participants have highlighted the appreciation of its implication on clarity of rules and governance. Participants offered to leverage existing platforms to trigger conversations that would drive collaboration on reviews of governance structures to enable TMT autonomy on innovation of business models, especially on the

intersectionality with creating shared value with host communities and advancing ESG and SDG agendas (Bocken & Geradts, 2020).

6.5 Discussion of Findings – Construct 4: Organisation's Operating Context (Rules & Governance)

Rules and governance emerged from participant responses to questions pertaining to governance processes and structures that facilitated the way work was delivered through the business model. Responses that shaped the theme came from different parts of the interview guide. Interview items such the role of MNC to support BMI change emerged with themes that pointed to rules as governance was an underlying theme which came up when participants were faced with decisions to innovate but had both internal and external factors influencing the actions and mechanisms for BMI. Insights from findings included reflections on the conditions at play such as internal governance and rules that affect innovation, the considerations for the legislative environment and diverse and divergent expectations of various stakeholders involved in creating, delivering and value capture.

6.5.1 Recap of insight from the literature review: Construct 4 - Organisation's Operating Context (Rules & Governance)

Emerging insights from the literature reviewed in chapter 2 identifies rules and governance as key internal contextual antecedent for BMI within organisations (Foss & Saebi, 2017). Participants suggested that they should be carefully considered in both strategy-making processes (Cortimiglia et al., 2016) and the effect of changes in rules within innovation of business model (To et al., 2019) should be considered. From this perspective, it is clear that TMTs as strategic managers, need to consider their actions and decisions within the micro-foundational context of dynamic capabilities to influence decisions for business to review the business architecture that forms the complex system in which BM models need to evolve (Teece, 2018). These perspectives also illustrate the iterative processes and considerations that form part of the BMI process in the role of strategic managers mastering the external conditional antecedents such as environmental changes, the rapid global technology and digitisations that ultimately drive stakeholder interests and the need to remain relevant in the face of competition (Foss & Saebi, 2017).

These insights lead the researcher to believe that, the strategic orientation of the macro-organisation should be perpetually attuned to sensing and understanding how their decisions and actions to innovate business models will be impacted by the external social and legislative systems that have a bearing on their business's operating legitimacy and as well as safe-guarding against alienating the social consciousness of other social players (Geissdoerfer et

al., 2018). This also draws towards the acknowledged need for leaders to understand the need to monitors their BMI actions, decisions and choices within the continuum of strategy making processes, which are also within the remit of accountability to deliver firm performance and sustainable competitive advantage (Cortimiglia et al., 2016; Pang et al., 2019; Teece, 2018).

6.5.2 Recap in the findings: Construct 4 - Organisation's Operating Context (Rules & Governance)

The construct of rules and the regulatory environment emerged from responses in different parts of the interview guide. The sub-question that drew participants towards matters of rules, regulation and governance pertained to the role of MNC sponsorship for BMI and change. The responses resulted in themes associated with the role of the host environment around areas of managing diverse and divergent stakeholder interest; the role of host government and development of fair regulation; the increasing pressures of embedded ESG delivery; appropriate governance structures to drive sustainable innovation on BMs and reactive innovation as a concern.

Participants identified the need to inculcate compliance and to incorporate regulatory needs into their strategies and operation of businesses. Participants said in most cases, the mining industry in Botswana was ahead of the curve on issues of sustainability due to their association with MNC. They suggested that it was actually the role of subsidiary TMTs to influence the development of legislation that enabled support and enablement of advanced sustainability and purpose-driven BMI to better impact the lives of their host communities. It was suggested that the local TMTs represented in the interviews were actively challenging prevalent governance structures that they deemed restrictive to local sustainability driven BMI which they deemed could be contextually suitable for advancing the creation of shared value for all stakeholders. Participant were critical of seeing innovation opportunities being short-circuited due to conflicting innovation priorities especially around issues of funding, production, and profits before local support for innovation. Interestingly, participants also evinced a significant shift in mindset toward taking control of innovation and participating in value co-creation networks and thus transforming them from being innovation adopters to BMI practitioners (To et al., 2019).. They also offered solutions based on international best practice witnessed in their MNCs.

6.5.3 Comparison of findings and insights from literature - Construct 4 - Organisation's Operating Context (Rules & Governance)

There were no apparent conflicts between participant responses and literature reviewed with respect to TMT expectations to integrate considerations of the rules and governance bearing down on decisions for BMI. It was clear that participant observations were aligned with literature in that rules and governance were key internal drivers of strategic management decisions that TMT deliberate on in the sensing part of strategy-making as well as in the execution of strategy (Cortimiglia et al., 2016). (Teece, 2018) suggests that this is typical of the quality of high order dynamic capabilities of strategic managers in BMI.

(Pang et al., 2019) suggests that the integrative capability of leaders to not only scan but to make decisions and choices on the partnerships and matching of resource capability to take advantage of opportunities and manage risk is integral to BMI and firm performance aspirations. This insight was particularly refreshing due to the extensive research employed in an emerging economy and a diverse sample of industries and companies.

6.5.4 Conclusion on findings - Construct 4: Organisation's Operating Context (Rules & Governance)

The findings of this study corroborated the claim that the contextual antecedent of rules and governance related to the ability of firms to "state the relevant mechanisms to assure how a business model prepares assets, and how far the scope of a business model can go in a business ecology. (To et al.,2019, p. 785). The findings corroborate claims of the impact of the internal antecedents (change in strategies, rules, and governance) and external antecedents (rapidly evolving technologies or change in government regimes). The need exists for the dynamic capabilities of the organisation to enable sensing, sensing and appropriate decisions and actions to transform and ultimately impact the business model of a firm in a way that disrupts or modifies one or more of its architectural components (Teece, 2018).

6.6 Conclusion

The findings of the study highlight that the strategic management role of TMTs mandates is inclined to have dynamic capabilities characteristics but tend to only apply these only to the level necessary to maintain the desired outcomes in line with stakeholder expectations. The rigor of application of dynamic capabilities may in turn also be affected by the contextual conditions that may or may not trigger complex innovation especially with indications that local

firms tend to limit improvements to adoption of emergent technological advances. It was also evident that the observations and perceptions of participants' did not always make the connection between the dependent variables in the relational web of BMI as postulated by Foss & Saebi (2017). These are firm performance, sustained competitive advantage, dynamic capabilities, and strategy as key drivers to the notion of innovating on business models. Having made the connection with additional scholarly positions such as the meditating role of BMI on integrative capabilities and firm performance (Pang et al., 2019), the researcher also draws from these insights, the possible gap that may make it difficult for business to synthesise the linkages for effective innovation of business models and their outcomes.

The findings also corroborate various constructs of BMI such as antecedents internal and external to the firm such as the change in strategy, operating environment and the rapid evolving technology as triggers for BMI (Foss & Saebi, 2017) whilst recognising the benefit of access to dynamic capabilities provided by association with MNCs (Matysiak et al., 2018). Perhaps in the strategic management field, insights from the literature review underscore the need for simple, applicable framework that business can use to help create robust strategies that develop organisational capabilities and draw linkages to critical components of BMI that will mediate firm performance and TMT ability to understand the right partnerships to effectively navigate complexity and dynamism (Pang et al., 2019; Teece, 2018).

Diversity and inclusion of youth and diverse thought leadership to augment organisation capabilities and the development of independent governance structures to navigate rules and governance also emerged from participant responses. This was not identified in the extant literature review carried out in chapter 2. Additional literature searches did not find any additional publish research on diversity and/ or inclusion in BMI literature, which the participants linked closely to the organisational capabilities.

(To et al., 2019) identified the need to design and model innovations to ensure that BMI outcomes and their activities were acceptable within the governance and rules of organisations. Foss & Saebi (2017) also recognised the moderating effect of the external social context and the regulatory frameworks on BMI. The emergence of a reflective need for local top management teams to influence the regulatory landscape did not appear to have a direct match to extant literature. It does however bear a resemblance to To et al., (2019)'s position on rule and governance with a key focus on firm's outward focus to influence the external operating environment. Teece (2018) notes however, that organisational routines and structures, participants made a unique proposition to look into industry wide collaboration

to adopt or adapt current best practice governance structures that enable autonomy to innovation on business models, or all-together challenge the structures of current models.

Figure 9 is the Conceptual Framework developed from the synthesis of the literature reviewed in chapter 2 with the illustration of the additional themes emerging from the findings of the study.

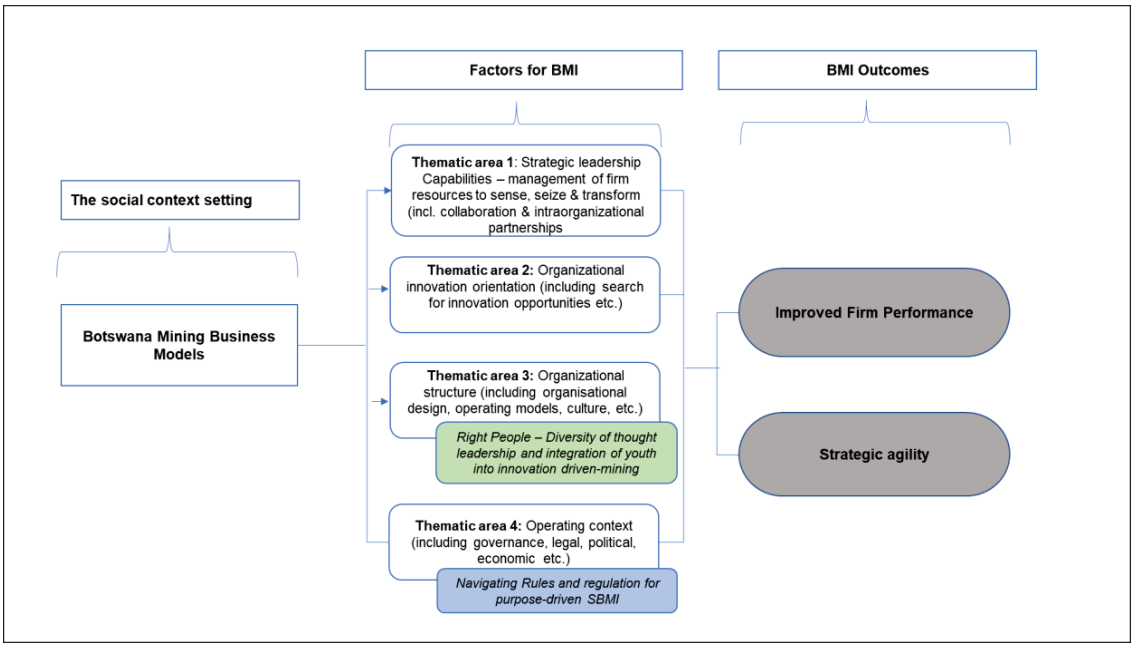

Figure 9: Conceptual Framework

Source: Researcher

Chapter 7: Conclusion and Recommendations

7.1 Introduction

The purpose of this chapter is to present conclusions reached in this study as well as recommendations. The aim of the study was to determine the impact of the operating context on business model innovation in Botswana's mining industry. In presenting the conclusions of this study, evidence on how the objectives of the study were met will be provided as well as updating the conceptual BMI framework presented earlier to include the findings of this study. In addition to the conclusions and recommendations to be made in this chapter, suggestions for future research will be made while the limitations of the study will also be outlined.

7.2 Consolidation of research findings

A conceptual framework identifying four main study areas emanating from the literature reviewed in chapter 2 was framed as BMI constructs. These were used to identify the main research question and also used as the basis for designing the interview protocol in which four thematic areas were used as guidelines in developing the interview questions included in the interview guide. In the analysis and discussion of the findings and the integration of participant responses created the basis for reviewing the conceptual framework which is depicted below. It illustrated the two additional emergent themes that reflect participants views on the need to emphasis diversity as a driver of organisational capabilities and the role of top management teams exerting influence on the establishment of sound regulatory environments.

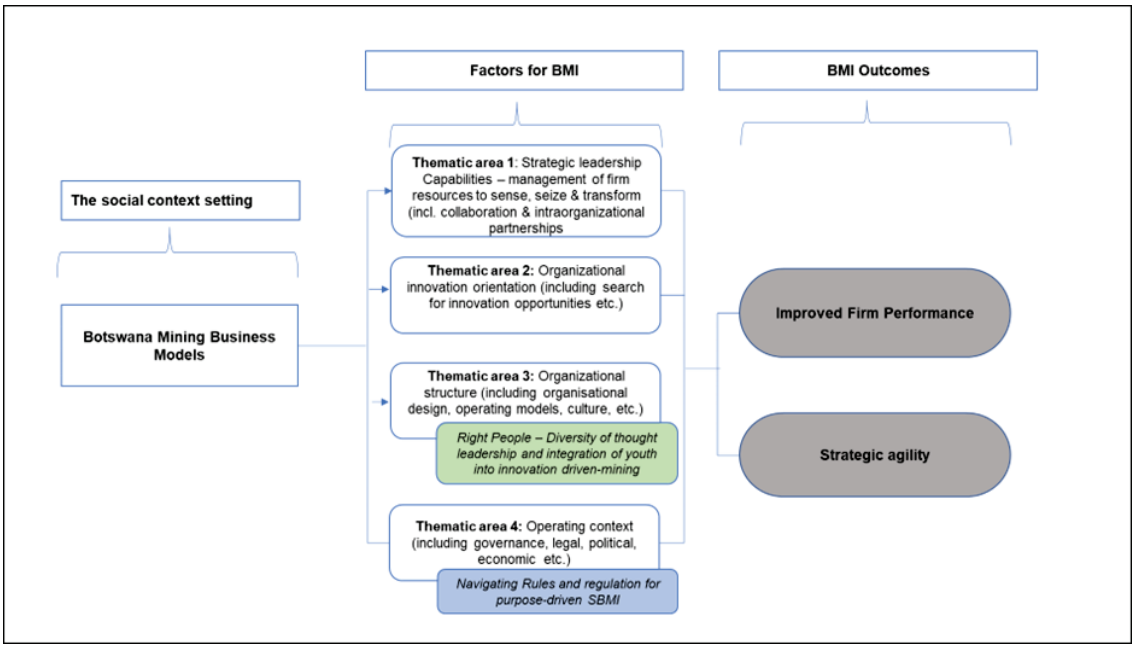

Figure 10: The updated conceptual framework

7.2.1 Research question 1: How does the differing operating context of Botswana to that of the parent multi-national company (MNC) affect the firm's management's ability to leverage dynamic capabilities for business model innovation?

The purpose of this question was to determine factors that enable or hinder local TMTs from employing their DCs or leverage those of the MNC firm to sense (internal/external opportunities & threats), seize (opportunities incl. those availed through association with MNC) and transform organisations for improved BM performance outcomes (Matysiak et al., 2018).

Strategic management as a capability emerged from participant responses as a key variable. Key themes emerging from participant responses were leadership capabilities of local top management teams, market driven strategies and collaboration with MNC teams to leverage MNC dynamic capabilities. These themes were supported by literature reviewed in Chapter 2. Scholars such as Foss and Saebi (2017); Spieth et al. (2016); and Teece (2018) identified the interdependencies between BMI, dynamic capabilities, and strategy. Recent publications also purport the view that BMI drivers act as antecedents for BMI (Ammirato et al., 2022) and are typically an outcome of business managers interpretation of how BM's should deliver on customer wants, delivery methods of their products (with increasing emphasis on sustainable production) and how the business will organise resources and capabilities to meet these demands (Ammirato et al., 2022; Teece, 2010).

7.2.2 Research question 2: How do top management team teams in Botswana's mining companies translate challenges posed by increasing complexity and rapid technological into innovation search for BMI opportunities?

The purpose of this question was to determine the processes by which TMTs leverage the core competencies of their organisations (knowledge, resources, processes & systems) to elevate innovation to the dimension and scope that drive BMI. The question is premised on the characteristics of BMI capable firms as those able to search broadly (across industries and beyond simpler product, process innovation and technological adoptions). The themes emerging from the responses of participants included contributing to the broad innovation search behaviours; intra-organisational teamwork as an innovation search behaviour; and positive orientation to organisational learning, adoption as an innovation orientation and complex innovation dimensions.

The findings confirm insights drawn from literature reviews from papers that talk to on Search behaviours of a firm (Snihur & Wiklund, 2019) and the DCs of MNE (Matysiak et al., 2018), as well as value co-creation network contextual antecedent to BMI (To et al., 2019) and organisational model and dynamic capabilities of the strategic management teams positive mediators to BMI (Teece, 2018) enabling capabilities to execute complex innovation on business models (Foss & Saebi, 2017).

7.2.3 Research question 3: How does the firm's organisation structure affect the management's ability to innovate on business models?

The purpose of this question was to determine whether the organisation design of a subsidiary firm (organisation of its work, resources i.e., people, processes, systems, governance etc.) have an impact/effect on the ability to innovate on BMs i.e., issues of autonomy in decision making, ownership structures enable/hinder BM & innovation search behaviours.

The themes emerging from the study were; the role of the organisation (the complexity of the MNC-Local subsidiary firm) in BMI autonomy, the capabilities to mobilise an innovation orientated organisation (strategic management and dynamic capabilities), and mining business models including the interactions of resources across various governance structures and the impact of culture to conduct innovation that enable BMI outcomes. These themes contributed to the understanding of the role of the organisation's structure and organisational designs The findings identify a key condition for BMI and SBMI to be successful in mining.

The findings are supported by literature which predominantly focuses on the organisation's structures, routines, its cultures and internal rules that govern delivery of work (Teece, 2018). These structures can be designed to enable BMI in the analysis stages of strategy-making (Cortimiglia et al., 2016) and enable the re-organisation of a firm's subsystems for desired BMI outcomes such as improved performance and adaptive agility (Foss & Saebi, 2017; To et al., 2019).

7.2.4 Research question 4: What are your parting words; can you paint a picture of a sustainable innovative business model for mining in Botswana?

The objective of this question was to enable participants to reflect on any additional thoughts and connections they may have made with their work and the environment in which their businesses operate in. The emerging themes were around the social operating environment and legislative concerns and opportunities. These came up as factors that needed to be

considered in undertaking BMI. The role of other social players emerged as an area of interest as it provided a potential to review mining business models for effectiveness in interactions with communities and in directing conversations on multi-sector collaboration to seek clarity on legislative matters. The responses from participants resulted in the emergence of a keen interest in an externally focused view of local top management teams influencing the social rules and governance.

Literature supported participant responses with regard to corroborative efforts to seek to understand internal contextual antecedents such as rules and governance (To et al., 2019) and moderating factors of the social and regulatory environment on BMI (Foss & Saebi, 2017). The rules and governance that apply as the contextual BMI antecedents of firms pull on the role of strategic managers to ensure that governance structures and internal rules and routines are designed and planned for positive BMI outcomes (Foss & Saebi, 2017; Teece, 2018; To et al., 2019) and effective integration of diverse stakeholders into BMI (Spieth et al., 2016).

7.3 Proposed Mining BMI Framework

The figure below represents the BMI framework emerging in this study. The figure frames the BMI theory in a way that is easily adoptable through the processes of strategic management and strategy making processes (Cortimiglia et al., 2016). This is designed to enable business managers to situate their firms within a process-oriented approach to enable delivery of key strategic objectives such as improved firm performance and strategic agility to continuously leverage BMI to navigate complexity and dynamism of operating environments (To et al., 2019).

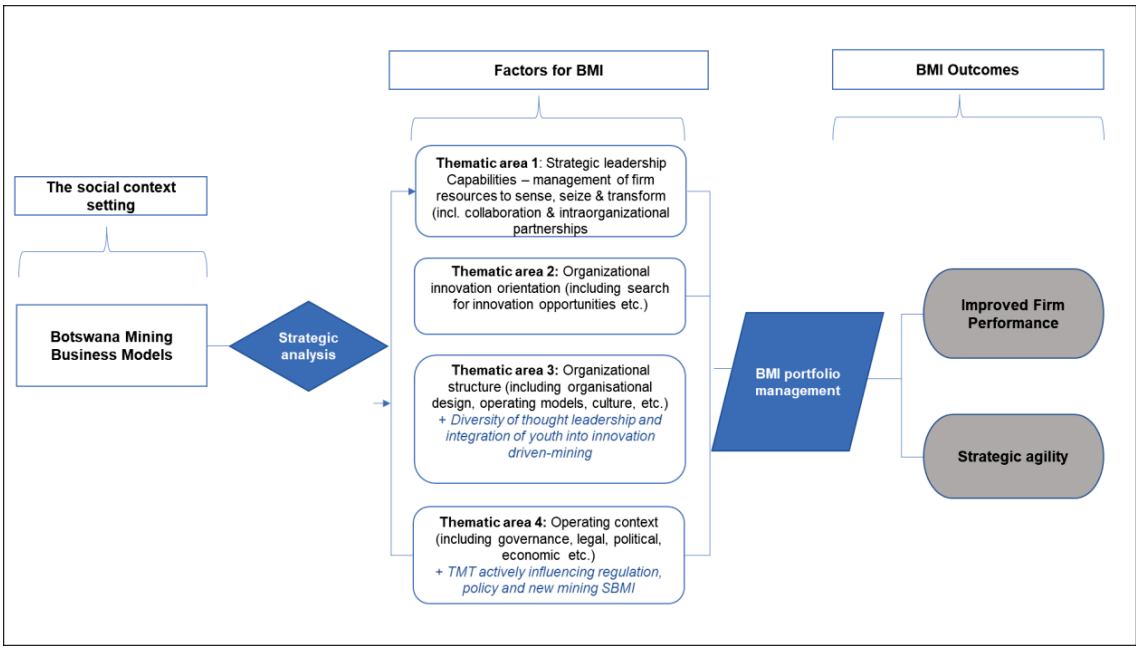

Figure 11: The emerging BMI framework

7.4 Contributions of the study

Whilst the findings of the study did not contradict BMI theory or make any radical contributions, key insights regarding the comprehensive knowledge of BMI theory in the local Botswana mining context emerged.

7.4.1 Theoretical contribution

The study makes a theoretical contribution to the BMI theory in advancing a framework that integrates BMI and processes of strategic and project management for the appropriate synthesis of BMI and the achievement of its outcomes in a manner familiar to the structured business processes applied in value creation, delivery, and capture mechanisms in mining.

7.4.2 Practical business contribution

The proposed conceptual framework was designed to enable strategy managers and their teams to apply it for ease of BMI and ability to optimise the strategy-making processes (Spieth et al., 2016). This would enable the exploration of the decomposable elements of BMs, their interdependencies, the identification of BMI opportunities and the effective management of the BM changes across the components of BM, their interactions, transactions, and activities (Foss & Saebi, 2017; Teece, 2018). The contribution also heightens the need for strategic managers to understand the extent of effect/impact of how the social factors in the strategic

management echelons of organisations are affected by the rules and governance that may limit their ability to make decisions especially in instances of complex business-ownership models (Foss & Saebi, 2017; Teece, 2018; To et al., 2019).

7.5 Limitations of the study

The following points have been identified as limitations of this study:

- The researcher is a novice researcher;
- The timing of the study and the study design and timelines were challenged by the availability of participants;
- The mining industry's planning and reporting cycles presented the researcher with challenges of securing suitable times with the targeted sample population
- The scope of the study was limited to the mining sector in Botswana and as such the study sought to understand the factors that affected BMI in Botswana's mining sector. The researcher however, designed for the sampling of participants to include those in industry oversight roles to appreciate different perspectives.
- Data was gathered only from participants in executive leadership roles and active in the mining sector's production, marketing and sales value aspects of the value chain and did not include other stakeholders such as those in the external social environment

7.6 Recommendations for future study

The study was restricted to explore the contextual factors that affect BMI in Botswana's mining sector. Accordingly; the study was limited to Botswana. Whilst Botswana is an emerging economy, there remains a need to build further to the theoretical underpinning variables in other countries where the following may not be applicable as it is the case in Botswana:

- Botswana continues to enjoy strong political stability. Unlike many developing and emerging countries, Botswana provides a unique landing for the establishment of complex mining ownership models that may necessitate testing the consistency of dependent BMI variables such as antecedent conditions such as external social and regulatory environments and mediating factors such as organisation design elements of culture and workforce orientation.
- There still remains a gap in the replicability of the measures of BMI as early studies to establish measurement protocols were tested in developed economies and limited to small manufacturing firms.

- Recommendation is made for a quantitative study to further extend knowledge on the mining industry and other industries further exploring integration of sustainability into BMI.

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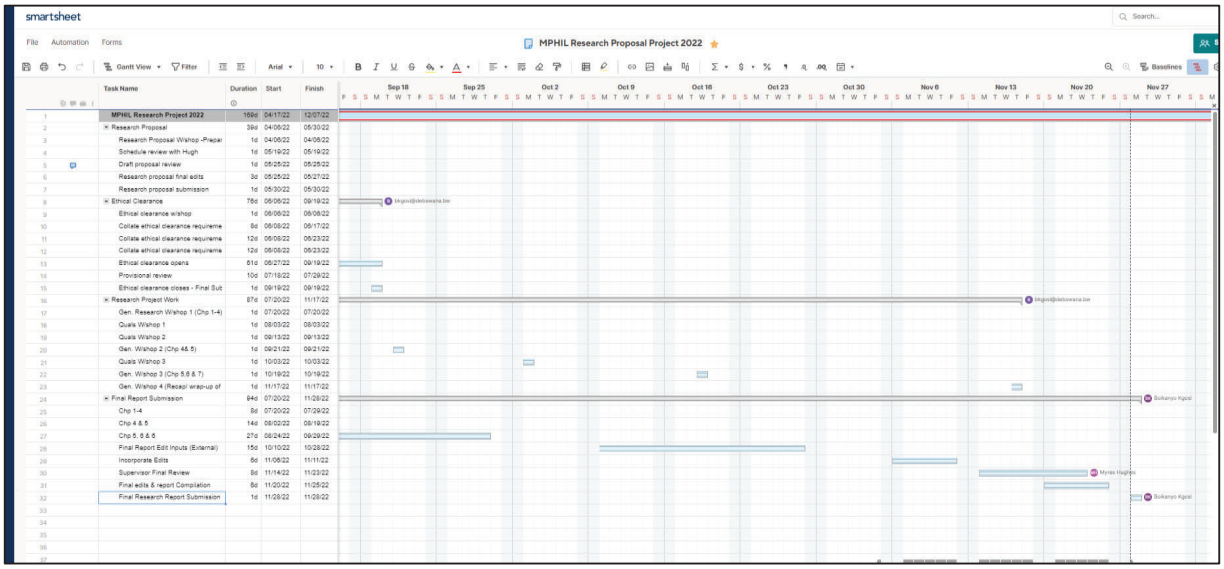
Appendices

APPENDIX A: Consistency Matrix

Title: Understanding how the operating context affects business model innovation in Botswana's mining industry

Research questions	Literature review	Data Collection tool	Data analysis
1) How do top management team teams in Botswana's mining companies translate challenges posed by increasing complexity and search for rapid technological innovation into BMI opportunities?	(Snihur & Wiklund, 2019; To et al., 2019)	Semi-structured interview questionnaire guide	Thematic coding analysis - Coding through design of codes and use of coding software - Triangulation and interpretation of data - Analysis of emerging themes
2) Is there an effect by the operating context of a firm on the leadership/management's ability to leverage its dynamic capabilities for business model innovation?	(Foss & Saebi, 2017; Matysiak et al., 2018; Teece, 2018)	Semi-structured interview questionnaire guide	-Thematic coding analysis on open-ended questions that are sought to explore the view and experiences of the candidates

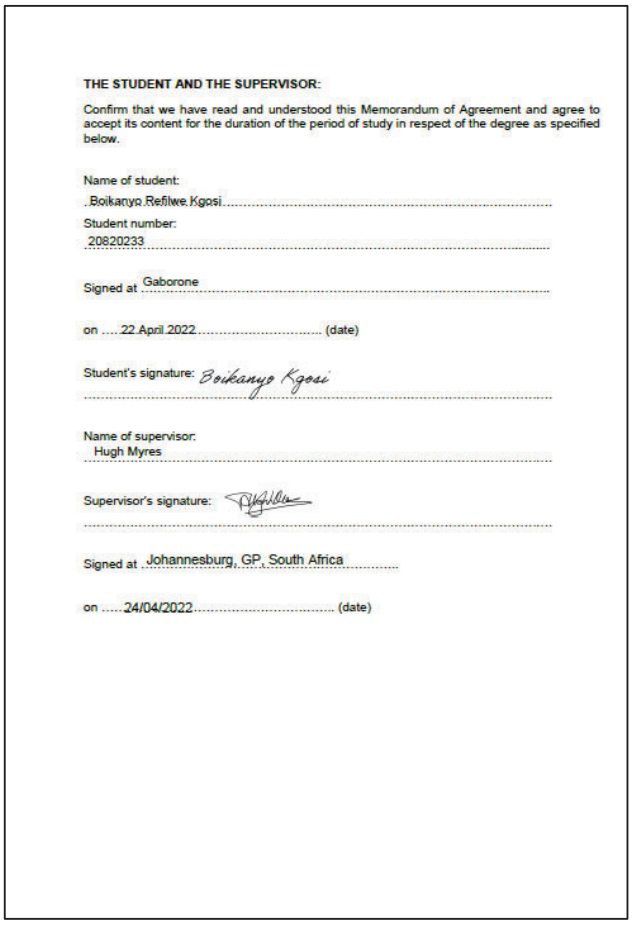
APPENDIX B: Research project work plan and timelines



Access:

https://app.smartsheet.com/sheets/Pfqcqf9R8GJxCWrrmw4Wxh6WCFVV2QPjP4j5RQx1?view=gantt

APPENDIX C: Research Supervisor – Student agreement



THE STUDENT AND THE SUPERVISOR:

Confirm that we have read and understood this Memorandum of Agreement and agree to accept its content for the duration of the period of study in respect of the degree as specified below.

Name of student:
Boikanyo Refilwe Kgosi

Student number:
20820233

Signed at Gaborone

on 22 April 2022 (date)

Student's signature: Boikanyo Kgosi

Name of supervisor:
Hugh Myres

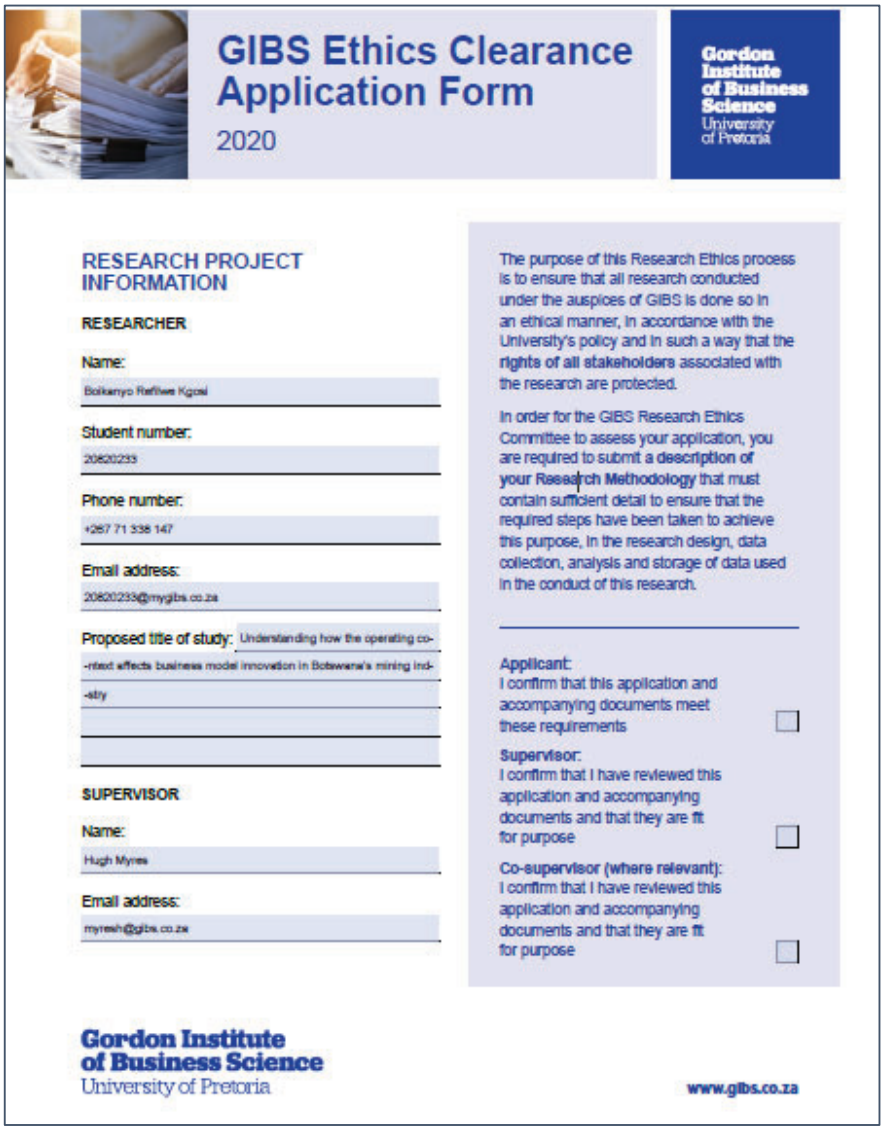
Supervisor's signature:

Signed at Johannesburg, GP, South Africa

on 24/04/2022 (date)

APPENDIX D: Ethical clearance information (actual signed copy attached to submission)

The completed electronic form was submitted, and clearance obtained on 18th July 2022. Below is a screen shot of the sample page.



GIBS Ethics Clearance Application Form

2020

Gordon Institute of Business Science University of Pretoria

RESEARCH PROJECT INFORMATION

RESEARCHER

Name:

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Proposed title of study: Understanding how the operating co--ntext affects business model innovation in Botswana's mining ind--stry

SUPERVISOR

Name:

Hugh Myres

Email address:

myresh@gibs.co.za

The purpose of this Research Ethics process is to ensure that all research conducted under the auspices of GIBS is done so in an ethical manner, in accordance with the University's policy and in such a way that the rights of all stakeholders associated with the research are protected.

In order for the GIBS Research Ethics Committee to assess your application, you are required to submit a description of your Research Methodology that must contain sufficient detail to ensure that the required steps have been taken to achieve this purpose, in the research design, data collection, analysis and storage of data used in the conduct of this research.

Applicant:
I confirm that this application and accompanying documents meet these requirements ☐

Supervisor:
I confirm that I have reviewed this application and accompanying documents and that they are fit for purpose ☐

Co-supervisor (where relevant):
I confirm that I have reviewed this application and accompanying documents and that they are fit for purpose ☐

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APPENDIX E: interview guide

The research interview guide is data collection instrument and critical to the researcher's ability to objectively draw meaningful insights that will enable a comprehensive analysis and discussion on the emerging factors that contribute to the better understanding of the phenomena under social observation. The design was inspired by the key extant literature reviewed on BMI on which the interview guide is based on the extant literature reviewed for this study.

Interview section – Key concepts from literature review	Interview questions
Introductions	- The researcher will inform the participant of the recording and open with review of the confidentiality assurance and interview structure. This includes reminding the participant of the recording for research purposes (interview represents data) as well as inform the participant of their right to withdraw at any time if they so wish without having to be concerned of any consequences if they wish to withdraw. - Introduction by researcher & review of subject of study - Introduction of candidate: Name; role; number of years in role, professional background etc. The study will not collect data on race or gender as this is immaterial to the phenomena of interest. Names will not be disclosed in the report (confidentiality). - Inform participants of data storage and assure of confidentiality and anonymity.
Strategy and the role of leadership (Matysiak et al., 2018; Teece, 2018)	Research Question 1: How does the differing operating context of Botswana to that of the parent multi-national company (MNC) affect the firm's management's ability to leverage dynamic capabilities for business model innovation? - Reflect on your experiences and observations - How does the organisation's affiliation with an MNC affect BMI considerations in strategy making?
Innovation Orientation & firms search behaviour (Snihur & Wiklund, 2019; To et al., 2019)	Research question 2: How do top management team teams in Botswana's mining companies translate challenges posed by increasing complexity and rapid technological into innovation search for BMI opportunities? - How does the firm look into innovation? In your opinion, why does a firm pursue innovation? What is the split between Process, Product, or business model innovation?
Current Mining Business Models (Foss & Saebi, 2017; Gruenhagen & Parker, 2020; Durnbar, 2020; Teece, 2018)	Research question 3: How does the firm's organisation structure affect the management's ability to innovate on business models? - How would you define/describe your company's business model? - What is an ideal fit4purpose BM in mining? - Are the organisation's structures supportive of innovation on business models?
Operating Context, Complexity &	Research question 4: What are your parting words; can you paint a picture of a sustainable innovative business model for mining in Botswana?

Sustainability (Rosenhead, 2019; Geissdoerfer, 2018)	- In your opinion, does or has organisation structure affected the efficiency of a local firm to innovate on the current business model for improved firm performance? - In a very dynamic operating environments characterized globally wide-spread certainty, how would you describe local leadership requirements for navigating firms through it? - Are there any other ways you believe the MNC parent company can support this desired outcome?

APPENDIX F: The Codebook

Project: MPHIL CS Research Report - 20820233
Report downloads from Atlas ti.
Report created by Boikanyo Kgosi on 2022/11/26
Code Report – Grouped by: Code Groups
All (178) codes
Groupless
121 Codes:
Added value creation beyond mining
Added value creation beyond mining life
Adoption of technology - benefit of MNC
Balanced Regulation - clarity of roles on ESG & equitable value
Barrier to Green transition - Regulatory environment
BM architecture
BM consideration- customer needs
BM considerations in mining - Scenario planning
BM Design - techno-economics focus
BM workforce awareness knowledge
BMI - barriers - Managing conflict
BMI Barrier - Complex MNC-Local structure complexity
BMI consideration - economies of scale reality
BMI evidence in Botswana mining - New processes
BMI Factor- External change pressures
Broad innovation searching
Business Leadership mindset - ownership
case for BMI in Botswana Mining
Change management - Culture Transformation factor
Change resistance - Alignment issues
Change resistance - Unions and workforce
Clarity of Government expectations - Equitable value share
Collaboration- country driven interest
Combining BMI antecedents - Technology, global economy, ESG
competing funding needs- rationalisation
context driven Dynamic capabilities - Sense & seize
Context specific BM setup
core competency - technical acumen
Cost driven business optimisation
Create new value chain spin-offs
Creation of strong industry innovation capability
culture - positive execute team culture
Culture barrier - Mining Localisation issues
disenfranchised.
diverse BMI drivers
Duplicate Governance - MNC/Local Teams

Codes cont…
Energy transition
Envision the end-state -cultivate confidence to innovate local BMs
ESG - Environment
ESG - Strategy consideration
ESG Capability development
Existing evidence for innovation - collaboration
Fit for purpose organisation structure - firm size
Forced compliance in Strategic TMT
funding - alternative local models
Funding - Capital intensive Mining BMI
Funding as a barrier - low budget for innovation
Global Mining factor - cyclical vs DC capabilities in Botswana
Governance Structure - SBMI permitting
Governance structures - ESG and Innovation Funding
Government motivation
Green Funding - SMBI
Green revolution - Natural resource beneficiation
Hierarchical structures in mining BM
Industry knowledge
Innovation antecedents
Innovation conflicts - mechanisation
Innovation independence - decouple from MNC dominance
innovation novelty
Innovation driven national industry development
inspiration for BMI
Interconnected mining process structure
Integrated industry- wide dynamic capabilities
integrated local strategic factors
Investor short term profit mindset
Is BMI of Mining the right thing for Botswana - Global considerations
Lack of VUCA environment assessment
leadership motivation - self preservation
Leadership Skills - Digital era pressures
Legacy issues
Leverage MNC BMI i.e. IROC
Local context approach to BMI
Local Industry lack transformative ambition
Local Organisation Structure - Cost & balancing act
Local ownership
Local subsidiary dominance - flexing
Low confidence in local innovation capabilities
Low Political will to support innovation - Culture
measuring innovation
Managing inherited MNC Risk
MNC Advantage - flexi organisation structures
MNC Change sponsorship evident
MNC DC - Evolutionary fitness advantage
MNC dominance
MNC Dynamic capability - beyond boarders
MNC influence - evident in ESG adoption and governance
MNC international business best practice
Multi-Party strategic alignments

Codes Cont...
National context legislation reviews
Navigating ownership an regulation
objectives led strategy
Organisation structure
Groups
○ Organisation structure: Operating model
○ Organisation structure: Resource organisation
○ Organisation structure: Organisation of business entity
○ Organisation structure: Skills development
○ Organisation structure: architecture of BM
○ Organisation structures drive bureaucracy
○ Ownership complexity in strategic decision - making
○ Power Struggles - Local to MN continuum
○ Profit as a driver of behaviour
○ Profit drive innovation strategy
○ R & D Evidence in Mining BM
○ Regulatory influence - adaptation of strategy
○ Review local TMT strategic and BM capabilities
○ Rigid local structures
○ SBMI conversations
○ Search informed adoption
○ shared values
○ Slow responses to ESG concerns
○ Stakeholder shared interests - collaboration driver
○ Strategic foresight and horizon scanning
○ Strategic management - Financial muscle matters
○ Subsidiary firm funding dependency
○ Support for locally crafted competitive strategies
○ Technical knowledge - BMI factor
○ Technology enabled innovation
○ Transformation - corridor to BMI
○ Wholistic review of BM architecture including Capabilities
○ work place culture negative
○ Working Teams driven innovation
○ Youth influence - Change in culture

BMI Motivation
6 Codes:
Agility
Appetite for increased innovation
BM evolution - case for new BMI
Digital Business Strategies
indigenous innovation
Leading in Complexity
Culture
3 Codes:
abdicate innovation ownership
organisation culture
resistance to change - if it's not broken don't fix it
Governance
8 Codes:
Barrier to innovation - bureaucracy
ethical leadership
Governance
Labour unions - barrier/enabler
Local innovation autonomy - positive evidence
Political interference
shareholder control
Strong subsidiary governance
Host environment
6 Codes:
divergent shareholder interest -MNC/ Host country/Local Subsidiary
ESG Business drivers
Governance
Reactive Innovation - e.g. environmental
Regulatory environment
Shared social value benefits
Innovation Capabilities

17 Codes:
Barriers to innovation - funding/capital intense
BMI barriers - conflicting priorities
capable organisation
change management
collaboration
Disempowered TMT - delegation of authority
Embed innovation culture
Employee value
indigenous innovation
Internal drivers for innovation
Intraorganisational teamwork
leadership capabilities
Local innovation autonomy - positive evidence
R & D enabler
racial barrier & bias (MNC)
redefining performance - wholistic KPIs
search behaviours
Innovation Search behaviours
6 Codes:
Adoption -contextual Innovation
environment scanning
Global firm capabilities
Innovation dimensions - interdependent systems
Intraorganisational teamwork
Leadership diversity
Innovation types

4 Codes:
Adoption - evidence
Agility
Process innovation - evidence
Shared social value benefits
Managing change
4 Codes:
Intraorganisational teamwork
leadership capabilities
Leadership diversity
Managing ESG risk
MNC Capabilities
4 Codes:
environment scanning
Global firm capabilities
Intraorganisational teamwork
Organisation structure: architecture of BM
Sponsorship
6 Codes:
Appetite for increased innovation
Barrier to innovation - bureaucracy
Connected MNC-Local Team
Embed innovation culture
Enabling Organisation structure
MNC Support local emerging BM
Strategic management
6 Codes:
Collaboration
Connected MNC-Local Team
integrated strategy shareholder interest
leadership capabilities
market driven strategy
MNC Global Dynamic capabilities synergised
Sustainability
8 Codes:
customer value proposition
ESG Business drivers
funding
Green revolution
integrated strategy shareholder interest
Purpose driven innovation
Redefining performance - wholistic KPIs
Shared social value benefits
Technology
1 Codes:
ESG Business drivers
Understanding Business Models
1 Codes:
scenario driven