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Exploring the global value chain of gold beneficiation in Zimbabwe

By

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ABSTRACT

There is a lot of academic research that has been done around the global value chains (GVCs), and their importance as a means of achieving or maximising the value earned along the global value chain. Additional work has also been done on GVC configuration and upgrading. However, existing literature does not explore specific strategies that firms in the low value-added activities along the GVC can deploy to unlock more value from the value chain. This research focused on the strategy of beneficiation as a key capability that firms can develop to upgrade their GVC positioning, focusing on gold mining firms in Zimbabwe.

A qualitative approach was adopted and data was gathered through semi-structured interviews with 12 participants who were purposively selected from executives of middle-sized gold mining firms in Zimbabwe. Data gathered was analysed through comparative analysis and themes that emerged from the analysis were analysed to generate the results of this study. The results of this research confirmed existing literature on value maximisation on the GVC and beneficiation as a strategy was supported by the results and existing literature. A model for value maximisation on the GVC was also developed from the results of this research and will aid managers in crafting firm-specific strategies to maximise value on the GVC.

The results of this research will enrich the current discussion and body of literature on GVC value sharing. Specifically, it will add to the discussion on how firm-specific strategies could be an avenue for disadvantaged firms to leverage on and upgrade along the value chain. Also, this research will contribute to the formulation of policies on beneficiation in Zimbabwe. Developing countries like Zimbabwe regard gold mining as a key driver for economic transformation and beneficiation of minerals (gold included) is a critical pillar of such initiatives. This research will Policy formulation in this regard will be aided by the results of this research.

Key Words

Global Value Chain, value earned, beneficiation, governance, upgrading, regulations, mining, leakage

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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 Business Administration at the Gordon Institute of Business Science, University f 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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Cougan Matanhire

11 March 2020

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1.1 Introduction

According to Gereffi (2014), Global Value Chains (GVCs) have evolved over the years to become an integral part of the current business models in International Business (IB). This phenomenon has been widely discussed in IB literature (Jones, Demirkaya, & Bethmann, 2019). A firm’s value chain includes all activities that support the development of a product from concept (research and development) up to the final product in the consumer’s hands (Jones, et al., 2019). Motivated by the need to secure key supplies, new markets and a desire to access low-cost factors of production (Bartlett & Beamish, 2018), firms have evolved into Multi-National Enterprises (MNEs) (Verbeke & Kano, 2015). Resultantly, the emergence of MNEs has seen the “organisation of industries into GVCs spread across many countries and regions”, (Gereffi, 2014, p. 438). Gereffi and Fernandez-Stark (2016) thus define the GVC as ‘‘the full range of activities that firms and workers perform to bring a product from its conception to end-use and beyond that are carried out on a global scale and that can be undertaken by one or more firms” (p. 4). The GVCs provide the MNEs with global access to information, technology, markets and transfer of knowledge (Gereffi, 2014), hence the MNEs become “primal actors within GVCs” (McWilliam, Kim, Mudambi & Nielsen, 2019, p.1). GVCs thus “stitch together economic activities from multiple geographically dispersed locations by leveraging the comparative advantages of each” (McWilliam et al., 2019, p. 2). The configuration of a firm’s GVC is influenced by the “OLI paradigm” (McWilliam et al., 2019, p. 2). An MNE will consider the ownership (O), location(L) and the internationalisation(I) advantages in configuring its value chain. The overarching objective in these considerations is to unlock competitive advantages and maximise profits. According to Buckley and Strange, (2015), “the global income distribution implications depend crucially on whether the changes in the global location of economic activity have come about primarily through (1) the growth of locally owned firms in the emerging economies, (2) increased FDI by MNEs from the advanced economies, or (3) the proliferation of outsourcing arrangements coordinated by firms in the advanced economies” (p. 246).

The position and size of the firm along the GVC is an important determinant of power in the GVC (Murphree & Anderson, 2018). “Lead firms or orchestrators” (Murphree & Anderson, 2018, p. 124) and those that produce critical components of the product wield a lot of power based on their specialised knowledge and resultantly they reap the greatest value out of the

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value chain. Closely tied to this is the governance of the GVC. Governance is defined as the "organisation and control of GVCs" (McWilliam et al., 2019, p. 1). Organisation looks at the relationships between firms and the structure across the value chain nodes while control is about the power dynamics based on institutional and market forces (McWilliam et al., 2019). Naturally lead firms or orchestrators have the power over other firms in the value chain to set prices and thus influencing the profit they get out of the GVC (Murphree & Anderson, 2018). "Where lead firms themselves have no tangible assets such as production capabilities, they coordinate the network through their position as international buyers and command of intangible knowledge assets such as intellectual property, designs, and brand identity" (Murphree & Anderson, 2018, p. 125).

Global value chains can provide opportunities for developing countries like Zimbabwe through diversifying their exports and intensify their integration into the global economy. Despite the growing importance of GVCs and their role in enhancing developing countries to settle into a high-value global production chains, developing countries are still exporters of unprocessed raw minerals (Bamber, Fernandez-Stark, Gereffi & Guinn, 2014). According to Gereffi and Fernandez-Stark, (2016), GVCs have become the new order of IB as they unlock new markets, access to new technology and opportunities for upgrading into high-value activities which yield more value for participating firms. Nevertheless, there is limited theoretical and empirical research that demonstrates how these countries can benefit from participation in GVCs.

1.2 Background

Mineral beneficiation is a process of increasing the economic value of a mineral through undertaking value-adding activities (Hausmann, Klinger & Lawrence, 2008; Baxter, 2005). This process enhances the value of the mineral at each stage of the value chain as it is transformed from being ore into a semi-finished or finished product. The process is presented in Figure 1 below.

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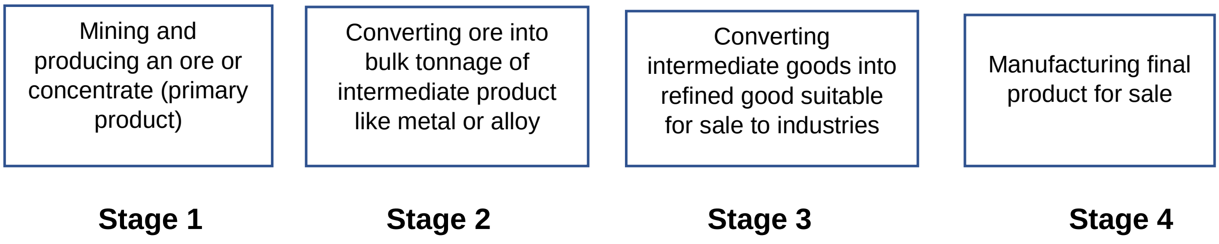
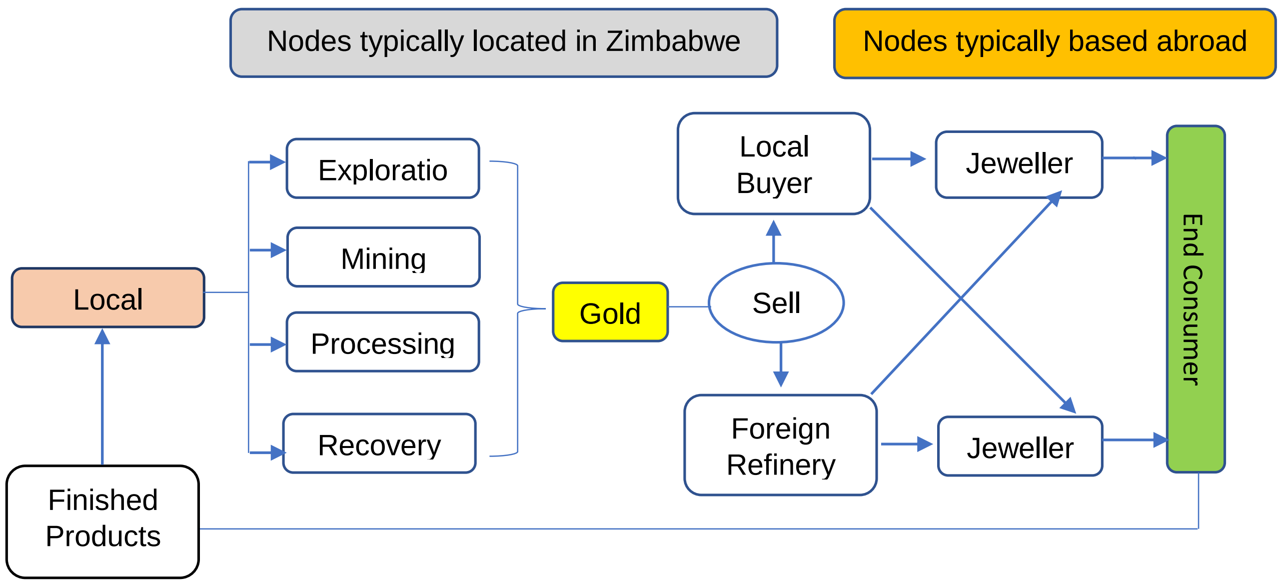
Figure 1: The Four Stage Beneficiation Process



Adapted from Baxter, (2005, p. 26)

(Stylo, Haan & Davis, 2019) further amplify this process by presenting a simplified gold value chain (Figure 2 below), showing the location of the various nodes. The nodes located in Zimbabwe are strategically placed because of the access to cheap labour and the location of the gold resource although "the opportunities for economic activities are limited" (Betancur-Corredor, Loaiza-Usaga, Denich & Borgemeister, 2018, p. 540). However, based on the four stages presented above, the value-added at these nodes and control is limited and hence the need for upgrading into more value-adding activities.

Figure 2: Typical Gold Value Chain in Zimbabwe



Adapted from (Stylo et al., 2019)

Beneficiation is a value addition process that moves the mineral up the value chain (Baxter, 2005). It increases the value of mineral ore through upgrading to semi-finished or finished products. Gereffi and Lee (2016) identify four different types of upgrading along the value chain namely;

a. **"product upgrading"**, or moving into more sophisticated product lines;
b. **"process upgrading"**, which transforms inputs into outputs more efficiently by reorganizing the production system or introducing superior technology;
c. **"functional upgrading"**, which entails acquiring new functions (or abandoning existing functions) to increase the overall skill content of the activities; and
d. **"chain upgrading"**, where firms move into new but often related industries.

The process of beneficiation and participation of Zimbabwe mining firms in the gold GVC is crucial for the development of the economy (Mangudya, 2020; Ministry of Mines Zimbabwe [Min of Mines Zim], 2016). Although the benefits of beneficiation (upgrading) are supported by extant GVC literature, Zimbabwean firms have not been able to capitalise on this opportunity. According to Mutandwa and Genc, (2018) several factors limit the ability of Zimbabwean mining firms to beneficiate as follows:

(i) high operating costs;
(ii) the latecomer effect, where the competitors in other developed markets have well-advanced systems to handle gold development as well as the technological know-how to develop brands and new commodities;
(iii) lack of the domestic market for mineral value-added products, the local manufacturing industry should act as a stimulus for local firms upgrading along the value chain.

From the extensive literature review done, there is a large body of research on GVCs focusing on the process of added value in the production of agricultural goods (Keane, 2017; Balie, Del Prete, Magrini, Montalbano & Nenci, 2017). However, research that interrogates the nexus of gold source countries and the accruing benefits has not been deeply interrogated. Especially in the case of developing countries like Zimbabwe, where more than 40% of the ore is mined with little benefit from the added value.

1.3 Research Context – Zimbabwe Gold Mining Sector

According to the report by the Reserve Bank Zimbabwe (RBZ) governor, John Mangudya in his February 2020 Monetary Policy statement, Zimbabwe's mining sector is a major foreign-currency earner and has the potential to become the backbone of economic growth through added value and profit (Mangudya, 2020). The Zimbabwe Ministry of Mines and Mining

Development (ZMMMD) has identified the beneficiation of gold and other minerals as a strategic pillar to increase revenue generation from the mining sector (Min of Mines Zim, 2016). The Zimbabwean gold mining sector has been a major factor in contributing to the growth of the overall mining sector in Zimbabwe and a driver of exports in the past (Mahonye & Mandishara, 2015). Notwithstanding gold being the major driver of mining sector performance, without sufficient mineral extraction and beneficiation, the anticipated economic growth will be below the planned targets. Currently, unprocessed gold is being exported, earning little revenue on the global market compared to the finished products like jewellery (Mahonye & Mandishara, 2015). The gold value chain is global, starting from the mining company in Zimbabwe, which processes the gold ore into a nugget and up to the piece of jewellery that is minted out of the gold and sold in a jewellery shop in a foreign market (de Boer, van der Linden & Tuninga, 2012; Mahonye & Mandishara, 2015). The jewellery is then imported back into Zimbabwe at three or four times the value of the unprocessed gold exported. For Zimbabwe gold mining companies to realise maximum benefits from their gold production, they need to put mechanisms for value addition or beneficiation. (Mahonye & Mandishara, 2015).

1.4 Research Problem

The identified research problem was to investigate how gold mining companies in Zimbabwe can leverage on gold beneficiation to maximise the value realised on the gold GVC. This investigation answers on how these gold mining companies can change total value realised if the miners produce more and increase the economic value of the minerals through beneficiation.

The research aims to:

(i) To investigate how gold mining companies in Zimbabwe can leverage on gold beneficiation to maximise the value realised on the gold GVC.
(ii) To determine the beneficiating options available to gold mining companies as they seek to maximize value earned on the GVC.
(iii) To explore whether the position on the GVC enhances the value earned from participating in the GVC.

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This assists in answering the following questions;

(i) How can gold mining companies in Zimbabwe leverage on gold beneficiation to maximise the value realised on the global gold value chain?
(ii) What are the beneficiating options available to gold mining companies as they seek to maximize value earned on the GVC?
(iii) How can a position on the GVC enhance the value earned from participating in the GVC?

1.5 Purpose of the Research

The purpose of this research is to determine how gold mining companies in Zimbabwe can leverage on gold beneficiation to maximise the value realised on the global gold value chain. This research focuses on the gold mining sector in Zimbabwe, which has a lot of potential but has perennially underperformed. According to Mahonye & Mandishara (2015), “there is a weak correlation between the price of gold and the volumes produced” (p.82) mainly because of pricing disparities and marketing arrangements. The research is not advocating for regulatory intervention in the configuration of the GVC, but to contribute to the existing literature on the importance of beneficiation at the source so that mining companies maximise value on the value chain. Sun and Grimes (2016) suggest that mere participation in the supply chain of lead companies actually constrains the suppliers from becoming independent and innovative. Whilst the country accounts for a significant portion of the world’s gold deposits, there is not much gold beneficiation in Zimbabwe. The gold is exported raw and no value addition is being done in Zimbabwe. As a result, a lot of value is transferred to the destination countries of export - hence the need for this research.

The research will also contribute to the body of literature on GVCs with a specific focus on determining how gold mining companies can maximise realised value on the GVC through beneficiating. It will assist mining companies to evaluate their GVC strategies and upgrading options so that they can maximise the value or profits they realise. According to (Sebatta, Kyomugisha, Sebatta & Mugisha, 2018), producers who invest in value addition earn more income and are less likely to be vulnerable to income variability.

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1.6 Research Contribution to GVC Literature

Whilst a lot of work has been done around the subject of GVC configuration and upgrading, existing literature does not explore specific strategies that firms in the low value-added activities can deploy to unlock more value from the value chain. As noted by Hernández and Pedersen (2017), future research "may explore firm factors that could affect the way firms in the global value chain make their decisions" (p.147). The authors further suggest that "scholars could also focus on contingencies that could help firms to identify which decisions may benefit them more" (p.147). Islam and Polonsky (2020) argue that managers are not clear on the particular type of upgrading to undertake that would be strategic for their firms, hence they suggest further research in this area. The authors add that future research could also look at supplier firm-level factors like strategic priorities on various types of upgrading and how these influence the GVC upgrading outcomes.

This research, therefore, seeks to enrich existing GVC literature by taking focusing on the strategy of beneficiation as a firm-level capability that firms can develop to upgrade their GVC positioning and maximise the value earned from GVC participation. The research takes the discussion on GVC upgrading and value creation a step further by focusing on a specific strategy that can be deployed by firms.

1.7 Research Contribution to Business

According to Islam and Polonsky (2020), there is a need for more academic research "to explore how firm-level factors like strategic priorities on various upgrading types influence upgrading outcomes" (p.157). This research will also be of great help to managers as they are faced with increased global competition and volatile metal prices. This research suggests beneficiation as a strategic capability that gold mining firms in developing economies can integrate into their GVC strategies as they seek to enhance their global competitiveness. Beneficiating into consumer goods will open new niche markets in which demand and prices are relatively inelastic.

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1.8 Research Contribution to Policy Formulation

The area of beneficiation has become important over the past years with more developing countries crafting laws to ensure that a large portion of beneficiation is done in situ. Mahonye and Mandishara (2015) argue that “there is limited value addition and much of the revenue generated in the mining sector is from the export of raw minerals”, generating little financial returns for the players in this sector (p.88). This research will contribute to the existing literature in Zimbabwe urging for the setting up of an enabling beneficiation environment to ensure the future viability of mining firms as noted by Mahonye and Mandishara (2015). This research will, therefore, help the country in the formulation of economic policies that will support the case for in-country beneficiation.

1.9 Conclusion

This chapter has advanced a research problem and the context in which this research is set as well as the contribution of this research to GVC literature, business, and policy formulation. Considering the importance of the Zimbabwean gold mining sector in spearheading economic development, this research seeks to explore the global value chain of gold beneficiation in Zimbabwe. The research also addresses gaps in extant GVC literature on gold beneficiation.

1.10 Definition of Terms

Global Value Chain refers to all the activities and processes that are carried out on a global scale by one or more firms to transform a product from concept to a finished product in the hands of the final consumer (Gereffi & Fernandez-Stark, 2016).

Beneficiation is a process of increasing the economic value of a mineral through undertaking value-adding activities (Hausmann, Klinger & Lawrence, 2008).

Economic Upgrading is the process of moving into high-value activities on the GVC as a way of increasing value earned from the GVC (Gereffi, 2005).

2 CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

"The development of global value chains (GVCs) and their economic impact on countries, industries, and firms have been much discussed in the business and economics literature" (Jones et al., 2019, p. 1). Historically, the literature on GVC has focused on the configuration of the GVC such as the decision on location, governance, and coordination (Hernandez & Pedersen, 2017). Hernández and Pedersen (2017), in their review of literature on global value chain configurations, provided a starting point for reviewing existing literature on the subject. According to their paper, they tackle three areas around GVCs as follows: concepts and activities, decisions and implications. The foundation of the GVC framework is the value chain concept (Bamber et al., 2017). The value chain describes the full range of activities that firms and workers engage in around the world to bring a product from concept to a finished product (Bamber et al., 2017; Hernández & Pedersen, 2017; Gereffi & Fernandez-Stark, 2016), and these activities could be tangible or intangible value-adding activities (Bamber et al., 2017). Through regional and international connectedness as firms seek to create competitive advantages, these value chains spread across international borders through the expansion of MNEs and the value chains became global, thus the emergence of GVCs (Hernández & Pedersen, 2017). As a result of this development, the key issue for firms now is not whether they should participate in the GVC or not but how they can do so profitably (Gereffi & Fernandez-Stark, 2016). The GVC framework thus focuses on how value is added along the chain from concept formulation up to a stage when the product is in the consumer's hands (Gereffi & Fernandez-Stark, 2016). Thus the overall objective of firms becoming part of the GVC is to derive value from value-added activities they perform along this GVC. Participation in GVCs is considered as a means of enhancing the chances of achieving profitability (Choksy, Sinkovics & Sinkovics, 2017). If there is no additional profit realized as a result of participating in the GVC then there is little or no motivation for the firm to be in that GVC.

This section focuses on the concepts and theories around GVCs and gold beneficiation and also empirical evidence on the impact of globalisation on international business and how firms can formulate strategies to create competitive advantages. To better understand the concept of beneficiation in the context of the GVC framework, an extensive literature review has been conducted under each aspect of the GVC framework.

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2.2 Concept and Activities

According to Gereffi and Fernandez-Stark (2016), the global economy is increasingly structured around global value chains (GVCs) that account for a rising share of international trade, global gross domestic product (GDP) and employment. A global value chain is defined as ''the full range of activities that firms and workers perform to bring a product from its conception to end-use and beyond'' (Gereffi & Fernandez-Stark, 2016, p.4). These activities are spread across global players and several participants (Gereffi & Fernandez-Stark, 2016). Thus GVCs can be thought of as factories that cross international borders (Taglioni & Winkler, 2014). GVCs link firms, workers and consumers around the world and often provide a stepping stone for firms and workers in developing countries to integrate into the global economy (Gereffi & Fernandez-Stark, 2016). At the national level, GVCs are catalysts for international development and act as a barometer for a country's competitiveness on the global economy (Gereffi & Lee, 2012). Organisations have reorganised their supply chains by expanding globally to open new sources of value (Gereffi, 2014). Bamber et al., (2014) add that GVC participation opens new opportunities for firms and if the firms can upgrade, they will earn more profits. The GVC framework has been developed by several scholars to understand the impact of globalisation on IB and how firms can strategise to create competitive advantages (Bamber, Brun, Frederick & Gereffi, 2017; Murphree & Anderson, 2018). Early studies around this subject started with an initial focus on global commodity chains, "which primarily focused on understanding how firms were reconfiguring their supply chains to source from lower-cost locations around the world" (Gereffi, 2011, Gereffi & Fernandez-Stark, 2016). Within this study a distinction was made on buyer-driven commodity chains and producer-driven commodity chains, focusing on where power in the chain rested (Hernandez & Pedersen, 2017; Bamber et al. 2017; Gereffi, 2014).

According to Rungi and Prete, (2017), the generation (and distribution) of value is higher at the early and late stages of an ideal supply chain running from the start of a business line until reaching the final consumers" (p.41). This pattern is depicted as a "Smile Curve" (Figure 3 below) that matches the value-added against the stages of a value chain (Ming, Meng & Wei, 2015, p. 3). This curve shows that activities at both ends of the value chain of a lead firm's GVC generate more value-added to the product than those in the middle (Ming et al. 2015). Resultantly, most MNEs chose to structure their governance in such a way that they push the middle activities to actors in the developing countries where they can maximise their rents (Ming et al. 2015). As a result, "most of the high value-added activities such as R&D, design,

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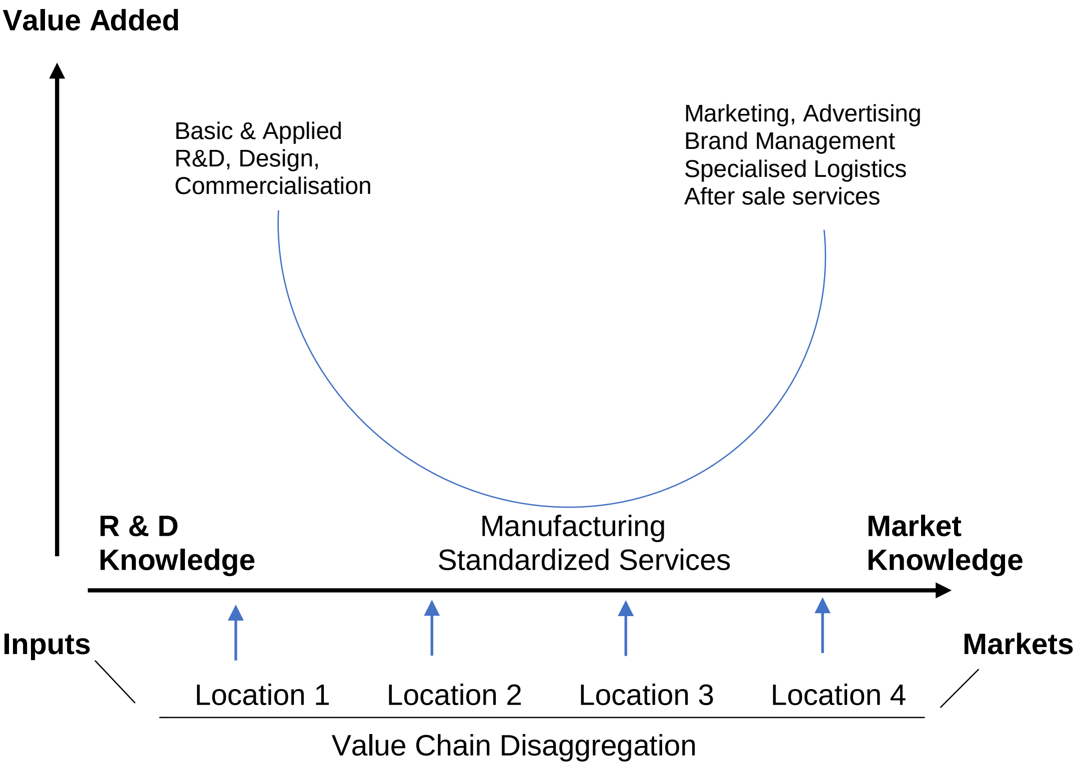
branding, and marketing are located in advanced economies, whereas production activities are typically located in emerging economies. From a value capture perspective, while all actors benefit from the overall value created, most of the value tends to be captured by firms involved in upstream and downstream activities. In other words, firms involved in activities connected with assembly and production tend to capture less value" (Choksy et al., 2017, p.356).

Figure 3. The smile curve of value creation



Adapted from Mudambi, (2008, p. 708)

Producers of commodity components and final assemblers of goods get the lowest returns on the GVC and unless they upgrade their status on the GVC, their financial returns will always be low compared to those of lead firms (Murphree & Anderson, 2018). Without upgrading, these firms remain vulnerable to the power of the lead firms (Murphree & Anderson, 2018). The value of the product increases as it moves from one stage to another as value is added by different players along the GVC. This value-added is the profit that accrues to the firm at that stage of the GVC and is the difference between the value of the output and the value of the inputs used at that node of the value chain (Kyomugisha et al., 2018). Through upgrading,

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the firm will move onto high value-added production and hence be able to increase the value-added and ultimately profit at its node. However, it must also be noted that the benefits from participation that accrue to a country or firm depend upon its positioning on the GVC (Del Prete, Gioavannetti & Marvasi, 2018). The authors further argue that if a country has to formulate GVC-oriented policies, the policies should be "aimed at boosting the "right" positions" (p. 52). These right positions are normally located at the ends of the value chain where there is an increased value-added (Rungi & Del Prete, 2017).

Most mining firms in mineral economies are primary producers of minerals and the final product is further refined and used in emerging and developed markets. This is because much of "the beneficiation takes place in countries that do not mine the product at all or do not mine much of the product" (Baxter, 2005, p. 26). Mcdermott, Mudambi, and Parente (2013) posit that firms are becoming aware that value capture along the GVC is only through maximising value on what they have control over. Hence any player along the GVC that has no control, may not benefit as much from being part of the GVC. In essence, becoming a supplier of ore minerals on the GVC prejudices the producing firm of the additional value generated through beneficiation.

From the above analysis, it is clear that existing literature supports the notion that value earned on the GVC increases as firms upgrade their products and positions along the GVC. As already noted by Mahonye and Mandishara (2018), firms in Zimbabwe are currently doing limited or no beneficiation on their gold at all, hence the high volumes of raw minerals feeding into GVCs with limited benefit to the producing country. Therefore, what remains unanswered from existing literature are the "what" and "how" aspects. What should gold mining firms do to upgrade and how should they implement it? There is, therefore, a need to determine how gold mining firms can maximise their value earned on the GVC through leveraging on beneficiation.

2.3 GVC Decisions

2.3.1 Governance, Location, and Coordination

The emergence of GVCs drew the imperative of governance in the analysis of the GVC framework. According to Gereffi and Fernadez-Stark (2016), governance analysis looks at how a GVC is controlled and coordinated when certain actors in the GVC have more power than others. It looks at the impact of power on value sharing along the chain and also decisions on off-shoring of activities and sharing of information. Governance focuses on how lead firms in the GVC flex their institutional capacity to influence the sharing of profits and consequently how risk is distributed among the firms in the GVC (Gereffi & Lee, 2016; Buckley & Strange, 2015). Governance also determines the prospects of upgrading for firms engaged in low value-added activities. Islam and Polonsky, (2020) argue that a firm can upgrade its position on the GVC through engaging in higher value-added activities. However, it is the lead firm that sets the rules of the game. Thus firms in developing countries, although they could be part of the GVC, may not realise the value that is commensurate to their resource endowment. Even though some firms may have control over critical resources along the GVCs, they may still lack control to influence the amount of profit they realise because of "lack of capabilities, prohibitive switching costs, lack of or limited access to final markets and ownership structure" (Murphree & Anderson, 2018). These limitations will inadvertently affect the governance structure (p.126). However, Murphree and Anderson (2018) contend that it is still possible for firms in low–value-added activities to come up with strategies to increase their profits. This can be achieved "through upgrading their capabilities and moving into more complex and high value-added activities" (p. 125).

Understanding the governance structures and how GVCs are governed is essential for firms to determine whether to enter the GVC and enhances industry growth (Gereffi & Fernandez-Stark, 2016). Proper analysis of the GVC governance structures entails first "identifying the lead firm in the sector, their location, how they interact with their supply base and their source of influence and power over them e.g. standards compliance (Gerrefi & Fernandez-Stark, 2016, p. 10). There are five GVC governance types developed by Gereffi (2005), which are measured and determined by three variables namely; the complexity of the information shared between actors in the chain; how the information for production can be codified; and the level of supplier competence (Gereffi & Fernandez-Stark, 2016, p. 10; Fredrick & Gereffi, 2009; Gereffi, 2005). This model is presented in Figure 4 below.

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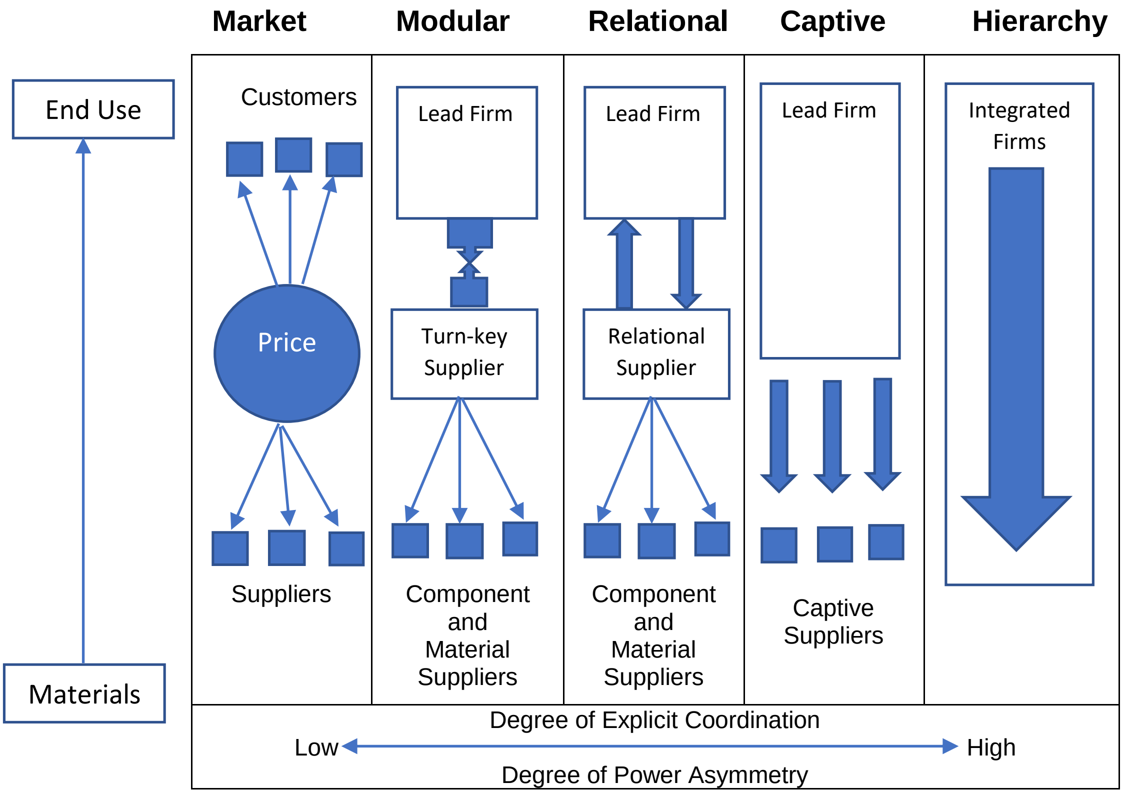
Figure 4. Five Global Value Chain Governance Types



Adapted from Gereffi, (2005)

Each governance structure has its advantages and also determines the scope for profit sharing among the value chain players. An analysis of value creation along the value chain, therefore, must be underpinned by a more robust analysis of the governance typology.

2.3.1.1 Market Governance

Under this type of governance, "the central governance mechanism is price rather than a powerful lead firm" (Gereffi & Fernandez-Stark, 2016, p. 10). Suppliers of products can manufacture products with minimal or no supervision from buyers and the costs of changing from one buyer or supplier to the next are negligible hence there is no one center of power and there are no strong relations between the players in this governance structure. From a value creation perspective, each player has a fair chance based on their core competencies.

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2.3.1.2 Modular Governance

This type of governance depends on information exchange between the buyers and suppliers and relations are more defined than in market governance. Suppliers of products "manufacture according to customer specifications, thus maintaining the relationship is key" (Gereffi & Fernandez-Stark, 2016, p.10). Just like under market governance, value creation depends on the firm's competencies and how well the firm exploits the same in creating value. No single player has a dominant role.

2.3.1.3 Relational Governance

Here relationships play a critical role as there is a lot of complex information that is exchanged between the buyers and sellers. Knowledge is shared and hence trust is imperative. Although there is mutual dependence, lead firms wield significant power along the chain. "Producers in relational chains are more likely to supply differentiated products based on quality, geographic origin or other unique characteristics. Relational linkages take time to build, so the costs and difficulties required to switch to a new partner tend to be high" (Gereffi & Fernandez-Stark, 2016, p. 11). Value creation is therefore not equally distributed and the lead firm will have some power over the other players in the chain.

2.3.1.4 Captive Governance

"In these chains, small suppliers are dependent on one or a few buyers that often wield a great deal of power" (Gereffi & Fernandez-Stark, 2016, p. 11). Given the power of the lead firm (the captor), suppliers are bound to comply based on strict conditions of engagement. The buyer, who plays the role of the orchestrator in the value chain, may at times go out of their way to help improve the production processes of the supplier to ensure that they get quality products. Value creation here is highly skewed in favour of the lead firm and as such suppliers have little power along the chain. Any significant value realised by the supplier depend on the benevolence of the lead firm (Gereffi & Fernandez-Stark, 2016).

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2.3.1.5 Hierarchy Governance

This type of governance involves a lot of management control from the lead firm and most of the product development and manufacture are in-house. “This usually occurs when product specifications cannot be codified, products are complex, or highly competent suppliers cannot be found” (Gereffi & Fernandez-Stark, 2016, p. 11). Value creation here is essentially determined or heavily influenced by the lead firm since they control all the levers of product development and production.

It should be noted that governance structures in the industry are not static and a lot of GVCs have multiple governance structures and hence there is no one way of determining the nature or magnitude of opportunities that may accrue in a particular governance structure. (Gereffi & Fernandez-Stark, 2016). The concept of governance looks at how corporate power shapes the distribution of value along the GVC and such power is exerted by the lead firm (Gereffi, 2014).

The above evidence from existing literature makes it is clear that the governance structure in a particular GVC will determine how value is created and distributed amongst the GVC players. Given the strategic nature of gold to the RBZ and government of Zimbabwe in general, which increases the involvement of the State in certain aspects of the values chain, this makes for a Captive governance structure. However, what remains unclear are the specific strategies that these firms could use to maximise the value earned.

2.3.2 The Role of the State in GVC Governance

Mayer & Phillips (2017) argue that States have not been passive participants and facilitators of GVCs, but have been actively involved in the configuration of GVCs through either “facilitative governance, regulatory governance or distributive governance” (p.135).

2.3.2.1 Facilitative Governance

This refers to the state’s role in putting in place policies that promote the formation and operation of GVCs. According to Ponte and Sturgeon (2014), the nature of the GVC alone requires that the state play a pivotal facilitative role. GVCs have resulted in an increase in cross border transactions in which functions and processes are outsourced by lead firms. For

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this to work out well, there must be low barriers to entry, property rights, and regulation of markets. This role can only be effectively played by the state through the signing of international trade agreements promoting free trade and strengthening bilateral investment agreements (Ponte & Sturgeon, 2017).

2.3.2.2 Regulatory Governance

This refers to the state assuming or letting go of some regulatory control to stimulate or promote a certain political and economic ideology. In particular, in other instances, governments have come up with incentives to promote FDI and increased exports. The net effect of such incentives has been to make the state a low-cost point in GVCs (Ponte & Sturgeon, 2017).

2.3.2.3 Distributive Governance

This refers to the state's role in facilitating and at times legislating for an equitable distribution of economic value along the value chain. GVCs by nature are dominated by lead firms which maximise value through manipulating the conditions of price and supply along the length of the supply chain to their advantage. Most of these are absorbed by small players along the chain, hence the need for this role by the state (Ponte & Sturgeon, 2017).

From the above analysis, it is abundantly clear that the State can play a huge role in influencing the positioning of local firms on the GVC and at times even on the structure of GVCs. Extant literature supports this role of the State but dos not spell out firm-level strategies that are critical for the success of being on the GVC. GVCs have become a global phenomenon (Gereffi, 2014) and therefore the key issues now should focus on firm-level strategies. As stated by Ponte and Sturgeon (2014), dominant lead firms exist which determine the distribution of income along the GVC which at times may be at the detriment of the small players. The value unlocked through the GVC depends on how the organisation is positioned on the GVC and its strategy to leverage on the GVC to create its competitive advantages (Gereffi, 2014). However, de Boer et al. (2012), contend that participants in global business are realising unequal benefits, depending on how they are positioned on the global value chain. Therefore, closely tied to the issue of governance is the positioning of an individual firm on the value chain. As already noted, gold mining firms in Zimbabwe are mainly on the production side of the gold value chain, with limited or no beneficiation being done on the gold before it is exported (Mahonye & Mandishara, 2018).

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2.3.3 GVC Positioning and the Role of MNEs

According to Hernández and Pedersen (2017), the configuration of GVCs has developed over time. Initially, GVCs were "defined in large blocks ranging from low-end manufacturing and service activities to research and design and engineering" (p. 140). However, over the years, firms have fine-tuned their approach and rationalised their activities to enhance their competitiveness (Hernández & Pedersen, 2017). Buckley and Strange (2015) focused on the location and control of the "global factory" (p. 237) – where key activities of the value chain are located (p. 237). The authors further suggest three factors that determine the distribution of global income, namely (i) the rise of indigenous firms in the emerging economies, (ii) the inward flow of foreign investment from developed economies and (iii) an increase in the procurement demands from developed countries into developing countries (p. 246). Bartlett and Beamish (2018) also reinforce this traditional idea by stating that MNEs are motivated by the desire to access new markets and low costs of production, mainly labour in the target country.

Verbeke and Kano (2016) also identify six drivers that influence the decisions by MNEs to expand abroad, namely strategic motivations, managerial preferences for firm-level control and risk-taking, selection of value chain activities to be internationalised, potential for value and growth from target locations, desired scale of expansion and the level of compounded distance and the related costs of managing the foreign business (p. 88). These drivers are key in influencing the decision of MNEs to expand. What is striking about this is the expansion from traditional Internationalisation Theory (IT) which limited the drivers to just market seeking, raw material seeking and risk diversification. Bolivar, Casanueva, and Castro (2019), applied the network perspective to analyse the flow of global foreign direct investment. They assert that initially, the main drivers for MNE expansions were the desire to access and exploit global markets, going after strategic locations and the desire to outcompete rivals through competitive sourcing. In their analysis, they analyse the network structure of FDI and through their studies realised that a country can gain a central position on the FDI network through higher economic size, trade openness, institutional stability and skilled labour endowment (p.707).

Baldwin and Venables, (2013) introduce another dimension of a configuration of "spiders and snakes" (Baldwin & Venables, 2013, p.254). Under a snake configuration, production processes follow a particular order and each node adds value in a predetermined order (Baldwin & Venables, 2013). With this type of configuration, each player realises the value that is already predetermined based on their position on the value chain. Under the spider configuration, there are "'many-limbed' processes, where parts come together for assembly" (p.254). These configurations have an impact on production locations and relationships between firms in the chain (Jones et al., 2019).

2.3.3.1 The OLI Paradigm

(McWilliam et al., 2019) add to this concept by introducing the **"OLI paradigm"** (p. 2). This paradigm (McWilliam et al., 2019), consider three key factors that have a strong bearing on the configuration and governance of a GVC namely:

2.3.3.1.1 Ownership (O) Advantages

This looks at why firms open foreign businesses and the form of foreign ownership could be a source of advantage to the lead firm. For instance, acquiring a controlling stake in a foreign entity means that the lead firm will retain decision-making power and hence "be able to control the value chain" (p.2).

2.3.3.1.2 Location (L) Advantages

This looks at why firms will choose particular locations to off-shore parts of the GVC. This could be a result of low costs, proximity to the market or logistical reasons (p.2). According to Strange and Humphrey (2019), firms will off-shore selected value-adding activities to maximise the value they will achieve. This desire for value maximisation will have a direct impact on the governance of the value chain. Value maximisation can happen through access to cheap raw materials and labour or due to advantages of specialisation as the lead firm outsources non-core low-value activities (Strange & Humphrey, 2019).

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2.3.3.1.3 Internalisation (I) Advantages

This looks at how the foreign activities are structured and who has control over the production processes (p.2).

Strange and Humphrey (2019), add another dimension to this discussion. The authors looked at the internalisation theory juxtaposed with the GVC theory to understand why lead firms externalise certain activities and extended their study to look at mechanisms that can be deployed by the lead firm to exercise power over other GVC partners. Drawing on the five governance typologies proffered by Gereffi, (2005), the authors further posit that focus must be devoted to the "middle ground" (Strange & Humphrey, 2018, p.15), between the market governance structure and the hierarchy governance structure. In their study they suggest four strategies that can be deployed by lead firms to exercise control over externalised activities in the GVC namely (i) contracts; (ii) direct coordination; (iii) embedded coordination through product standards and (iv) strategic alliances. The choice of the control mechanism is determined by power asymmetries between the lead firms and their GVC partners and by "the codifiability of information to be exchanged between the partners" (Strange & Humphrey, 2018, p.15). Where the lead firm has low power and information codifiability is low, then strategic alliances would be a better strategy. However, their approach does not clearly state how players in the GVC with limited or no power could increase their chances of profitability. Their paper looks at this from a leading firm perspective.

Organisations seek to unlock economic value by accessing cheap factors of production like labour and raw materials or better markets as a way of enhancing global competitiveness. This objective, therefore, drives firms in developed countries to then set up their supply chains in strategic locations where they can maximise their competitive advantages. These MNES are dominant and influence the distribution of profits along the value chain (Baldwin & Venables, 2013). Once again, this analysis falls short of identifying firm-specific strategies that could be adopted by firms in developing countries like Zimbabwe to establish their positions on the GVC profitably.

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2.4 Knowledge Spill Overs and Innovation

Lema, Quadros, and Schmitz, (2015) used case studies of Brazilian and Indian automotive industries to explore how the reorganisation of the GVCs in these countries contributed to the increasing innovative capability (Lema, et al., 2015, p. 1377). According to Gereffi and Lee (2012), most governance structures are a hybrid of different models depending on the location of the GVC. The authors contend that "there is a direct relationship between governance structures and value generated on the GVC as well as the level of competitiveness" (p.30). However, Lema et al., (2015), contend that governance alone will not necessarily enhance innovation transfer unless there is a decomposition of the innovation process through what they called "Organisational Decomposition of Innovation Process (ODIP)" (p.1380). They went beyond governance of the GVC and looked at how established firms in developed markets were aiding in the transfer of innovation capabilities to emerging and developing markets through ODIP. If there is no deliberate decomposition (Lema et al., 2015) or shifting of innovation capabilities, the lead firms will continue to be ahead of the curve and thus regardless of governance structures, innovation capabilities may remain concentrated at headquarters.

Liu and Giroud (2016) present a different view to Lema et al., (2015), introducing the need to include mobility of human capital in assessing innovation on the GVC. They expose a gap in the proposition from Lema et al., (2015), which does not explain "the difference and impact of organisations acquiring knowledge through human capital mobility and the inward flow of investment into the domicile country" (Liu & Giroud, 2015, p. 128). However, Pedersen, Soda and Stea, (2019) slightly shift from Liu and Giroud (2016) by affirming that MNEs cut across organisational boundaries in transmitting the information. Developing country firms will, therefore, gain more information by joining the GVC of such MNEs. Casillas, Barbero and Sapienza (2015) argue that the internationalization theory should also include the capacity to acquire or transfer knowledge in looking at drivers of FDI. They argue that lack of knowledge increases the level of risk and become an impediment to FDI as MNEs shun to increase their risk.

Another different element is added by Sampath and Vallejo (2018), who argue that the "ability to technologically diversify across export categories is linked to stronger innovation systems, as measured by national capability indicators, such as public R&D investments, scientific publications, intellectual property payments and patents by residents" (p. 481). Kotler, Manrai,

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Lascu and Manrai (2019) state that MNEs must have as much information as possible about the target firm and country. Factors such as the business environment and regulatory framework must be evaluated before a decision to invest is made. Del Prete et al., (2018) argue that linkages are important for a firm to fully integrate into international production networks. They further posit that whilst GVC participation is important, it must be supported by favourable local conditions like low trade barriers and a conducive regulatory framework. Del Prete et al., (2018) add to this and argue that linkages are important for a firm to fully integrate into international production networks. They further posit that whilst GVC participation is important, it must be supported by favourable local conditions like low trade barriers and a conducive regulatory framework.

Mair and Marti (2009) state that the quality of institutions and the level of service delivery has an impact on the competitiveness of the firm. They further posit that where these are weak or absent, voids will exist and there would be institutional voids. However, Goedhuys and Sleuwaegen (2015), in suggesting a solution to the challenge of institutional voids, aver that in the absence of strong institutions, International Standards and Certification (ISC) are used by MNEs as a way of controlling quality and ensuring consistency of delivery. ISCs, therefore, can be used as a bridge to address the institutional voids.

Firms in Zimbabwe could benefit from technology and innovation transfer from MNEs with superior and more efficient technology and also benefit from human capital development that comes with new technology. However, the appropriation of new technology may not necessarily lead to improved value earned unless the positioning is right, hence the need for firm-specific strategies to increase value earned. The successful realisation of value from the GVC through beneficiation will also depend on the existence of favourable and supportive conditions (Del Prete et al. (2018). The absence of these will limit the scope of beneficiation. Existing research does not look at the limitations (firm-level or institutional) that impact on mineral beneficiation as a value driver on the GVC. This research, therefore, seeks to explore these limitations in the context of gold GVC upgrading through mineral beneficiation.

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2.5 Value Creation

The governance structure also indicates whether there could be barriers to entry in that particular industry (Gereffi & Lee, 2012). However, their research does not address the issues of value creation along the GVC and who benefits most out of that value. Applying the GVC framework across the board and doing a conceptual proposition on governance and positioning without addressing value generated by each player along with the GVC short changes organisations at the source point. Any governance structure that does not address maximising value through beneficiation at source leads to producers being short-changed on the GVC (Buckley & Strange, 2015). This is the gap that this research seeks to address through looking at localising beneficiation of primary products (minerals) at the source of extraction so that the primary producers maximise their value. This research, therefore, seeks to answer the question of how the GVC can be re-organised in a way that still allows for knowledge spillovers and transfer of innovation capabilities.

de Boer et al., (2012) argue that based on the value chain analysis, individual segments of the chain can be evaluated to identify points or positions along the chain at which value is maximised. Value chain analysis, “is an analytical approach that can be used to understand the nature of ties between local firms and global markets, and to analyse links in global trade and production” (de Boer et al., 2012, p. 38). It is an effective way of evaluating the mechanics of income distribution along the value chain (de Boer et al., 2012). Mac Clay and Feeney (2019) stress the need for understanding how economic value is distributed along the value chain, “value assessment” (p.44). Value assessment entails measuring the value that each actor on the value chain creates against what they eventually get (Clay & Feeney, 2019).

Quentin and Campling (2018) looked at inequalities on the GVC emanating from an unequal distribution of value along the GVC. In its simplified form, the GVC is an interconnection of economic actors in the exchange of value. This simplified form is illustrated through the following model in Figure 5 developed by Quentin and Campling (2018).

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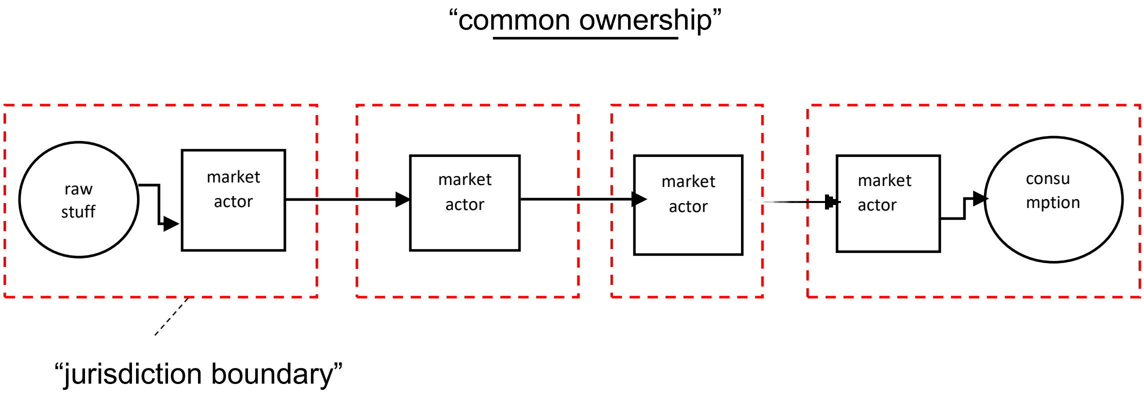
Figure 5: Schematic Global Value Chain Illustrating Transnational and Intra-Group Transactions



Adapted from Quentin and Campling, (2018, p. 40)

As shown above, the governance approach to the GVC only identifies the jurisdiction boundaries and the flow of value from the place of raw stuff extraction(source) to the point of consumption. It identifies where the ownership is located for the lead firms in the GVC. To create competitiveness along the GVC, the lead firms will normally locate the production process near the raw stuff (point of extraction) which normally is in low to middle-income countries and consumption is normally in the emerging or developed countries where there is significant disposable income (Quentin & Campling, 2018). The residual value in each jurisdiction is always incremental but the lowest value is realized at the point of extraction. As a general rule, the processes of production on the left are seen to take place in low to middle-income countries and consumer retail generally takes place where there is substantial purchasing power (Quentin & Campling, 2018).

2.5.1 Rents

Kaplinsky and Morris (2016) therefore argue that selecting, realising and protecting rents, and most importantly to "develop dynamic capabilities that ensure sustainability are crucial steps in positioning into global markets" (p.2). Davis, Kaplinsky, and Morris (2017) focused on rents, power, and governance in global chains. Rent as defined by the authors "describes an environment of scarcity in the context of demand" (p.47). Also, Davis et al. (2017), further assert that "the holder of rent benefits from an absence (relative or absolute) of competition, protected by one or more barriers to entry" (p.47). There are three types of rents as follows;

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2.5.1.1 Resource Rents

These are gifts of nature. In the case of Zimbabwe gold firms, this is one type of rent they can explore and exploit.

2.5.1.2 Schumpeterian Rents

These are created as a result of innovation by the firm. To realise these rents, the firm must innovate and develop novel methods of production. These rents are generated internally by the firm and these accrue to the organisation as it upgrades its position on the GVC (Kaplinsky & Morris, 2016).

2.5.1.3 Exogenous Rents

Exogenous rents (Kaplinsky & Morris, 2016, p.5), are generated externally to the firm. These could be in the macro-economic environment where the firm has access to better infrastructure, low input costs, easy and cheap access to capital, which will, in turn, create a competitive advantage.

If a firm cannot realise, create and guard its rents on a sustainable basis, its GVC positioning will not yield any value. According to Davis et al., (2017), in the long-term, the benefits realised out of the GVC depends on how a lead firm will be able to handle "dynamic rents" (p. 47). Dynamic rents are "new rents" that the lead firm can generate. On governance Davis et al., (2017) build on the work of Gereffi, (2006) and identify "three spheres of governance—legislative, executive and judicial" (p.47) and further asserting that what is important is the locus and span of control for the lead firm. As the lead firms seek to maximise on their rents, they increase controls around the GVCs and as result, there is little or no room for other participants at the beginning of the value chain to maneuver and unlock significant value.

Kaplinsky and Morris (2016) also contend that these rents are intertwined and it all depends on the firm's ability to capitalise on them. The authors, therefore, conclude that "the capacity to benefit from rents on a systematic and dynamic basis provides the key to a gainful insertion into global export markets and for high and growing incomes" (p.5). Kaplinsky and Morris (2016) further contend that for a firm to realise positive returns from participation on the GVC it must be able to take advantage of the rents and protect them. The findings of Davis et al.

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(2017) focus more on the lead firm and does not articulate how an actor on the GVC who has no power to generate rents can unlock value.

Firms in Zimbabwe use a value creation process of gold beneficiation to try and increase their value earned from the gold value chain. However, as noted by Mahonye and Mandishara (2018) and Mangudya (2020), this is not at a level that will unlock significant value to tilt the value scales of the gold GVCs. This research, therefore, seeks to explore these gold beneficiation value chains to determine how value can be maximised.

2.6 Competitive Advantages

Sustainability on the GVC, depending on the rents that the firm has control over and its position, could prove to be challenging. Firms must, therefore, create their competitive advantages, which may eventually lead to the realisation of future rents.
In creating competitive advantages along the GVC, firms can leverage on their dynamic capabilities to create competitive advantages (Teece, Petraf & Leih, 2016). A firm's dynamic capabilities determine how the firm integrates, builds and reconfigures internal and external competencies to address changing business environments (Teece et al., 2016). These capabilities can be analysed in three categories as follows;

a. **sensing of unknown futures**, which entails identifying threats and development of opportunities concerning customer needs. These capabilities enable an organisation to remain ahead of the competition or disrupt any potential plans by competition to upend its market position.
b. **seizing**, which entails the mobilisation of resources to take advantage of the opportunities and generating value in the process.
c. **transforming or shifting**, which entails the continued renewal.

To counter intense global competition, the firm must be able to leverage on its dynamic capabilities to generate rents sustainably. Gereffi and Fernandez-Stark, (2011), argue that the extent to which a firm can participate on the GVC depends on "the institutional context" (p.10) in the firm's area of jurisdiction and how the firm and other interested parties work to change that context. Ha and Giroud, (2015), also bring another dimension to support the issue of competitive advantages. The authors introduce that subsidiaries of MNEs could either be Competence Creating (CC) or Competence Exploiting (CE). CC subsidiaries are those that leverage on creating new competencies to take care of opportunities before them. On the other hand, CE subsidiaries focus on making the most out of what they have.

2.7 Upgrading to High Value Activities

Upgrading involves a firm in a GVC moving into higher value-adding activities to enhance its prospects of creating more value (Gereffi & Lee, 2016). "The Global Value Chain (GVC) literature acknowledges that upgrading is affected by the governance structure of and power relationships in the value chains" (He, Khan, & Shenkar, 2017, p.248). Each governance structure and the lead firm power therein determines the scope of upgrading opportunities for other value chain players that exists in a particular GVC (He et al., 2017). Gereffi and Lee (2016) extend their perspective on upgrading by looking at upgrading from two lenses namely Economic Upgrading (EU) and Social Upgrading (SC).

a. **EU** as defined by Gereffi, (2005) "is a move to higher-value activities in production, to improved technology, knowledge and skills, and increased benefits or profits deriving from participation in GVCs (p. 161). The key motivator here is to enhance profit earning ability from the GVC.
b. **SU** is defined as the process of improvement in the rights and entitlements of workers as social actors and the enhancement of the quality of their employment (Barrientos, Gereffi & Rossi, 2011), which entails improving the overall working conditions of employees, improving their rights. This upgrading is supported by (Murphree & Anderson, 2018) in their assertion that "Policymakers increasingly recognise that the economic opportunities from GVC participation go beyond the traditional notion of increasing exports; opportunities also include technology and knowledge transfer, rising FDI, and human capital upgrading" (p. 16).

This approach presents a new dimension that is different from the traditional approach on GVC upgrading which specifies four types of upgrading. The traditional approach looks at upgrading under four subsets namely

(i) **product upgrading**, through which firms will upgrade into manufacturing high-end products which command high prices on the market (Gereffi & Lee, 2016);
(ii) **process upgrading** through which firms improve their operational efficiencies through new and or novel technology (Gerreffi and Lee, 2014) and thus improve quality, time to market, and reduce operating costs through reducing or eliminating process wastages;

(iii) **functional upgrading** by which firms move into new functions along the value chain which commands more value along the value chain (Gereffi & Lee, 2016) and

(iv) **inter-sector upgrading**, through which firms seek to fully exploit their current capabilities and skills, moving horizontally into new production activities (Gereffi & Lee, 2016).

Looking at the existing literature on GVCs, functional upgrading stands out as a viable means of achieving higher profits for suppliers on the GVC (Choksy et al., 2017). However, Pavlínek and Ženka (2016), urged caution in drawing a linear relationship between functional upgrading and the realization of better profit margins for suppliers in developing countries as this area has not been thoroughly studied. Choksy et al., (2017) advance the idea that upgrading is not as easy as just aspiring to upgrade but can be elusive depending on the status of the supplier. As a result, in other instances, ambition to upgrade must pave way for reality because of "barriers to upgrading" (p. 356) that are inherent in the GVC. Golin, De March, Boffelli and Kalchschmidt, (2018) explored how upgrading can be affected by the GVC governance model. According to the authors, value chain upgrading will be easy to achieve if there is easy flow and exchange of information and this is mainly possible under the relational and hierarchy governance structures. According to Pipkin and Fuentes (2017), developing country firms along a GVC normally initiate upgrading when they are triggered by shocks and vulnerability. If lead firms change the rules of the game and as the supplier firms feel vulnerable to the changes, this will push them into upgrading. They can also upgrade as a way of mitigating against shocks of falling commodity prices etc.

Murphree and Anderson, (2018), plugged into the Resource Dependency Theory (RDT) to explain other dynamics that affect the governance of a GVC which in turn determines the opportunities for upgrading in the GVC. The Research Dependency Theory (RDT) "is a theory of organisational behavior which recognises environmental and extra-organisational constraints on behavior and the responses organisations undertake to reduce uncertainty and the power wielded over them" (Murphree & Anderson, 2018, p. 125). According to this theory, dependent firms may buckle to dictates and coercion from the players with power in the chain, as they seek to negotiate for better terms and mitigate their exposure through engaging other partners (Murphree & Anderson, 2018). Thus arguing from this angle, a firm that has control over key resources, even though it is at the lower rungs of the value chain, will have the nerve to go against a controlling actor's demands, and may try to even manipulate it (Murphree & Anderson, 2018). Thus RDT and GVC literature give impetus to the study of how power is

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exercised in international business, through "control of critical resources (RDT) or through position within a value chain (GVC)" (Murphree & Anderson, 2018, p. 125). "RDT has long argued that in such an arrangement, the firm subject to power will strategically seek to alter the relationship to reduce uncertainty over long-term access to a critical resource and to reduce the power the resource controller wields over them (Murphree & Anderson, 2018). The RDT and GVC theories bring out some important strategies which disadvantaged parties in a GVC relationship could use to negotiate for more profits and upgrading to high-value activities. They could flex the ownership of resources muscle. However, size matters. Murphee and Anderson (2018) argue that control of the resources only may not be enough to sway the scale of control in the favour of the small player, but the nature of the dependence is key. Where there is high dependence, but the resource owner is small, the small firm can still be bullied by the lead firm and fail to upgrade to high-value activities.

Contrary to the extant literature, Pipkin and Fuentes, (2017), argue that the initiative to upgrading is not only driven by lead firms in developed economies but in most cases, disadvantaged firms in developing countries will push to mitigate against their market vulnerability which may be a result of country policies. They further assert that upgrading can lead to several outcomes which range from no change at all "treadmilling" to "leaps forward" based on how well the firm involved embraces learning and innovation (p. 536). Besides, state participation can lead to "institutional capacity building" for the local industry (p.536). According to their research, there is an "induced search" framework which explains why firms may upgrade to high-value activities. In their analysis, the state plays a role in terms of institutional support through crafting laws that stimulate upgrading. This literature, therefore, goes against the grain of traditional literature that looks at upgrading from purely a governance perspective. Using the induced search framework, it argues that firms are induced by their vulnerability to the market, (which may be a result of policy change by their government or lead firm strategies), to pursue upgrading.

2.8 Research Questions Identified from the Literature Review

Although the extant literature covers many issues around the GVC, literature has not specifically outlined strategies that players in the developing economies can employ to maximize value earned along the GVC. Whilst the subject of upgrading is addressed as shown in the above literature review, firm-specific strategies of upgrading have not been dealt with. The literature review also identified several upgrading typologies that promote successful value creation on the GVC ranging. from firm-level capabilities to the quality of institutions and government role in supporting the positioning of local firms on the GVC. However, it does not delve into the limitations that impact successful upgrading and positioning on the GVC. Therefore, the following question emerged from the above literature review:

(i) How do Zimbabwean gold mining firms leverage on gold beneficiation to maximise the value realised on the global gold value chain?

(ii) What are the beneficiating options available to gold mining firms as they seek to maximise value earned on the GVC?

(iii) How can position on the GVC enhance the value earned from participating on the GVC?

2.9 Conclusion

This chapter reviewed the extant literature on GVCs with a particular focus on beneficiation as a value driver along the gold global value chain. From the extensive literature review done, three research questions were identified as outlined in Section 2.8 above. This research, therefore, seeks to answer these questions and contribute to the existing GVC literature by exploring the global value of gold beneficiation in Zimbabwe. The following chapter will discuss the questions in detail.

3 CHAPTER 3: RESEARCH QUESTIONS

3.1 Introduction

This research seeks to answer three specific questions. Each of these questions was identified from the literature review in Chapter 2.

3.2 Research Questions

3.2.1 Research Question 1

How do gold mining firms in Zimbabwe leverage on gold beneficiation to maximise the value realised on the global gold value chain?

This question takes a deep dive into understanding how the beneficiation of gold is being used as an upgrading strategy for firms in the gold mining sector in Zimbabwe. It seeks to follow up on the extant literature on upgrading which identifies upgrading as a strategy that disadvantaged firms that have no power in a GVC can craft strategies to upgrade to enhance their profit-earning capacity on the GVC. It will also seek to explore new avenues that may not be covered by the extant literature. Since gold is a natural resource that the gold mining firms in Zimbabwe own, in answering this question, some concepts of the Resource Dependence Theory will be analysed to see how these firms can use their ownership of resources to attain upgrading to high-value activities.

3.2.2 Research Question 2

What are the beneficiating options available to gold mining firms as they seek to maximise value earned on the GVC?

This question seeks to narrow down the research into some specific examples based on the participants' perspective of beneficiation as a value driver on the GVC. In investigating this question, limitations to beneficiation will also be explored so that practical solutions would be generated to add to the existing literature on GVCs and for application by business managers.

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3.2.3 Research Question 3

How can position on the GVC enhance the value earned from participating on the GVC?

This question seeks to investigate how GVC positioning could enhance or affect the value earned from the GVC. In investigating this question, factors that affect positioning will also be considered. Through probing on the GVC positions of the participants identified, this question will also establish the current positions of gold mining firms in Zimbabwe and how such a position affects their value earned from the global gold value chain.

3.3 Conclusion

The research questions discussed in this chapter will form the foundation of this research. The following chapter will focus on the methodology used for this research.

4. CHAPTER 4: RESEARCH METHODOLOGY

4.1 Introduction

This chapter discusses the methodology that was chosen for this research. The methodology chosen was influenced by the philosophy of the research. The philosophy for this research is interpretivism as it "seeks to create new, richer understandings and interpretations" (Saunders, Lewis & Thornhill, 2016, p. 140) of beneficiation in the context of the GVC. This paradigm enables a deep understanding of the subject matter and its complexities without painting the entire population with the same brush (Creswell, 2007). Besides, it allows for in-depth investigations of the extant literature and then answering the research question through a relevant theoretical model. The research methodology, research design, data gathering and analysis supported the chosen approach.

4.2 Research Methodology and Design

4.2.1 The Rationale for the Chosen Method of Research

According to Creswell et al. (2007), "the research question informs the approach or design used in qualitative research to collect and analyse the data" (p. 238). The research methodology and design was modelled around the research cycle that is suggested by Ellis and Levy, (2008) shown in Figure 6 below. The methodology and design of this research was influenced by the research question. The research is aimed at addressing the existing gap in the current literature on GVCs through investigating how gold mining firms in Zimbabwe can maximise on value earned on the GVC through beneficiation. The research was conducted using the inductive qualitative method of research. According to Malterud, (2001), "qualitative research methods involve the systematic collection, organisation, and interpretation of textual material derived from talk or observation. It is used in the exploration of meanings of social phenomena as experienced by individuals themselves, in their natural context" (p. 483). Qualitative research entails the "collection, analysis, and interpretation of data that are not easily reduced to numbers" (Anderson, 2010, p. 1).

According to Anderson, (2010), qualitative research aids policymakers in providing a context for formulating and implementing policies. This method, therefore, is most appropriate for this research to provide a context for firms to formulate GVC strategies. Besides, qualitative

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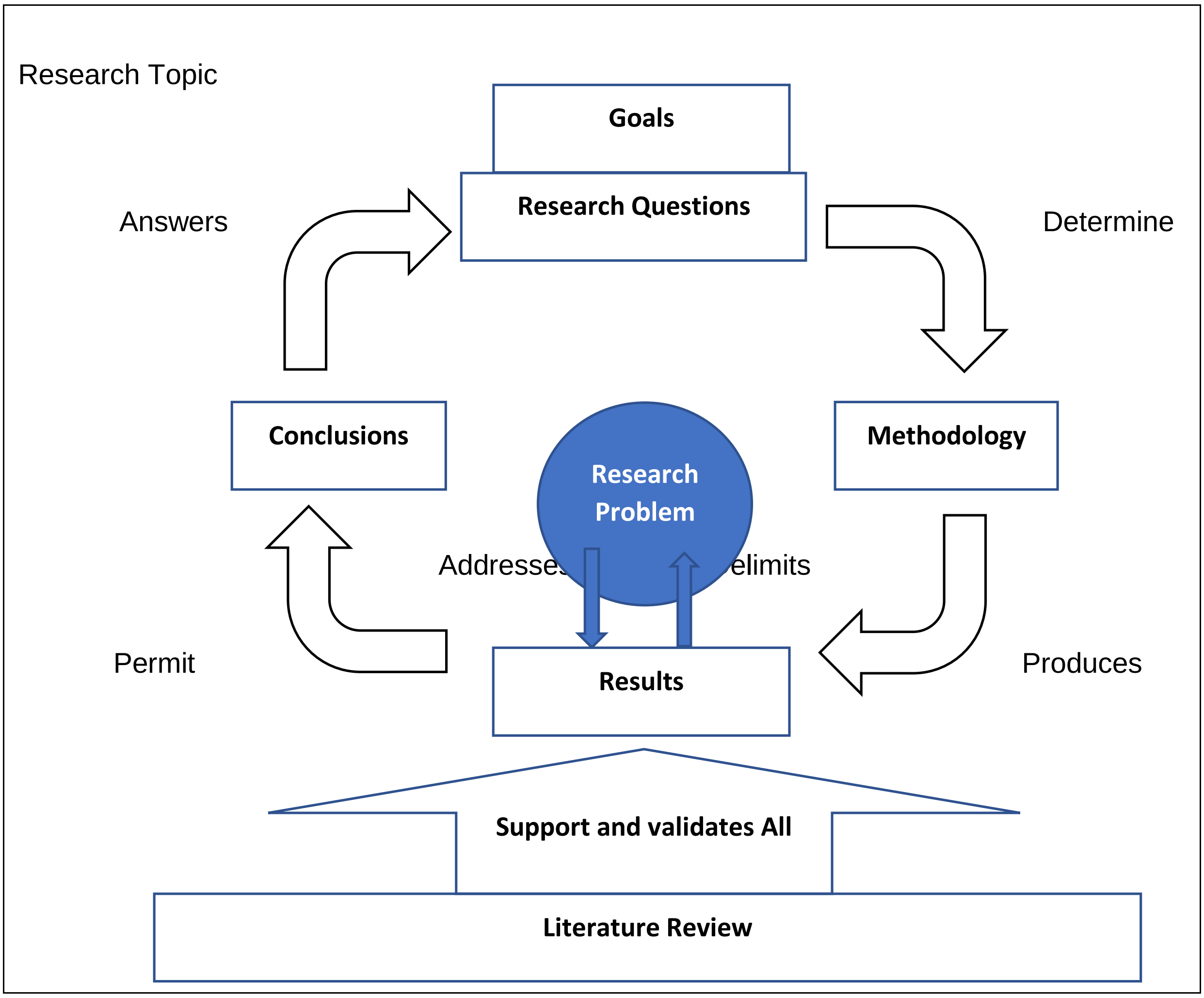
research acknowledges the importance of context in giving meaning to data (Anderson, 2010). Qualitative research was also adopted because of the small sample size that was considered for this research, which allowed for an in-depth study of the phenomenon of beneficiation within the GVC framework.

Figure 6: Conceptual Map of the Problem-based Research Cycle.



Adapted from Ellis and Levy, (2008)

The research was a mono method qualitative study due to the time constraints and the need to dig deep into the existing body of literature on the research problem. According to Anderson, (2010), this method allows for a detailed study of the research problem. Also, interviews are not constrained to specific questions but can be guided by the researcher in real-time. In cases where the research framework needs to be revised, this method allows for quick intervention

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by the researcher (Anderson, 2010, p.2). Given the dynamism in the field of study and time constraints, the time horizon for this research will be a cross-sectional within the time allocated for this research project.

4.3 Population

The research was focusing on beneficiation in the gold GVC in Zimbabwe. The population for this research, therefore, were the managing directors, executive directors, mine managers, finance executives of gold mining firms in Zimbabwe. Interviews were conducted with senior officers of the mining houses to deduce a proper understanding of the identified research problem. This approach allows for an in-depth understanding of the participants' experiences, perceptions, opinions, feelings and knowledge on the research problem (Rosenthal, 2016, p 510).

4.4 Sampling Method and Sample Size

The sampling method that was used for this research was a non-probability purposive homogeneous sampling (Saunders et al. 2016; Onwuegbuzie & Leech, 2007). This method was considered to be the most suitable approach as it allows for in-depth focus (Saunders et al. 2016). The objective of this research was to obtain a deep understanding of how gold mining firms in Zimbabwe use beneficiation as an enabler to maximise value earned on the GVC. As such the participants to this research were purposefully selected to enhance the understanding of this phenomenon (Onwuegbuzie & Leech, 2007). The selection of participants was determined by their potential and capacity to have information that is relevant and useful in addressing the research question. Participants were only selected if they were deemed to be "information-rich" (Patton, 1990, p. 169). The objective of the research was to be precise in contributing to the GVC body of literature on gold beneficiation. To this end, it was imperative to use a method that allows for acquiring specific data on the impact of beneficiation on value realised on the GVC (Onwuegbuzie & Leech, 2007). Firms with similar characteristics and of almost the same size were selected so that the data gathered would be consistent. This sampling approach ensured that the sample was homogeneous and the data analogous. Sampling was snow-balling as participants to this research were suggested by peers of the researcher who are in the gold mining sector in Zimbabwe.

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The criteria for selecting the mining companies were their size, participation on the gold GVC and their capacity to upgrade on the value chain. The sample was homogeneous, covering medium scale gold mining firms only in Zimbabwe. This approach enhanced the credibility of the data collected as it was collected from firms that share similar attributes. A sample size of 12 targeted respondents was considered to be sufficient to guide in the development of a theoretical model to address the research question. This sample size was considered sufficient for an in-depth study of the subject matter and to achieve “data saturation” (Onwuegbuzie & Leech, 2007, p. 118). The targeted interviewees were pre-identified according to the desired criteria. Table 2 below identifies the number of respondents and their position in their respective firms, who were interviewed for this research.

Table 1: Positions of Participants in the Sample

Industry Sector	Position in Firm	Number of Respondents
Gold Mining	Managing Director	6
	Executive Director	2
	Finance Director	3
	Mine Manager	1
Total		**12**

Author’s Own

4.5 Units of Analysis

As the data collected was being analysed, it was determined that the views and responses of the interviewees of this research as shown in Table 2 above, be the final units of analysis for this research study. This decision was consistent with the objective of the research as explained in Chapter 1.

4.6 Data Collection Tool

The data collection tool that was used for this research was semi-structured face to face interviews. This was complemented by a detailed desktop study of the extant literature around

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the subject of research. The interviews were conducted using a pre-designed interview guide A sample of the guide is given in Appendix 4. The interview questions were open-ended and singular (Rosenthal, 2016) to allow for flexibility in responding to the questions on the part of the interviewee. Before conducting the interview, the interviewees were contacted via telephone calls to put appointments and agree at convenient times for the interview meetings. The interviewees were conducted at the premises of the interviewee firm. The planned time for each interview was 30 minutes and all the 12 interviews conducted fell in this range. At the beginning of each interview, time was taken to explain the objective of the research and to emphasise that interviewees had the freedom to pull out should they feel like doing so during the interview. It was also emphasised that they were expected to present their views freely so that the data gathering process would be free from subjectivity brought about by preconceived ideas. During the data collection process, there was reflexivity (Bleiker, Morgan-Trimmer, Knapp & Hopkins, 2019, p. s6). Reflexivity is “the immersion into another's world and trying to understand from their perspective, rather than the researcher's own, how they interpret their world and the meanings they make” (p. S6). A deliberate effort was made by the researcher to be in the world of the interviewee to fully identify with the issues that were being raised. The researcher, having prior experience in the field of study also used his knowledge to probe for more responses during the interview.

Each interviewee was requested to sign a consent form, which stated that they had agreed to be part of the data gathering process and that they were doing so without any duress. A sample of the Consent form that was used is provided in Appendix 2. The form also stipulated that the data gathered and the details of the participant were going to be kept confidential in line with the ethical requirements of this research. Interviews were conducted face to face in the offices of the interviewees. This was important in ensuring that participants could relate their responses to their familiar surroundings and gave depth to their responses. As Anderson (2010) puts it, a key aspect of qualitative research is to try and comprehend data within the context of their production. Audio recording was used for each interview and the recordings were manually transcribed from audio to speech.

The underlying theoretical framework that was applied during this research was the GVC governance model, which was presented in Chapter 2, and was derived from the literature review. The interview questions were mapped against the research questions to achieve uniformity between the interview questions and the literature review that was conducted. Table 2 below shows the mapping of the interview questions against the research questions.

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Table 2: Research Question and Interview Mapping

Research Question from Chapter 3	Interview Questions
Research Question 1 How do gold mining firms in Zimbabwe leverage on gold beneficiation to maximise the value realised on the global gold value chain?	**Question 1:** When was your firm started? **Question 2:** What is the ownership structure of your firm? **Question 3:** Describe the product cycle for your gold? **Question 4:** Describe the marketing arrangements for your gold. **Probe:** What factors influence your marketing decisions? **Probe:** Where are your major markets for gold that you produce? Probe on location, market segments and pricing decisions. **Question 5:** How can you secure the best possible value for your gold from: a. current markets? b. marketing arrangements? **Question 6:** In what form/condition do you sell your gold in and why? **Question 10:** What measure does your firm have in place to ensure maximum value is derived from selling your gold?
Research Question 2 What are the beneficiating options available to gold mining firms as they seek to maximise value earned on the GVC?	**Question 7:** Describe what you think could be done to beneficiate the gold further before you sell it to enhance its market value to your firm? **Question 11:** What are the limitations to beneficiation? **Probe:** How can these limitations be overcome?

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	Question 12: If you were to do further beneficiation of your gold before selling it, by what margin would you increase its value?
Research Question 3 How can position on the GVC enhance the value earned from participating on the GVC?	**Question 8:** How can your firm benefit from participating in the GVC of gold? **Question 9:** What influenced your current positioning on the gold GVC? **Probe:** What do you think would be success factors that will motivate your firm to be part of the GVC?

Author's Own

4.7 Data Gathering Process

Data for this research was gathered through semi-structured interviews that were conducted on a face to face basis. Participants were allowed to share their views on the subject matter to ensure that the data gathering process is not limited by the scope of the interview questions.

4.8 Analysis Approach

According to Saunders et al., (2016), the quality of qualitative research is achieved at the intersection of data collection and data analysis "to allow meanings to be explored and clarified" (p.568). Also, Huberman and Miles, (1994), also argue that valid analysis is heavily influenced by how data is presented and systematically arranged to answer the research question. The data analysis followed a multi-step thematic approach (Castleberry and Nolen, 2018; Braun & Clarke, 2006). Thematic analysis entails identifying, analysing and reporting patterns within a particular data set (Braun & Clarke, 2006). The themes identified were then analysed for relationships like cause and effect (Braun & Clarke, 2006). The following phases as suggested by Braun and Clarke, (2006) were followed in the thematic analysis of the data sets:

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4.8.1 Phase 1: Familiarising with the Data (p.16)

This entails developing an intimate knowledge of the data collected and getting to establish some patterns through preliminary coding (Braun & Clarke, 2006). This phase involved transcribing verbal data from the semi-structured interviews into written text to allow for coding and further analysis (Braun & Clarke, 2006). This process was carried by the researcher to maintain "closeness to the data" and to gain an "intimate knowledge" of the data (Castleberry & Nolen, 2018, p.807).

4.8.2 Phase 2: Generating Initial Codes (p.18)

This entails generating some codes that are aligned to the themes developed for the research along which data will be analysed (Braun & Clarke, 2006). This was done through the dissection of the data into similar groupings through coding. Coding as defined by Creswell, (2015) is the art of critically studying qualitative data by breaking it apart into some granular form to get an initial impression before it is "reassembled" (Castleberry & Nolen, 2018, p. 807), in a meaningful way (Creswell, 2015, p.156). The coding approach was "emergent", developing through the process (Castleberry & Nolen, 2018, p.808). The codes were data-driven, derived from the data by the researcher (Saunders et al. 2016, p.583). The coding was done manually to enhance an intimate interaction with the data. Due care was taken at this stage of data analysis as "The excellence of the research rests in large part on the excellence of the coding" (Strauss,1987, p. 27).

4.8.3 Phase 3: Search for Themes (p.19)

This entails analysing the coded data to establish some commonality among several codes to generate themes (Braun & Clarke, 2006). This was done by arranging the codes by similar themes, which captured the important aspects of the data concerning the research question. A theme reveals an important aspect of the data about the research question and reflects a particular flow in the data set (Castleberry & Nolen, 2018, p. 809).

4.8.4 Phase 4: Reviewing Themes (p.20)

"Data within themes should cohere together meaningfully, while there should be clear and identifiable distinctions between themes" (p.20). According to Braun and Clarke (2006), theme development must be evaluated for quality. Particular attention was given to whether the themes identified were genuine themes and not codes and whether the theme added value to answering the research question. A genuine theme must be supported by enough data.

4.8.5 Phase 5: Defining and Naming Themes (p.22)

Each theme was defined and named relative to the overall research question.

4.8.6 Phase 6: Producing the Report (p.23).

This was done after interpretation and compared the findings of the research to the original research question (Castleberry & Nolen, 2018,p. 807).

4.9 Quality Control

The quality of this research underpinned by two key pillars, reliability and validity (Saunders, et al. 2016). Evaluating data for reliability and validity demands that both objectivity and credibility be considered. Validity has to do with the candour and capacity of the data to inspire belief in it. In other words, it determines accurately that data reflects the phenomena that it is a representation of. Validity looks at whether or not the research outcome could be considered as real or as a creation of the participants or the researcher (Huberman & Miles, 2002). This principle was observed throughout the research process. Reliability relates to trustworthiness and credibility of the data used to get the research results. Threats to reliability could vary from participant errors to researcher errors (Saunders et al. 2016, p. 203). According to Anderson, (2010), ensuring that there is validity and reliability of the data leads to research that is objective and credible.

Also, a briefing session was conducted before the start of each interview session to ensure that interviewees understand the need for objectivity in their responses. Throughout the research process, the researcher maintained objectivity, paying particular attention to the detail of the process.

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4.10 Limitations

The main limitation of the research methodology and design is that it is subjected to the understanding and biases of the chosen respondents to the semi-structured interviews (Saunders et al. 2016). However, as noted above, due care was exercised during the research to minimise the impact of bias and subjectivity. In addition to this limitation, the following additional limitations were observed:

- **a.** The interviewer had no prior experience in interviewing and hence this could have been a weakness in the data collection process and could have impacted the overall results of this research.
- **b.** The sample selected was limited to gold mining firms in Zimbabwe only and therefore the findings of the research may be heavily influenced by the country-specific issues and therefore some of the findings may not apply in other jurisdictions.
- **c.** The sample size of 12 that was used in this research does not allow for the generalisation of the findings of this research across a big sample size.
- **d.** The researcher had prior working experience in the gold mining sector and as such personal biases could affect the interview process.

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5. CHAPTER 5: RESULTS

5.1 Introduction

This chapter presents the results from the data gathering process that was carried out based on the methodology presented in Chapter 4. The results are presented according to the research questions that form the thrust of this research. The results presented here are a result of constant comparison analysis (Leech & Onwuegbuzie, 2007) through a multi-tier thematic analysis of the data that was collected. The themes were derived from an inductive coding process during data analysis (Leech & Onwuegbuzie, 2007).

5.2 Description of the Sample

The sample used for this research was purposively selected from senior executives of gold mining firms in Zimbabwe. This approach was the most appropriate since the subject of this research was to explore the GVCs of gold beneficiation in Zimbabwe. The executives identified were considered to be "information-rich" (Patton, 1990, p. 169), and would, therefore, be able to give informed responses to the interview questions. The entire sample consisted of 12 participants of which 3 were female. All the participants currently have senior positions in their respective organisations and therefore were considered to be experts on the subject of study. Table 3 below shows the profile of the participants.

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Table 3: Profile of Interviewees and their Firms

Interviewee Details	Organisation	Additional Information
Participant 1 Managing Director	Company A	Participant 1 is a seasoned entrepreneur in Zimbabwe who has started businesses in the hospitality industry. Together with a partner they started Company A and have since partnered with a local Venture Capital Firm to scale their operations.
Participant 2 Finance Director	Company B	Participant 2 is an experienced finance executive with experience spanning 22 years in the mining sector. Company B is wholly owned by Zimbabweans and is among the few local firms that pioneered the drive for local beneficiation.
Participant 3 Vice-Chairman	Company C	Participant 3 is a career miner with personal interest in coal mining, gold and diamond mining. Their firm is a listed mining firm which has been in the Zimbabwean gold industry since 1956. The firm has been at the forefront of lobbying for policy change in the gold industry in Zimbabwe.
Participant 4 Managing Director	Company D	Participant 4 is a co-shareholder and managing director of Company D. The firm is wholly owned by Zimbabweans owning some custom gold milling sites in addition to their mining business.
Participant 5 Mine Manager	Company E	Participant 5 is a geologist and mine planner. Their firm Company E Investments has been at the forefront of identifying and developing small scale miners into medium to large scale operations in Zimbabwe. The firm is owned by Zimbabweans and foreigners.
Participant 6 Finance Director	Company F	Participant 6 is a seasoned finance person whose first job was in government. Their firm secured foreign Scottish investors in 2012 to finance their mine development. The firm also has interests in coal mining.
Participant 7 Managing Director	Company G	Participant 7 is an experienced businessman and a retired politician in Zimbabwe. He runs their gold mine as a family business fully financed using resources sourced locally. He has also been in the cotton export business.

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Participant 8 Managing Director	Company H	Participant 8 is a seasoned Mining Engineer who has and a shareholder of Premium Mines. He has been in mining for the past 23 years. Their firm is one of the largest mining firms in the Midlands province of Zimbabwe.
Participant 9 Managing Partner	Company I	Participant 9 is a seasoned businessman heavily involved in the mining industry from a supply point of view and also as a mine owner. Their firm has been consistently producing gold since inception and has expanded operations over the past few years.
Participant 10 Managing Director	Company J	Participant 10 is a lawyer by background who spend 15 years in corporate law practice. He then successfully acquired the controlling stake of Company J when the former white owners were relocating from Zimbabwe in 2001. The firm has grown exponentially and is among the high volume producers in Mashonaland Central Province of Zimbabwe.
Participant 11 Executive Director	Company K	Participant 11 is a Mine Engineer who has over 25 of experience in the mining area. Her firm is one of the few high-tech mining operations in Zimbabwe. The firm at one time had a gold export licence which was later revoked when regulations changes.
Participant 12 Finance Director	Company L	Participant 12 has been with Company L, which is mining in the Southern region of Zimbabwe. The firm also has a gold tailings recovery project that is running where they are recovering gold from historical dumps in the region using a mobile Carbon In Leach CIL) plant.

Author’s Own

5.3 Presentation of Results

The results presented below are according to the research questions that were formulated in Chapter 3 and mapped in Table 3.

5.4 Results for Research Question 1

Research Question 1: How do gold mining firms in Zimbabwe maximise the value realised on the global gold value chain?

This question sought to understand how gold mining firms in Zimbabwe conceptualised gold beneficiation as an enabler or catalyst to maximising value realised on the global gold value chain. According to the mapping shown in Table 3, the interview questions related to this research question sought to unpack the value chain of gold at firm level from the first node to the last node of the value chain. In investigating this research question, the ownership structure and year of formation of the firm were probed to understand whether the years in business have an impact on the progression of the firm on the value chain. From the comparative analysis of the data gathered, 5 themes were identified and will form the structure of the results for this research question. Table 4 below shows the themes that emerged from the comparative analysis of the data on this research question.

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Table 4: Themes for Research Question 1

First Level Analysis	Second Level Analysis	Theme
• "but due to lack of resources we looked for investors who bought 70% of the business and we kept 30% of the shareholding". • "The firm is 100% owned, locally owned and I am one of the shareholders". • "when the firm was growing we needed to access capital for further exploration. That is when we sold 49% of our shareholding". • "It is a family business owned 50/50 between husband and wife".	Partnerships/Joint Venture and why?	Ownership Structure and Control and reasons
• "Drilling, blasting, extraction of the ore, crushing and recovery and smelting of the gold into a gold nugget". • "we then put the sands recovered from the crushed ore into what we call cyanidation tanks from which we then further recover gold".	Production Chain and the final product	Full Gold Value Chain to final product
• "The market is predetermined and is beyond our control". • "As far as the marketing arrangements are concerned, apparently in Zimbabwe, there is no flexibility in terms of marketing the gold". • "The marketing is done by the government through the Reserve Bank of Zimbabwe". • "There is no marketing arrangements because of the monopoly".	Marketing	Marketing of Gold
• "This shows that there is a lot of what one might want to call leakages as people are avoiding to sell to the formal buyer opting to sell to informal but highly lucrative markets".	Black Market of gold	Leakages of gold from the value chain

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• "Unless if you delve into the illegalities where you might sell to other players but it's illegal". • "We also look for private buyers with better prices and at times their payment terms are more favourable than what Fidelity offers".		
• "The best way to maximise on the value of our gold is to reduce our costs as much as possible". • "We want to drive down costs but there is a limit to which you can drive down costs". • "But in terms of enhancing the value and more value, I think what we have control over and what we can do is the internal processes".	Earning maximum value	Maximisation of value earned

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5.4.1 Ownership and Control

The first construct under Research Question 1 was ownership and control. The two interview questions attached to this research question dealt with the formation and the ownership structure of the respondents' firms. The reasons for the ownership structure were also probed. From the respondents interviewed, seven out of twelve had foreign shareholders. The reasons for seeking foreign shareholders mainly revolved around seeking additional capital to support business expansion. One respondent stated that "due to lack of resources we looked for investors who bought 70% of the business and we kept 30% of the shareholding". Another respondent also stated that "when the firm was growing we needed to access capital for further exploration". All the participants who had foreign shareholders also noted that the foreign shareholders were seeking access to mineral resources by coming to invest in Zimbabwe. Table 5 below summarises the above findings.

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Table 5: Ownership and Control of the Participant Firms

Respondent	Year of Formation	Ownership Structure	Comments
1	2010	30% of shares held by founding shareholders. 70% of shares held by Venture Capital Firm (VCF).	Sold shares to a local VCF to raise capital for expansion
2	2010	100% owned by locals.	Funded by shareholders
3	1956	Listed on the Zimbabwe Stock Exchange (ZSE). 44% of control is foreign.	Capital raising – stock market Resource seeking Diversification
4	2008	100% owned by locals.	Funded by shareholders
5	2017	25% of shares owned by Foreign investors. 75% of shares owned by Locals.	Sold shares to raise more capital
6	2007	49% of shares owned by foreign firm 51% of shares owned by Locals.	Sold shares to raise more capital
7	2010	Family business.	Funded by shareholders
8	2017	Consortium of local Businessman.	Funded by shareholders
9	2013	100% of shares owned by local firm.	Funded by shareholders
10	2002	65% of shares owned by Foreign firm 35% of shares owned by Locals	Funded by shareholders
11	1984	60% of shares owned by foreign investors. 40% of shares owned by Locals.	Sold shares to raise capital for mine development
12	1990	1000% of shares owned by locals.	Funded by shareholders

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As shown in Table 6 above, the distribution participants from firms that are part of an MNE were 5 which represents 42% of the sample whilst 6 representing 50% of the sample were

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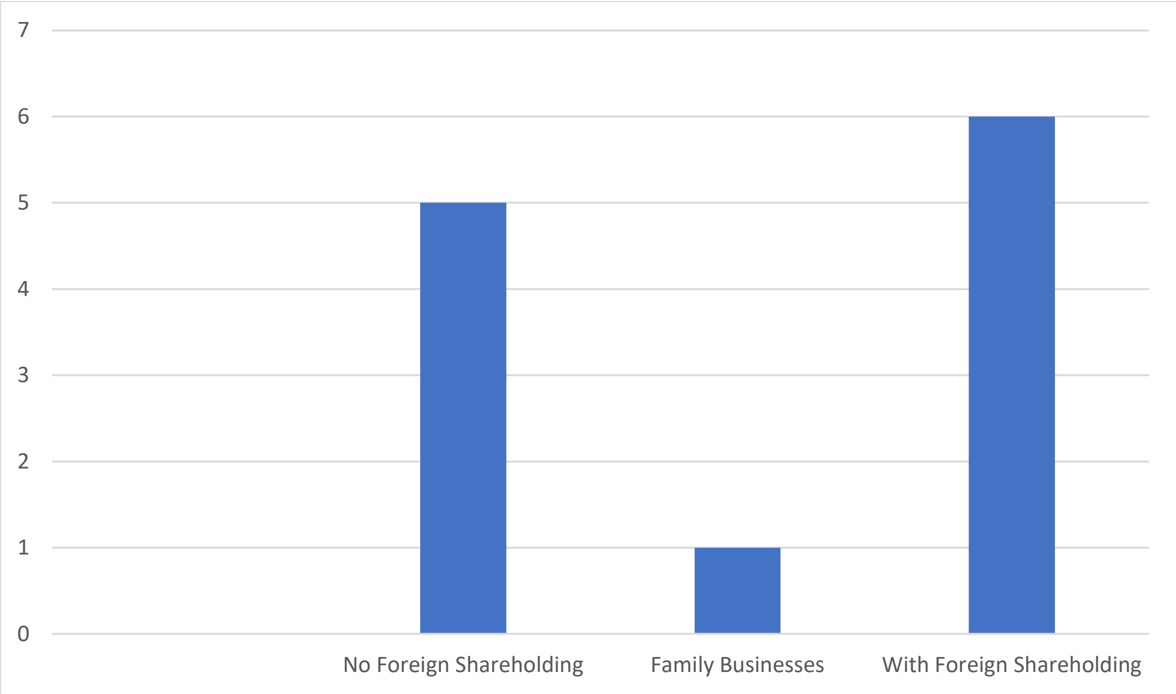
wholly owned by Zimbabwean nationals and of the total sample, 1, representing 8% of the sample was a family-owned firm. This distribution is shown in Figure 7 below.

Figure 7: Distribution of Participants in terms of Ownership Structure



Developed from Data gathered by the Author

5.4.2 Gold Value Chain

The next construct under Research Question 1 was the gold value chain to the final product. The interview questions under this construct sought to gain the participants' understanding of their firm's value chain, preparing a platform to take a deep dive into the GVC concept. Participant responses to this question showed an almost similar value chain across the participants. Differences were noted on the location of some processes and or the inclusion of additional processes to maximise on the recovery of the gold. What was striking about all the participants was that they all picked on one terminal point of their value chain – which is the point at which they sell their gold to the buyer.

All the respondents explained the same process except one who has an additional process of further recovering gold from the sands through cyanidation. As one participant put it, "our product cycle involves drilling, blasting, extraction of the ore, crushing, recovery and smelting of the gold into a gold nugget". Another respondent added another dimension to the value chain where they recover gold at two stages. As the gold is crushed, some gold is recovered after crushing and the sands from the crushing are also put through a leaching process in cyanidation tanks to recover gold through a chemical process. Another respondent summarised it as "We are almost in the whole value chain. We do exploration, then drilling, build the mine to get out the mined ore, we process the gold to 97% level of purity then we take it to Fidelity printers". The terminal node is the marketing of the gold nuggets or bars to a government nominated buyer, Fidelity Printers and Refineries (FPR). Table 6 below shows the results and involvement of each participant on the value chain activities.

Table 6: Participation in the Gold Value Chain by Firms in the Research Sample

Respondent	Exploration	Drilling & Blasting	Ore Extraction	Crushing	Chemical Recovery	Smelting to Nugget
	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
1	✓	✓	✓	✓	✓	✓
2	✓	✓	✓	✓	✓	✓
3	✓	✓	✓	✓	✓	✓
4	✓	✓	✓	✓	✓	✓
5	✓	✓	✓	✓	✓	✓
6	✓	✓	✓	✓	✓	✓
7	✓	✓	✓	✓	✓	✓
8	✓	✓	✓	✓	✓	✓
9	✓	✓	✓	✓	✓	✓
10	✓	✓	✓	✓	✓	✓
11	✓	✓	✓	✓	✓	✓
12	✓	✓	✓	✓	✓	✓

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As shown above, all the respondents explained a similar process except one that has an additional process of leaching to enhance gold recoveries. This process is an optional stage for mining firms who want to increase their gold recoveries after the milling stage.

The next interview question attached to this research question focused on the final condition of the gold at the last node of the value chain. The objective here was to see whether there was a link between the market value of the product and its form or state at the point of going to market. All the respondents except two, are currently selling their gold in the form of smelted nuggets to FPR. The other two sell in the form of gold bars. One respondent said, "We just sell the gold as nuggets and we don't process it any further than nuggets". The reason for this decision is that there is no additional value to be realised from converting it into bars. Another respondent stated that they sell the gold in the form of bars in trolleys to FPR. However, another respondent who sell their gold in the form of nuggets went further to state that selling

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the gold in the form of bars or nuggets makes no difference and has no additional benefit. "Changing the nuggets into bars is an unnecessary cost and will not lead to any pricing benefit," said one respondent. Table 7 below summarises the above results.

Table 7: The Final condition of gold before selling as explained by Respondents

Respondent	Nuggets	Bars	Participant Quotes
1	✓		"We don't process them any further than nuggets"
2		✓	"We prepare the bars and we sell the gold bullion in those particular bars"
3		✓	"We just bring it in trolleys, the gold bars"
4	✓		"So we take it to Fidelity in its smelted form"
5	✓		"We sell it in nuggets form after smelting it"
6	✓		"So we sell our gold in a smelted form. So we sell our gold in a smelted form".
7	✓		"We sell it in the form of nuggets"
8	✓		"We sell it in the form of nuggets"
9	✓		"When we smelt we get nuggets and these are what we take to Fidelity"
10	✓		"We take our nuggets to Fidelity"
11	✓		"It's in the form of nuggets and we take it in that form to Fidelity"
12	✓		"We just take the nuggets as they are to Fidelity"

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5.4.3 Marketing of Gold

The next construct under Research Question 1 was the marketing of gold. All respondents had a similar response, that there are no marketing arrangements unique to any player since the marketing of gold is regulated through the Gold Act. This Act is administered by the Reserve Bank of Zimbabwe (RBZ) through a gold unit called FPR. All gold that is produced in

Zimbabwe is supposed to go to this central buyer and as such, there is a monopoly. This is the only legal way of marketing gold in Zimbabwe and gold producers are price takers. This position was succinctly put by one respondent who said “The Statutes are very clear. There is one sole buyer in the country, which is Fidelity, a subsidiary of the RBZ and is 100% owned by the government”. The alternative to this arrangement is an illegal route of selling to private buyers but it has its risks. Another respondent buttressed the point and stated that “The chain starts and ends with FPR when it comes to marketing”. Only one respondent stated that they have sold their gold to the illegal buyers to ensure they maximise on their value earned. Table 8 below shows the responses given about the marketing of gold.

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Table 8: Responses concerning the marketing of gold.

Respondent	Formal Market to FPR	Illegal Market	Participant Quotes
1	✓	✓	"We sell our gold through Fidelity which is the central buyer or the authorised buyer of gold" "We also look for private buyers with better Prices"
2	✓		"We have to deal with that sole buyer which is Fidelity".
3	✓		"The major market is just one, Fidelity"
4	✓		"Mr Matanhire it's not possible because Fidelity's monopoly came about as a result of some piece of legislation. So there is nothing we can do. We cannot enter into any other contacts with anyone in or outside the country"
5	✓		"The market is predetermined and is beyond our control. After receiving the gold, we smelt it and surrender it to Fidelity within 48 hours"
6	✓		"Currently there is no room to manoeuvre there is only one accredited buyer which is Fidelity Printers and Refiners".
7	✓		"but because we want to be law-abiding citizens, we just have to ignore those options and sell to the monopoly agency run by the central bank"
8	✓		"Any other option is a criminal offence and could lead to the cancellation of our licence".
9	✓		"There is only one legal route to sell gold and that is to Fidelity".
10	✓		"You cannot try any other route unless you are ready to face the music".
11	✓		"Fidelity is the one mandated by government and any other route is illegal".
12	✓		"We have no intention of trying the illegal route. Our licences will be cancelled".

5.4.4 Leakages of Gold from the Value Chain

So outside the one legal route of selling to the government agency, all respondents agreed that the other alternative is the illegal route. However, most respondents lamented the depressed prices that are offered by FPR. One respondent further added that "They [FPR], don't give the full value of your gold in foreign currency, that is why there is a flourishing black market for gold". The respondents agreed that there are serious leakages of gold from the formal market to the illegal market due to pricing disparities. They pointed out that one, wishing to break the law, can sell to numerous freelance agents who actually in most cases offer higher prices and pay 100% of the payment in foreign currency. Only one respondent indicated that they have stepped out of line to get a better price. However, the respondent was quick to point out that issues of security cannot be ignored. "We need to be careful in terms of who we sell the product to otherwise we run the risk of being mugged" they stated. In addition to the risk of being mugged, this is illegal and if one is caught they could pay heavy penalties. According to the respondents, the major reason for the leakage is the price and the payment model. Table 9 below shows some of the quotes from the respondents on the issue of the leakage of gold and the reasons.

Table 9: Selected Quotes from Participants on the leakages from the value chain

Participant	Quote on leakage	Quote on Reason
1	“But sometimes due to the depressed prices that they offer, we also, look for private buyers with better prices and at times their payment terms are more favourable than what Fidelity offers”.	“The major factor is pricing and we always want the best, the highest price for our product. The major factor is pricing and we always want the best, the highest price for our product”.
2	“Unless if you delve into the illegalities where you might sell to other players but it’s illegal”	**No mention of a reason**
3	**No mention**	**No mention of a reason**
4	“Tell you what, you can meet gold buyers anywhere. There are so many of them but you see as a registered firm we are constrained by regulation and everything we do has to be above board”.	**No mention of a reason**
5	**No mention**	**No mention of a reason**
6	“but of course some people try to circumvent this by selling their to black market buyers”	**No mention of a reason**
7	“there is a lot of what one might want to call leakages as people are avoiding to sell to the formal buyer opting to sell to informal but highly lucrative markets”	“you can sell to numerous freelance agents who actually in most cases offer a higher price and also give you 100% in foreign currency”
8	**“**gold is traded everywhere. There are private buyers who pay on the spot with less questions asked”	**“**People go to these buyers because they pay cash on the spot”

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5.4.5 Value Maximisation

The next construct related to this Research Question was on value maximisation. Interview questions related to this construct sought to understand how the best value could be secured from the current markets and existing marketing arrangements. Unfortunately given the monopoly of FPR and the regulations in place compelling firms to sell to FPR, all respondents shared the same view that value is given. Even though they acknowledged the existence of other marketing options as noted in Section 5.4.4 above, these options are not according to the prevailing regulations and are illegal. According to the respondents, the value earned is further compromised by the inclusion of the local RTGS currency as part payment. The prevailing payment method is a mixture of part US dollars and the local RTGS currency. The payment is split as 55% of the value of gold delivered payable in US Dollars and 45% of the value of gold delivered payable in local RTGS currency. One respondent further stated that for miners to secure value for their gold, they must "sell in foreign currency and be allowed to withdraw from their Nostro accounts anywhere anytime without any complications". One respondent provided the computation in Table 10 below to illustrate how value is lost through the current marketing arrangements.

Table 10: Impact of Pricing on overall value earned by Gold Miner

	Zimbabwe	Country B
Hypothetical Price of Gold Per Ounce (WMP)	US$1, 500.00	US$1, 500
Price to Gold Miner – Less 5% of World Price	US$1, 425.00	US$1, 425
Payment to Miner in Country B		US$1, 425
Payment to Miner in Zimbabwe		
55% in Foreign Currency	US$ 784.00	
45% in RTGS Currency at Interbank rate of 1:20	[US$641 x 20] =RTGS 12, 820	
Revalued at Parallel Market Rate of 1:30	US$427.00	
Effective price received by Miners	US$1, 211.00	US$1, 425.00
Loss in Value from pricing mechanism	[$1425 - $1211] =$211 =15% of value	

"Essentially we lose about 15% of the value of the gold due to policy issues and gold miners become uncompetitive compared to other miners in other jurisdictions" added the respondent.

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One respondent said, “Marketing through a state agency makes the whole thing much of a straitjacket and you just have to follow the dictates as they are given by the monopoly buyer”. Another stressed on their ongoing efforts to lobby the government to break the monopoly of FRP and open up the market.

Most respondents then focused on the internal processes of cost-cutting as a way of increasing their profits. One respondent stated that they had focused on incorporating new technology as a way of driving down costs. “The way to drive down costs is increasing technology which is more efficient” stated one respondent. Another respondent said their firm is building a bioxy plant which can dissolve sulphides and this will enhance output. One respondent stated that “The best way to maximise on the value of our gold is to reduce our costs as much as possible”. This appeared to be the only feasible way for mining firms to ensure they get maximum value. As respondents stated, they try to contain fuel costs, employee-related costs and electricity costs. Then in terms of selling the actual gold, whatever price is prevailing is what they get. Producers are just price takers and have no room to set the price for their gold. Table 11 below shows the factors identified by respondents as having a significant influence on the value earned from the gold value chain.

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Table 11: Factors that Influence value earned from the current gold value chain

Factor	**Number of Respondents affirming**	**Comments**
Pricing	12	Price as a value driver is beyond their control because of its set and controlled by FPR.
Operating Costs	12	Costs control is one of the ways available to control costs.
The purity of the gold	10	• **10 respondents** stated that they always try to increase the purity of the gold so that they can get a better-weighted price based on the level of purity. • **2 respondents** argued that the the additional value gained by improving the level of purity is negligible.
Arbitrage in the foreign currency component	12	All the respondents concurred that they target to maximise their value earned through speculating on the foreign currency component they receive from FPR.
Sell outside FPR	1	Only one respondent stated that they have sold their gold to the illegal buyers to ensure they maximise on their value earned.

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As shown in Table 12 above, one respondent even went further to state that there are times they have to enhance their margin through speculating on the US dollar exchange rate movement as a way of augmenting value earned.

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5.5 Results for Research Question 2

Research Question 2: What are the beneficiating options available to gold mining firms as they seek to maximise value earned on the GVC?

Whereas the first research question sought to establish an appreciation of how value can be maximised on the gold value chain, Research Question 2 sought to unpack practical ways and opportunities to maximise value available to gold mining firms in Zimbabwe. The participants were expected to come up with their view on beneficiation activities they understand to be essential to enhancing the value earned. Table 12 below shows the themes that emerged from the comparative analysis of the data gathered.

Table 12: Themes for Research Question 2

First Level Analysis	Second Level Analysis	Theme
• "Beneficiation would only come probably in the form of what we have tried to do in the past, to do jewellery" • We even had plans to put it into coins. • We would perhaps get into jewellery manufacturing	Improving value earned on value chain	Beneficiation options
• "I think also the local policies that we have kind of impede one to do that". • "We wish to have links with the international market to get the maximum value we wish to have links with the international market to get the maximum value" • "some of the limitations that we have are the power supply and water shortages" • "Beneficiation did not work out very well. The best would have been to secure foreign markets so that you then get to export even your finished products because the	Limitations that are there	Limitations to Beneficiation

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local market its appetite for jewellery is not that big" • "So it's currently a function of the laws that exist and our inability to explore the export market so we are currently trying to make the most out of where we are currently on the value chain". • "And the unavailability of capital locally. Banks cannot finance these projects you also need a certain level of expertise and the costs of setting up". • "We are not looking at that [beneficiation] as long as we are not allowed to do it". • "Market linkages will be important"		

Author's Own

5.5.1 Beneficiation Options

The first construct attached to Research Question 2 was the beneficiation option. This sought to explore what beneficiation options respondents felt could unlock more value. The underlying research subject is on exploring the GVCs of beneficiation in Zimbabwe and therefore this question sought to introduce beneficiation of gold into the discussion with respondents. The respondents demonstrated a clear appreciation of how beneficiation could be a value driver on the gold value chain, especially as a means of joining the GVC. Table 13 below shows the beneficiation options identified by respondents.

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Table 13: Beneficiation Options identified by Respondents

Respondent	Option Identified	Respondent Quotes
1	Not specific	"It is something that we have not put so much thought to and we have just been focusing on production and selling gold".
2	Jewellery	"Beneficiation would only come probably in the form of what we have tried to do in the past, to do jewellery".
3	Gold Coins	"We even had plans to put it into coins".
4	Jewellery	"We would perhaps get into jewellery manufacturing".
5	Jewellery	"For example, a kg of gold may cost US$50, 000 but if only 10 grams from the same parcel is turned into jewellery, its value is more than US$100, 000".
6	Jewellery	"I think in terms of beneficiation of gold, we could venture probably into the manufacturing of jewellery".
7	Not interested	"I don't think there is scope for moving up the global value chain through beneficiating".
8	Jewellery	"There are many options to make jewellery like necklaces, wedding rings etc. The list is endless".
9	Jewellery	"I am thinking of jewellery for instance. It sells much more than gold in its raw form".
10	Jewellery	"We would have loved to tap into the jewellery market".
11	Jewellery	"Given an option, we would try jewellery".
12	Jewellery	"As a firm, we think moving into jewellery will be easy and less costly".

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5.5.1.1 High-end Jewellery

From the above table, 11 out of 12 respondents identified jewellery as the option available for beneficiating gold into high value-added products. Most respondents agreed that local gold could be beneficiated into high-end jewellery to unlock the value of gold. Although some of the responses were too simplistic in their approach, they demonstrated a clear understanding of the positive increase in the value of gold from being sold as nuggets (which is the current position) and when it is beneficiated into some high-end jewellery for the upmarket. To achieve this, one respondent whose firm had set up a jewellery plant argued that local firms need to secure foreign markets and focus on exporting as the local market has a very low appetite for jewellery. One respondent, whose firm is also in the diamond business highlighted the importance of international market linkages. "You can be an agent, but you need to work with

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somebody in the major markets. Market linkages will be important" they stated. Another respondent also stated that the demand for high-end products in the luxury markets is normally price inelastic and this will enhance the profitability of the mining firms. According to one respondent, gold must be beneficiated into jewellery and these other high-end products, so that miners and even the nation at large, may reap the rewards commensurate with their ownership of the resources. "I think high-end use is the only value we can get, not as miners, or firms but as a nation. For example, a kg of gold may cost US$50, 000 but if only 100 grams from the same parcel is turned into jewellery, its value is more than US$100, 000. Value addition is a must to benefit miners and the nation at large. Gold must be beneficiated into jewellery and these other high-end products" they stated. Another respondent also weighed in and stated that jewellery making will be more beneficial if they target the luxury market. Although gold has many other uses and could also be beneficiated into many various value-added products, respondents only showed an appreciation of jewellery. This limited range of beneficiated products could be attributed to the lack of exposure in the industry.

5.5.1.2 Gold Coins

From the data gathered one respondent identified a different beneficiation option. This interesting model of beneficiation introduced by the respondent was the concept of minting gold into gold coins and using the same as a hedge against inflation and investment options. The respondent, in developing this concept said their firm saw value in that a lot of people in Africa are losing money because of devaluation. The respondent also added, "So this is one product which we want to get going and just get a bank to underwrite and even go to UBS or a Pension Fund and say instead of keeping shares of firms that you don't know, you can keep coins".

5.5.2 Limitations to Gold Beneficiation

The second interview question sought to focus the discussion on the underlying theme of the research, beneficiation. It looked at beneficiation as a paradigm in the gold mining sector and sought to understand the limitations of a mining firm's perspective. From the analysis of the data, the major limitations were filtered down to five key limitations. Table 14 below provides a summary of the above limitations as presented by the respondents and some quotes from respondents to support the limitations.

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Table 14: Limitations to Beneficiation as Identified by Respondents

Limitation	Selected Quotes from Respondents
Regulatory Limitations • Ease of doing business • Access to Gold	• "I think also the local policies that we have kind of impede one to do that" • "We are not looking at that as long as we are not allowed to do it". • "getting the export licences is a mammoth task" • "So the issue of regulation is a major hindrance" • "The challenge is if you are going to venture into beneficiation you have to first get a license and the process is quite cumbersome and you also have to sell the gold to Fidelity first and then buy it from them again for you to do the beneficiation". • You can't hold it [gold] for yourself and say you want to beneficiate.
Expertise	"Let me just says it's the expertise and the costs that are involved in having the expertise of probably setting up a new set up to produce other products"
Institutional voids	• Some of the limitations that we have are the power supply and water shortages which affect our operations • Probably the major inhibitor would be the costs of setting up the plant for beneficiation. Banks cannot finance these projects
Disconnection from the GVC and local firm size	• You can be an agent, but you need to work with somebody in the major markets. Market linkages will be important • One will have to partner with the high-end fashion houses otherwise its difficult. • the volumes we are producing are such that it's not worth to go all the way up the value chain to the retail end

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5.5.2.1 Regulatory Limitations

All the respondents concurred that the major limitation to beneficiation has to do with the regulatory framework that governs the gold industry in Zimbabwe. Whilst they all appreciated the potential benefits of beneficiation, its Achilles heel is regulatory. One respondent summed it well and said "The limitations are the government regulations. The government regulations are the biggest challenge because there are so many restrictions". Another respondent weighed in and drew parallels with other gold producing countries, "…there are many

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restrictive or unattractive measures or policies which are in place in Zimbabwe as compared to other gold-producing countries". Another further added that "first and foremost the issue of regulation is the major issue" that limit beneficiation. Under the overall construct of the regulatory framework, subconstructs emerged as follows;

5.5.2.1.1 Ease of Doing Business

One respondent articulated that the process of getting a beneficiating license in Zimbabwe is a mammoth task, and thus according to them, "the process is not worthwhile although we see potential benefits and opportunities if we beneficiate our product".

5.5.2.1.2 Access to Gold

One important point that emerged is the gold miners' double bind on accessing the gold for beneficiation. First, they have to sell all the gold they would have produced to FPR and then if they want to beneficiate, they would have to buy from FPR again. Explaining this bind, one respondent said, "…you also have to sell the gold to Fidelity first and then buy it from them again for you to do the beneficiation". According to the data gathered, a gold mining firm cannot keep their gold beyond 48 hours in their custody. Beyond 48 hours, it is a crime under the provisions of the Gold Act. One respondent added that "You can't hold for yourself and say you want to beneficiate". To support access to gold for beneficiation, the respondents felt that government must de-criminalise the possession of gold by licenced producers. One respondent said, "We need to have policies that allow anyone who is licensed to just take their product and sell without any fear or hesitation".

5.5.2.2 Expertise

Most respondents also highlighted that beneficiation is hampered by the lack of expertise. You would need particular specialised skills and these do not come cheap. One respondent summed it up as follows; "Let me just says it's the expertise and the costs that are involved in having the expertise." which limit the setting up of beneficiation processes. One responded from a firm that had attempted to beneficiate their gold into some luxury products also highlighted the impact of a lack of expertise and the high costs of securing that expertise.

5.5.2.3 Institutional Voids

Respondents lamented the impact of a lack of power supply and a banking sector that cannot fund beneficiation projects. This is then compounded by policy failures on the part of the government to put in place enabling policies. One respondent argued that local banks cannot finance projects in beneficiation and as result firms have to finance everything from internal resources and this makes it difficult or impossible given the required capital levels. To address this, some respondents were of the view that gold miners should be allowed to leverage their product to cover the funding needs. One responded said, "We would want to sell to our favourite clients who can give us lines of credit". Also, as one respondent added, "the non-availability of electricity drives miners to run on generators but there is also a shortage of diesel except on the black market where one has to pay a huge premium".

5.5.2.4 Disconnection from the GVC

One respondent said, "Our value chain is localised in Zimbabwe so it is not global because of the regulatory constraints that we have". One respondent said the ideal for the gold industry would be connecting with international firms with the capacity to take up beneficiated high-end products. Respondents affirmed that the local market has no appetite for high-value luxury gold products. Another respondent also stated that the failure of the local gold industry to join the other parts of the GVC has to do with local policies and the ease with which firms can move from one part of the chain to the other. Another respondent, whose firm had pioneered the making of jewellery lamented this situation, arguing that their operation was small and hence they could not feed into the export market which has an appetite for high volumes. Therefore, in addition to disconnection from the GVC, they also identified the size of the firm as another factor.

5.6 Results for Research Question 3

Research Question 3: How can position on the GVC enhance the value earned from participating on the GVC?

This Research Question sought to explore the important role of positioning on the GVC in enhancing value maximisation. Through the interview questions attached to this Research Question, participants were probed to share their views on factors they considered would

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enhance their position on the GVC and how such positions could enhance the maximisation of value earned. Table 15 below shows the themes that emerged from the comparative analysis of the data gathered.

Table 15: Themes for Research Question 3

First Level Analysis	**Second Level Analysis**	**Theme**
• "And also our scale of mining. We intent to grow even bigger than what we are currently so probably that will enable us to participate even better in the global value chain". • "And our failure may be to join the other parts of the global value chain are to do with the local policies and the ease with which you can move from one part of that chain to another". • "We would have wanted, in the absence of such regulations perhaps to enter into contracts with international players".	What influences position on GVC?	Factors influencing positioning
• "I think bigger clients, get bigger clients". • "The best would have been to secure foreign markets so that you then get to export". • "And through interaction, we can learn about better technology from the mature market players".	What would motivate your firm to join the GVC?	Benefits of joining the GVC
• "You can be an agent, but you need to work with somebody in the major markets. Market linkages will be important" • "There are also synergies that we will be able to create with other players along the value chain".	Building relationships	Importance of Linkages

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• "So what's going to make a difference is we want to improve the overall environment so that the mining place is not a dusty place". • "We are calling it greening the mines through the mining parks".	How can mining improve society?	Integrated Mining
• "The best I think a country can do is to hold their gold either as reserves or sell it at best value for the benefit of the overall development of their country as opposed to trying to participate in the retail end of the highly competitive retail market".	Change priorities for the gold industry	Leverage on gold for national development

Author's Own

5.6.1 Factors Influencing Position on the GVC

The first interview question attached to this research question focused on factors that influenced the respondents' current positioning on the GVC. The responses were wide-ranging from regulatory constraints, lack of expertise, access to capital and consequently the scale of operations. Table 16 below summarises what respondents considered to be the determining factors for GVC positioning.

Table 16: Factors influencing positioning on the GVC identified by the Participants

Determining Factor	Respondents Quotes
Regulations	• "The government regulations are the biggest challenge because there are so many restrictions". • "What we are simply doing is something that is prescribed by the law and you cannot deviate from what the law has prescribed and if you do so you are committing a crime".
Expertise	• "right now we don't have the expertise to do that so we just like a producer". • "As you trying to move into beneficiation you also need a certain level of expertise and the costs of setting up".
Access to Capital	• "And the unavailability of capital locally. Banks cannot finance these projects".

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	• "The limitations it is regulation and access to markets and also capital constraints".
Size of operation	• "Unless if the whole country's gold production was aggregated, put together and from the volumes produces, maybe a local gold jewellery is introduced but that is beyond the scope of our firm's current thinking". • "And also our scale of mining. We intent to grow even bigger than what we are currently so probably that will enable us to participate even better in the global value chain". • "We intend to grow the scale of mining and to have contracts with clients that agree to international market prices".
Access to International Markets	• "The limitations it is regulation and access to markets and also capital constraints". • "The best would have been to secure foreign markets".

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5.6.1.1 Regulatory Factors

One respondent said, "I think there should be better regulations in Zimbabwe". Respondents argued that there should be policies that allow anyone who is licensed to sell their product as they wish. The existing policies are restrictive. These regulations limit access to gold for beneficiation. Another respondent added that their firm was not considering joining the GVC because of regulatory limitations. The respondents also pointed out that under current regulations, FPR is the only licensed exporter of gold and hence this also limits the opportunities for Zimbabwean firms to be part of the GVC.

5.6.1.2 Expertise

Most respondents felt that the lack of expertise in Zimbabwe limits the scope of their participation on the GVC. The gold beneficiation industry is new in Zimbabwe and hence no skills available. One respondent summed it up and said: "as you are trying to move into beneficiation you also need a certain level of expertise". Firms wishing to venture into this sector should have the necessary capacity to fund human capital development.

5.6.1.3 Access to Capital

Most respondents stated that the setting up of beneficiation plants requires capital and local banks currently are not able to fund these type of projects. This effectively means that firms have to utilise their internal resources to acquire beneficiation plants. This has been a key deterrent to moving into this space. The level of capital inadvertently determines the scale or scope of beneficiation, which in turn will determine the capacity to meet global demand. Most respondents expressed that being part of the GVC means that a firm must be able to meet the global demand from other players on the same GVC otherwise lead firms will have no incentive to incorporate the firm onto their supply chain.

5.6.1.4 Size of Operation

One respondent weighed in on the scale of mining. “We intend to grow even bigger than what we are currently so probably that will enable us to participate even better in the GVC”, they said. According to the respondents, the size of the firm determines its positioning on the GVC. One respondent, stressing the predicament of size said being part of the GVC may only be possible if the whole country’s gold production was aggregated, and then a local gold jewellery industry is introduced. The respondent further stated that being part of the GVC is beyond the scope of their firm’s current thinking.

5.6.1.5 Access to International Markets

Most of the respondents stated that positioning of the firm on the GVC is also determined by the access to international markets that the firm has. As one respondent explained, “One will have to partner with the high-end fashion houses otherwise it is difficult”. This access opens up linkages with global players and creates opportunities for knowledge and technology transfer. Without access to markets, most respondents averred that it is practically impossible for local firms to be part of the GVC, argued some respondents.

5.6.2 Benefits of Joining the GVC

Despite the above limitations, most respondents acknowledged the many benefits that could accrue to their firms should they become part of the GVC, in response to the next interview question attached to this research question. Table 17 below shows the major benefits as identified by the respondents.

Table 17: Benefits of joining the GVC as presented by the respondents

Benefit	Respondent Quotes
Eliminates the middleman	"We wish to have links with the international market to get maximum value for the product considering the effort that we put in and the returns that we get when we sell to Fidelity and to the middleman who at times also get as much as you get if not more because they do not have costs that you incur".
Access to markets	"If it were possible to be part of the global value chain, there are so many benefits that would motivate our firm like access to better markets, economies of scale, knowledge transfer".
Access to capital	"If you allow the firms to build the track record and they will borrow and buy equipment and high technology, the firms will be able to grow".
Knowledge and Technology transfer	"If you move up the global value chain, if it were possible, we would benefit from better process than we are getting at the present and that will enhance the firm's profitability".
Importance of linkages	"Because business is relationships and if I sell to a Swiss Bank or Chines Bank, that the bank, once we have a relationship, can also, give us credit lines at a good price".

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5.6.2.1 Eliminates the Middleman

All respondents stated that being part of the GVC brings the local producers into direct interface with the end market and as such will not be squeezed on their margin by middlemen. These middlemen have a very low-cost base and hence end up realising more than the actual producers.

5.6.2.2 Access to Markets

All the respondents averred that joining the GVC opens up new markets. At the moment gold mining firms in Zimbabwe are just dealing with one market – which is dominated by a monopoly buyer. One respondent summed it up and stated that gold miners in Zimbabwe are stuck in that they have to deal with that sole buyer. Being part of the GVC will propel local producers into the lucrative luxury and high-end niche markets and improve their value earned.

5.6.2.3 Access to Capital

Some respondents explained that if firms become part of the GVC, they would build relationships and through these relationships be able to access capital. More capital means the firms would be able to introduce new and efficient technology thus increasing productivity. Another respondent also stated that firms can get into derivative-based contracts and gain leverage on the same to raise more capital.

5.6.2.4 Knowledge and Technology Transfer

Most respondents highlighted the need to be part of the GVC to gain from knowledge transfer from mature players in the industry. Another respondent also highlighted that "through interaction, we can learn about better technology from the mature market players".

5.6.2.5 Linkages

Most respondents stated that a key benefit of becoming part of the GVC would be to gain important linkages. "There are also synergies that we will be able to create with other players along the value chain. And through interaction, we can learn about better technology from the mature market players" added another respondent.

5.7 Emergent Views

During the data analysis, some emergent themes came out, which presented a different dimension to the study under consideration and were not covered by the scope of the interview questions.

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5.7.1 Integrated Mining Approach

One respondent introduced the community social responsibility element to sharing value earned from the gold mining through what they are calling an integrated approach to mining. "Now that we have power at the mine, we want to connect the workers compound and it will increase education and we also want to drill some water boreholes to manage the dust. We also want to develop sports fields so that the children move away from drug abuse and get mines to pay for coaches" stated the respondent. Under this approach, "the firm is putting sheep to keep the grass down so that we go into mutton production", added the respondent. "So instead of mowing the grass, we put in sheep. So it is an integrated approach and we want to convert our mines into mining parks and make it green" added the respondent.

5.7.2 Leverage on Gold for National Development

One respondent argued that the largest gold producers in the world sell their gold or hold their gold in overseas central banks as gold bars. The respondent thus stated, "the best I think a country can do is to hold their gold either as reserves or sell it at best value for the benefit of the overall development of their country as opposed to trying to participate in the retail end of the highly competitive retail market". In their view, the best strategy a country could adopt would be to hold their gold either as reserves or sell it at best value for the overall development of their country as opposed to trying to participate in the retail end of the highly competitive retail market.

5.8 Conclusion

This chapter presented the results from the twelve interview questions that were used during the in-depth semi-structured interviews. The following chapter will focus on discussing the results and research findings presented above in the context of existing literature. Table 18 below summarises the themes that emerged from the data analysis.

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Table 18: Themes for Research Questions 1, 2 and 3

Research Questions	Themes
Research Question 1: How do gold mining firms in Zimbabwe maximise the value realised on the global gold value chain?	**1.** Ownership Structure and Control and reasons **2.** Full Gold value chain to the final product **3.** Marketing of gold **4.** Leakages of gold from the value chain **5.** Maximisation of value earned
Research Question 2: What are the beneficiating options available to gold mining firms as they seek to maximise value earned on the GVC?	**1.** Beneficiation options **2.** Limitations to Beneficiation
Research Question 3: How can position on the GVC enhance the value earned from participating in the GVC?	**1.** Factors influencing Positioning **2.** Benefits of joining the GVC **3.** Importance of linkages **4.** Integrated Mining **5.** Leverage on gold for national development

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6. CHAPTER 6: DISCUSSION OF RESULTS

6.1 Introduction

This chapter discusses the results of the research questions and the themes identified during the thematic analysis of the data collected. The findings are compared to the existing literature to answer the Research Questions identified in Chapter 3. The findings of this research enhance the understanding of the global value chain of gold beneficiation and from the emergent view identified, offer new areas for research that are currently under-researched or unexplored in the reviewed literature. The following sections present a comprehensive discussion of the results and the relevant literature to this study.

6.2 Discussion of Results for Research Question 1

Research Question 1: How do gold mining firms in Zimbabwe maximise the value realised on the global gold value chain?

This question sought to establish how gold mining firms could maximise value earned on the GVC. To unpack this question, it was important to establish the current value chains of gold and how they link into GVCs. To understand the linkage with GVCs, it was necessary to investigate the marketing arrangements that are in place. This was important because each value chain is a series of activities that are performed on a product from conception up to when it gets into the consumers' hands and beyond (Bamber et al. 2017; Hernández & Pedersen, 2017; Gereffi & Fernandez-Stark, 2016), and these activities could be tangible or intangible value-adding activities (Bamber et al. 2017). In exploring the marketing of the gold, it was also important to understand the factors that influence the marketing decisions and any major markets that gold firms are currently dealing with.

6.2.1 Theme 1: Ownership and Control

The results under this theme showed that from the sample selected, there are gold mining firms that are part of MNEs and there are also those that are wholly owned by Zimbabweans. One firm selected is a family business. The reasons that were given for getting foreign shareholders were driven by a desire to raise more capital for expansion. On the other hand, some of the foreign shareholders invested because they wanted to have access to the gold resource and to diversify their investment portfolios. However, although the foreign shareholders have controlling stakes, there are some elements of the gold business that they cannot exercise control over due to the prevailing regulatory provisions like the marketing of gold.

The results agree to the existing literature on MNEs and how they position themselves on the GVC. As MNEs expand into foreign countries, they are primarily seeking new markets, cheap raw materials and diversifying their investments (Bartlett & Beamish, 2018). Besides, the literature on RDT (Murphree & Anderson, 2018) agree to this notion by stating that firms that are resource-dependent will seek to invest where there are rich endowments of resources so that they gain access to those resources and reduce the uncertainty of supply. Verbeke and Kano (2016) also highlight strategic motivations for foreign expansion namely, seeking for new markets, seeking for natural resources, seeking for strategic assets and efficiency-seeking (p. 88). As a result, business functions and production activities are now carried in different locations by different entities along the value chain (Jones et al., 2019). According to Gereffi and Fernandez-Stark (2016), GVCs link local firms to the global economy. The OLI paradigm (McWilliams et al., 2019) also support the findings above. According to this paradigm, ownership is about the control of the target firm and location is about where they chose to invest and this has to do with the resources of the country. Internalisation looks at the processes of the value chain that the lead firm will decide to internalise and those which it will decide to parcel out. Again the basic parameters of the OLI paradigm support the results on this theme. Bolivar et al., (2018) also state that MNEs over the years have been drivers of FDI as they were driven by opportunities for global market exploitation, the pursuit of comparative advantages that come from particular locations and the need to outperform the competition in accessing resources. (p.696). Kotler et al., (2019) support this by stating that globalization is driven by two different and opposing forces, namely, opportunities outside the firm's home country (which the authors call pull factors) or the firm is forced to move abroad due to intense competition in the domestic market, (what the authors call push factors) (p. 482).

6.2.2 Theme 2: The Full Gold Value Chain

The results show that the gold value chain in Zimbabwe starts at the exploration phase and to the point when the firm sells the gold to the end buyer, in this case, FPR. The gold mining firms have no other option of selling their gold except to FPR and this is a statutory requirement. Figure 8 below shows the full value chain as per the results.

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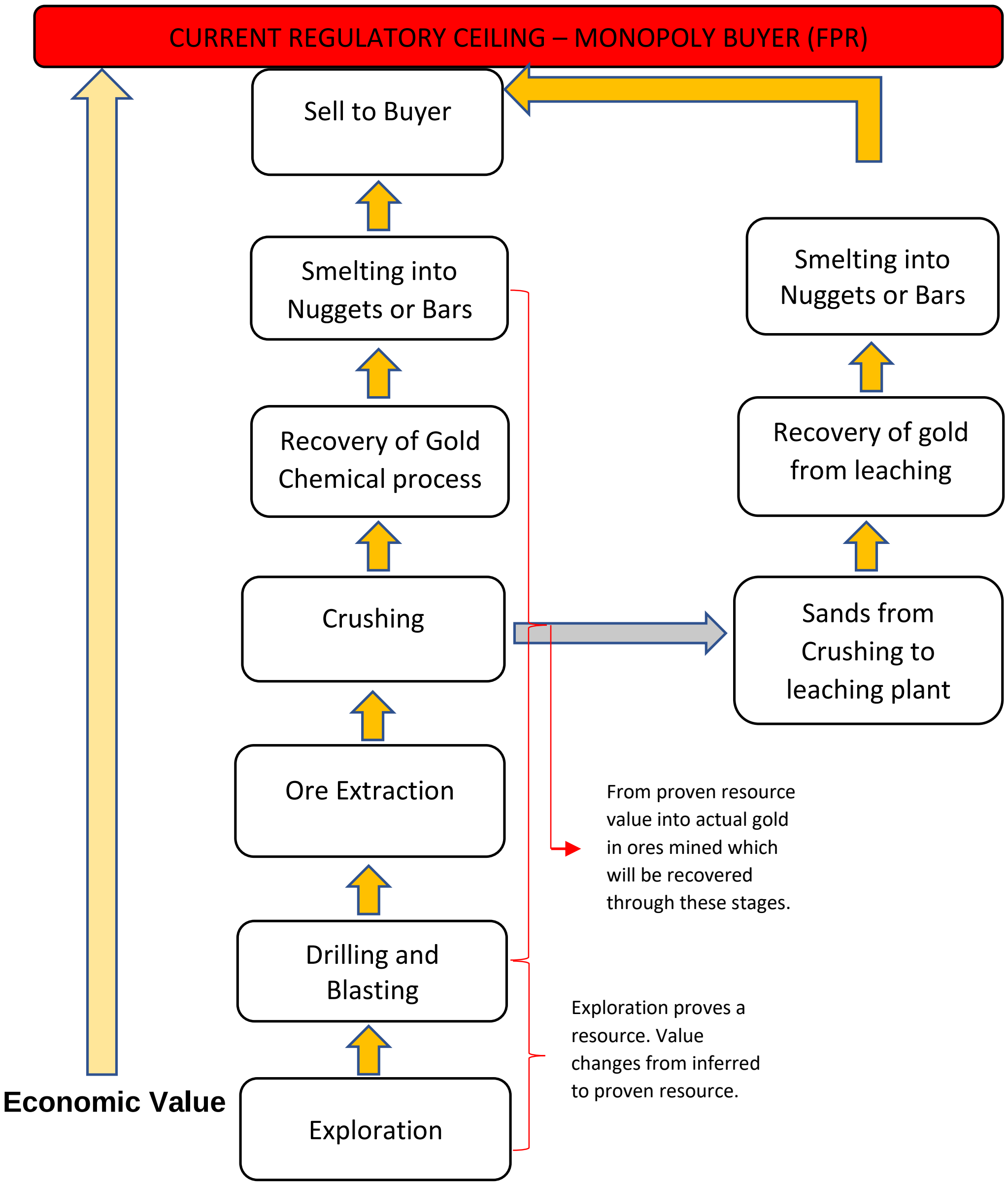
Figure 8: Gold Value Chain for Zimbabwe Gold Mines



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From the results, it emerged that mining firms sell their gold nuggets to FPR, who in turn sell to foreign refineries and customers. No further value-adding activities are performed in Zimbabwe. This resonates with the findings of Bamber et al., (2014), that firms in developing countries are mainly in mineral extraction without adding extra value and high value-added activities of the chain are performed abroad (p.10).

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According to the data gathered and as depicted above, the value chains in the Zimbabwean gold mining sector are driven by the main buyer, FPR. The buyer sets the price and also spells out quality expectations. This scenario is what literature refers to as "buyer-driven chains" (Kaplinsky & Morris, 2016) where the lead firm, in this case, FPR, is at the forward end of the chain and interfaces directly with final consumers. A value chain, as a series of interconnected activities that are undertaken to transform a product from concept into a finished product in the consumer's hands (Gereffi & Fernandez-Stark, 2016), has a starting point and a terminal point where normally the lead firm sits. However, data gathered revealed that there is a disconnect between the local gold industry and the global industry such that the value chains of gold in Zimbabwe cannot be defined as global. Thus the value chain starts and ends in Zimbabwe with FPR and there is no scope of going further downstream. As the product moves along the chain, it appreciates as more economic value-adding activities are performed on it. This reflects what literature refers to as additive value chains (Kaplinsky & Morris, 2016, p.10), where each process or stage of the value chain sequentially adds value to each stage of the chain. As part of a supply chain, the value chains would reflect a 'snake' type (Baldwin & Venables, 2013, p. 251). The gold moves through a vertical production process and value is added as a sequence of operations and processes (p. 251), as reflected in Figure 8 above.

According to the data gathered, the governance of the value chain is controlled by FPR. Governance refers to how power is exercised along the value chain and identifies the lead firm that exercises such power to determine how profits and risks in the chain are distributed (Bamber et al., 2017). The governance structure of this value chain leans towards what literature calls the captive governance model (Gereffi, 2005). The captive governance model entails one lead firm, in this case, FPR, setting the ground rules for business and instituting very strict monitoring protocols to the captive suppliers (Hernandez & Pedersen, 2017). This governance relationship can be further dissected as follows:

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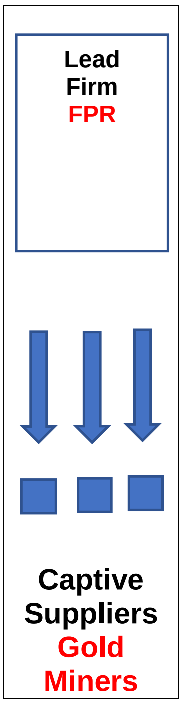
Figure 9: The Captive Governance structure of the Zimbabwe Gold value chain



Lead Firm – FRP

- Sets the buying price
- Monitors production and recovery of gold
- Administers the Gold Act which stipulates how long a firm can keep gold – 48 hours
- Power and coordination are vested in FPR (through the Gold Act)

Captive Suppliers – gold mining firms

- Produce gold. From extraction to the final node.
- Legally bound to sell their gold to FPR
- Cannot switch buyers – illegal
- Sells their gold to FPR at the set price

Adapted from Gereffi (2005)

6.2.3 Theme 3: Marketing of Gold

From the results, the marketing of gold in Zimbabwe is heavily influenced by FPR, and it determines the price. Gold producers are just price takers and hence this affects the value they eventually get. FPR is a product of the Gold Act of Zimbabwe and is a wholly-owned subsidiary of the Reserve Bank of Zimbabwe (RBZ). Whilst the fragmentation of production processes associated with the rise of GVCs has opened up access to new and often higher-value markets, creating an opportunity for firms in developing countries to add more value within their local industries, thus enhancing their value earned on the GVC (Bamber et al.,2014), this has not been the case in Zimbabwe. As noted in 6.2.2 above, FPR determines the value that gold miners make out of the value chain. FPR, as a product of an act of government, has the effect of carrying out government policies with regards to the gold industry in Zimbabwe.

The element of regulation and policy interventions in the gold value chain to a certain extent resonates with extant literature. However, literature speaks more for GVC-oriented policies

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that are aimed at promoting the joining of GVCs by local firms. A country can choose to have economy-wide, horizontal policies that create a conducive business environment and promote the participation of local firms in international trade, or it can choose to have targeted policies that are targeted at specific segments of the GVC (Gereffi & Sturgeon, 2013). The global spread of production activities has created opportunities for countries to focus on core competencies, and seizing control of highly profitable niches of specialization (Del Prete et al., 2018).

Although as noted above, the governance structure of the gold value chain reflects a captive structure (Hernandez & Pedersen, 2017), and fits into the general literature on GVC governance, the actual governance structure in Zimbabwe reflects a new phenomenon, where the governance shows a strong state presence. This phenomenon reflects the argument of Mayer and Phillips (2017), where they posit that GVCs and their governance, have an "intrinsically political nature" (p.135). This view agrees to that of Ponte and Sturgeon (2014), in which they advance the view that GVC governance is "mutually constituted by broader institutional, regulatory and societal processes" (p.197). This new view appears to be the dominant element in the gold value chain in Zimbabwe with the state increasingly getting involved in determining how and to whom gold is sold and at what price.

Mayer and Phillips (2017) further argue that States have not been passive participants and facilitators of GVCs, but have been actively involved in the configuration of GVCs through either facilitative governance, regulatory governance or distributive governance (p.135). As a facilitator, the State puts in place statutes and laws that promote international trade (Ponte & Sturgeon, 2017). However, data gathered shows a different objective in controlling the gold value chain for the government of Zimbabwe from this facilitative role as outlined in literature and therefore does not agree to literature. As a regulator, the State could relax or tighten controls to stimulate FDI and increase exports and making the country a low-cost point in GVCs (Ponte & Sturgeon, 2017). This view, as presented in literature agrees to what the data revealed. The government through the Gold Act transferred regulatory control of the gold industry to FPR. However, instead of stimulating GVC participation, this has cut off the Zimbabwean gold firms from the gold global value chain. As a distributor, the State could legislate for equitable distribution of economic value along the value chain through controlling the bullying of small chain players by lead firms (Ponte & Sturgeon, 2017). This role as outlined in literature does not agree to the results of the data gathered. The lead firm, in this case, FPR has a free reign and has even manipulated the payment model, where it pays 55% of the value

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of gold in US dollars and 45% in the local RTGS currency. The net effect has been a 15% loss in real value to the gold miners as shown in Table 11.

According to literature, the net result of the State taking on these roles would be that "lead firms and, at the macro-level their home countries, tend to have the strongest bargaining position, and hence power, in GVCs" (Murphree & Anderson, 2018). However, data gathered reflects an uncoordinated application of these governance roles such that gold mining firms are not benefitting as they theoretically should be.

6.2.4 Theme 4: Leakages of Gold from the Value Chain

According to data gathered, there are serious leakages of gold from the value chain into the informal or black market as respondents called it. This leakage is mainly triggered by the unfavourable payment model whereby firms are paid part of their money into their Nostro accounts and the other as local RTGS currency. Nostro accounts are foreign currency denominated accounts that banks hold on behalf of clients and in Zimbabwe, they are usually denominated in US dollars. The liquidity crunch in the economy further compounds the miner's challenge as they will have limited and in other cases no access at all to their Nostro accounts. As shown in Table 11, this leads to a 15% knock-in value for the gold miners. As a result, in a bid to maximise their value, some gold mining firms opt to sell on the black market. From the data gathered, 1 respondent out of the 12 confirmed that they sometimes sell on the black market. If this is extrapolated, then theoretically 1 in every 12 gold mining firms are selling on the black market. This translates to about 8% of the total number of gold miners in Zimbabwe selling on the black market because of pricing issues.

The situation is a result of the government failing to play facilitative and distributive roles as noted in 6.2.3 above. As a result of this, the leakage occurs. This leakage ties into what literature refers to as the resource curse of mineral endowed countries. A resource curse hypothesis refers to a situation where resource-rich countries fail to realise economic growth and development even as their resources are being exploited and depleting (Atkinson & Hamilton, 2003). Whilst gold is being mined in Zimbabwe, the leakage is neither contributing to the fiscal revenues nor the general socio-economic development of the country. Literature states that participating in GVCs, firms have access to new and high-end markets and this brings along an opportunity to add more value in their local industries and create more employment and increase their income (Bamber et al., 2014, p.2). Contrary to this assertion

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from Bamber et al., (2014), Zimbabwe is hemorrhaging gold through the black market, thus confirming the validity of the resources curse hypothesis.

6.2.5 Theme 5: Maximisation of Value Earned

The data gathered on the theme of maximising value from existing markets and marketing arrangements indicated that the government through FPR plays a central role as the sole buyer for the gold and as such, there is only one market that exists. This market however also triggers leakages of gold from the formal market to the black market as gold producers seek to get better prices and payment arrangements. As shown in Table 11, the pricing arrangement from FPR, which is the legal channel, results in a 15% knock-in value due to exchange rate movements. As a result of the existing regulatory framework, data gathered revealed that gold mining firms have no input in ensuring that they get maximum value from their gold. The price is set and they are just price takers.

According to data gathered, firms have to resort to other measures to enhance their profitability in the face of a restrictive operating environment. Some firms pointed out they try to source most of their input raw materials in local currency wherever possible although at times this means paying a premium. They reserve the foreign currency component of the price they receive from FPR. The longer they hold on to their foreign currency earnings, the more profit they stand to gain from the exchange rate movement. Another important point that emerged from the data was the focus on improving internal processes to enhance profitability. This is in tandem with existing literature on how firms can leverage on their dynamic capabilities to create competitive advantages (Teece, Petraf & Leih, 2016). A firm's dynamic capabilities determine how the firm integrates, builds and reconfigures internal and external competencies to address changing business environments (Teece et al., 2016). Data gathered showed that firms are pivoting on their dynamic capabilities to remain viable. One respondent, in particular, has gone on to introduce a bioxy plant for processing sulphides. This new technology increases the gold recovery came as a result of "sensing of unknown futures" (Teece et al., 2016) of the gold industry and then seizing the opportunity of being the first firm in Zimbabwe to have the bioxy plant. Once it becomes operational, it would be able to transform its performance through increased output at lower costs. The findings as stated above supported this concept.

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Ha and Giroud (2015) introduce another dimension which is consistent with the data gathered, focusing on Competence Creating (CC) subsidiaries and Competence Exploiting (CE) subsidiaries. Although their context is on FDI spillovers, the principles involved are also applicable here. CC subsidiaries focus on creating new capabilities and resources which will enhance sustainable competitive advantages across the MNE. This is driven by their interpretation of the operating environment (Ha & Giroud, 2015, p. 607). On the other hand, CE subsidiaries focus on maximising the most out of their current situation and implement strategies like reducing costs and quality control whilst operating in the same markets and exploiting their existing capabilities (p. 607). Thus in this regard, the data gathered agrees to literature.

6.2.6 Conclusive Results for Research Question 1

The research findings concluded that Zimbabwean gold mining firms are detached from the global value chain because of the existing regulations that govern the marketing of gold. Whilst they are involved in the full value chain from extraction to the recovery of gold, the terminal node ends in Zimbabwe with FPR, which is a government entity mandated to buy all gold produced in Zimbabwe on behalf of the RBZ. The results also confirmed that value maximisation on the gold value chain is compromised due to the unfavourable payment model which FPR applies. The net effect of this payment model is a 15% knock-in real value that is carried by the gold mining firms. As a result of this unfavourable payment model, gold is leaking from the value chain into the black market as producers seek better payment terms to maximise value. This result cuts across firms in the industry regardless of ownership structure and control. The findings refuted literature that MNEs wield significant power along the value chain. This position in literature fails to consider the political nature of GVCs, where the State plays a pivotal role in influencing the participation of local firms on the GVC.

Finally, in terms of the underlying question of value maximisation, the findings concluded that competence creating and competence exploiting (Ha & Giroud, 2015), are key strategies for value maximisation. Firms must leverage their dynamic capabilities to deal with the uncertainty of the gold industry in Zimbabwe.

6.3 Discussion of Results for Research Question 2

Research Question 2: What are the beneficiating options available to gold mining firms as they seek to maximise value earned on the global value chain**?**

This research question sought to unpack beneficiation by looking at the options that Zimbabwean gold mining firms have as they seek to earn more value on the GVC. Through this question, an attempt was made to understand the beneficiating options available. Beneficiation, as a process of moving downstream into high value-added activities, is a process of product upgrading (Gereffi & Lee, 2016). This a firm's upgrading trajectory on the GVC. From the comparative analysis of the data in Chapter 5, two key themes emerged. The sections below present the results for Research Question 2 under these themes.

6.3.1 Theme 1: Beneficiation Options

According to data gathered on beneficiation, gold mining firms concurred that beneficiation would unlock value on the GVC. This agrees to literature that the only way a firm can maximise its value earned from the GVC is through participating in value-adding activities (Islam & Polonsky, 2020). Bamber et al., (2017) further state that the high global demand for minerals presents an opportunity for resource-rich developing countries to enter and upgrade these GVCs. Consistent with existing literature, data gathered showed the beneficiation options as presented by participants. All the participants, according to the data, identified beneficiation into particular products as a way of improving value earned. It was interesting to note that each respondent made a caveat on their response to the restrictive regulatory environment. Out of the 12 respondents, 11 identified jewellery making as a viable option and only one came up with an additional option of minting gold coins. The overall beneficiation process relates to what literature identifies as Economic Upgrading (EU) (Gereffi & Lee, 2016; Bamber et al., 2017). EU involves a firm moving into higher value-added activities on the value chain as a way of unlocking more value through improved technology, knowledge and skills (Gereffi & Lee, 2016; Bamber et al., 2017). EU, as already identified in the literature review can take four possible options namely (i) product upgrading, (ii) process upgrading, (iii) functional upgrading and (iv) chain upgrading (Gereffi & Lee, 2016).

Based on the data gathered, product upgrading is what most respondents identified and only one spoke to chain upgrading through minting gold coins. Another emergent view also

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considered social and environmental upgrading through the introduction of an integrated mining approach as identified by one respondent. Data gathered showed that participants understood that for them to change their status on the captive governance structure, they would need to upgrade along the value chain. This is consistent with the assertion by Gereffi and Lee, (2016), that the only way firms in a captive governance structure can improve their value earned is to upgrade along the value chain because the lead firm would always want to maximise its profit at the expense of the captive suppliers (Gereffi & Lee, 2016).

6.3.1.1 High-end Jewellery

According to data gathered, high-end jewellery making was identified as a viable product upgrading option by most respondents.

6.3.1.2 Gold Coins

Another interesting product upgrading model identified from the data gathered was the minting of gold coins. These coins will be used as a currency and store of value. As outlined in Figure 10, the minting of the gold coins will filter through the financial sector in the form of gold and coin deposits both as collateral and currency. This, in turn, will alleviate the monetary challenges of liquidity and money supply. The coins will be tradable and therefore will increase disposable income and improve consumer buying power since they would have a value-based in gold. This will ultimately increase aggregate demand. Once they are in the market, they will lead to an improvement in social standards through savings that can stand the erosion of value due to inflation. As shown in Figure 10, this model will create linkages which according to literature, will help in warding off the "Dutch Disease" (DD). This happens when resource-rich countries put more emphasis on the exploitation of natural resources without cascading the activities to other sectors of the economy (Narula, 2018, p. 86).

This model, therefore, agrees to the recommendations of literature on countries that have large resource endowments. According to literature, the most effective way to fight the DD is to create linkages that cut across industries. This model will open new opportunities for linkages. From one sector, one product line, multiple linkages can arise. Narula (2018) identifies three types of linkages that can accrue as a result of development in the extractive sector namely; fiscal linkages, consumption linkages, and production linkages. These are

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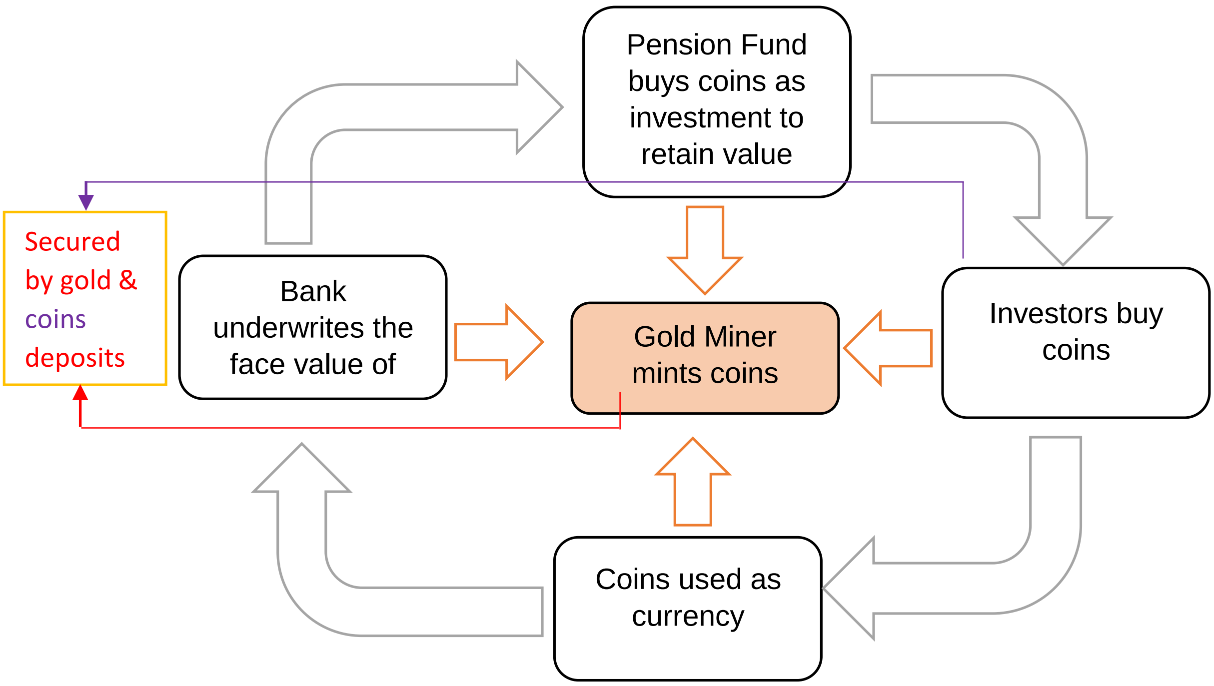
either forward through value addition to the products of the firm or backward through producing products that feed into the production line of the firm (Narula, 2018).

Figure 10: The Conceptual Beneficiation Framework for Gold Coins



Developed by Author from Data Gathered

6.3.2 Limitations to Beneficiation

According to data gathered, beneficiation is imperative for the growth of the gold industry. However, data gathered also revealed some limitations to beneficiation that were identified by the respondents. According to data, the following limitations were given.

6.3.2.1 Regulatory Limitations

These include the ease of doing business and examples identified by the respondents were policies around the trade of gold, payment methods. In addition to these, regulations on access to gold were also identified as a limitation. According to data gathered, gold mining firms are not allowed to keep the gold for beneficiation. Should they desire to beneficiate, they would

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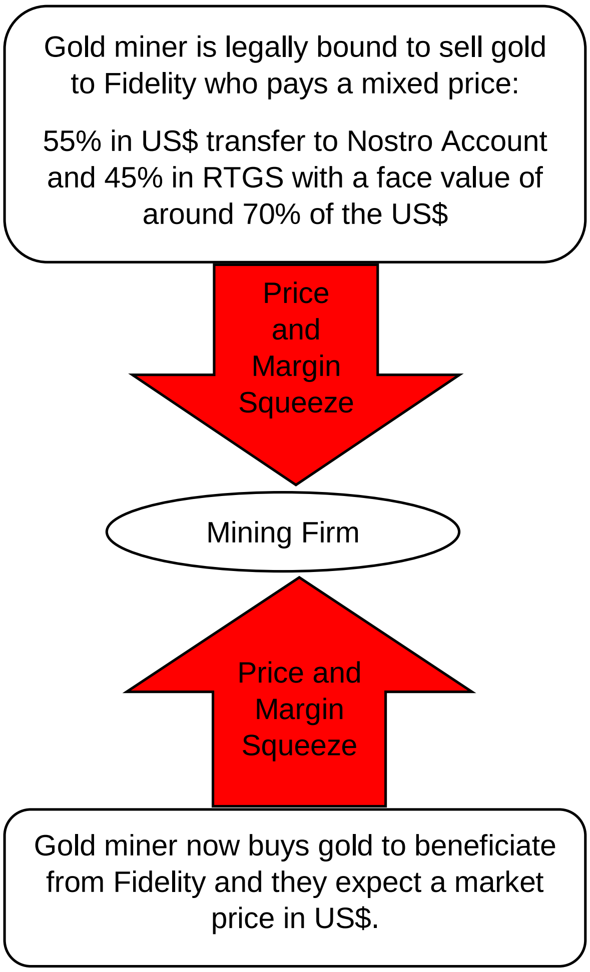
have to buy it back from FPR. However, this time FPR will be selling the gold at prevailing market prices and yet when miners sold the gold, FPR bought at price lower than the prevailing market price. This creates a double bind for gold miners as shown in Figure 11 below.

Figure 11: A Gold Miner's Double Bind



Developed by Author from Data Gathered

6.3.2.2 Expertise

The beneficiation industry in Zimbabwe is still very young and as such critical skills are still in short supply. This agrees to what Fernandez-Stark et al., (2012) state about human capital development and industry upgrading. The authors posit that developing countries can no longer take cheap labour as a competitive advantage alone but they must "increase their capabilities or specialise in particular market segments" (p.5). The authors further state that

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participation in the GVC increases the urgency with which these developing countries should address their skills gap otherwise they lose the opportunity to profitably integrate into the GVC.

6.3.2.3 Institutional Voids

According to the data gathered, key enablers in the economy are dysfunctional and thus impacting on the potential growth of the industry and the economy in general. Examples identified were the inability of local banks to support projects in this sector, power shortages, and fuel shortages. This ties into the existing literature on institutional voids. Institutional voids exist when "institutional arrangements that support markets are absent, weak, or fail to accomplish the role expected of them" (Mair & Marti, 2009, p.422). According to Goedhuys and Sleuwaegen (2015), there is strong evidence from the literature supporting the fact that the international competitiveness of firms is heavily influenced by supporting institutions. The authors further suggest that international standards and certification (ISC) can be used to address the gap created by institutional voids.

6.3.2.4 Disconnection from the GVC

The country in general and the gold sector, in particular, is isolated from the GVC through existing policies. This means the industry has no access to global markets and resultantly the GVC.

The literature identifies five factors that impact the competitiveness of developing countries on the GVCs. These are; (i) productive capacity, (ii) infrastructure and services, (iii) business environment, (iv) trade and investment policy, and (v) industry institutionalization (Bamber et al., 2017, p.10). Bamber et al., (2017) move a step ahead and they funnel down these issues to those that affect the extractive industry in developing countries. These factors are similar to the limitations to beneficiation gleaned from the data and presented above. Table 19 below compares the factors that impact the competitiveness and factors that were identified as limitations from the data gathered.

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Table 19: Key Factors Affecting Developing Country Competitiveness in Extractive-Industries GVCs

Factors Impacting Competitiveness (Bamber et al., 2017, p.10)	Limitations to Beneficiation and Upgrading identified from Data Gathering (Chapter 5)
Productive Capacity – Human Capital • The sector requires specialized skills and high qualifications. • Training programs and knowledge transfer from developed countries and MNE lead firms key for skills appropriation.	**Expertise** • There is a lack of expertise and when available it comes at a high cost. • This deters local firms to upgrade on the GVC.
Infrastructure services There must be an adequate supply of power, a good network of roads and rail to facilitate production and movement of products locally and across borders.	**Institutional voids** There are power shortages and fuel shortages. Local banks cannot fund beneficiation projects.
Business environment – Public Governance and Access to Finance • There must be the sanctity of contractual agreements and the general rule of law to promote and sustain Foreign Direct Investment (FDI). • Mechanisms to weed out corruption especially in licensing and granting of permits are a critical requirement	**Ease of doing business** • Getting beneficiation licenses is very difficulty and expensive. • Holding and trading of gold is criminalised according to the God Act. • This creates bottlenecks which in turn breed corruption. • Access to gold is very difficult even to the gold miners.
Productive Capacity – National Innovation • The extractive sector needs a lot of technological innovation to unlock GVC competitive advantages. • The intensity of technological advancement becomes a barrier to local firms.	**Disconnection from GVC** • The local sector is disconnected from the GVC and hence there is little or no innovation. • Efficiency levels are low.

Author's Own

Data collected affirmed the position in the literature that there are factors that enhance global competitiveness and the absence of these factors mutate into limitations, hence the similarity noted in Table 19 above.

The limitations above also align to the factors raised by Mahonye and Mandishara (2018) where they identify three factors namely; (i)high operating costs; (ii) the latecomer effect, where the competitors in other developed markets have well-advanced systems to handle

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gold development as well as the technological know-how to develop brands and new commodities and (iii) lack of the domestic market for mineral value-added products, the local manufacturing industry should act as a stimulus for local firms upgrading along the value chain.

Through participating in GVCs, firms have access to new and high-end markets and this brings along an opportunity to add more value in their local industries and create more employment and increase their income (Bamber et al., 2014, p.2). According to Bamber, et al., (2014), in addition to joining a GVC, firms in developing countries should develop capacity for inclusive growth and upgrading capabilities for them to realise value from participation on the GVC (p.2). Bamber et al., (2014) further argue that being positioned on the GVC does not automatically translate into positive development gains, but could be adverse and exploitative for developing countries (p.7).

To spur growth in this sector, the GVC-oriented policy should focus on bringing together local firms and global firms incorporating the interests of key stakeholders and utilising the trans-territorial linkages that have an impact on the country's global or regional value chains (Gereffi, 2014). Upgrading, in this case, will depend upon the "institutional context in which firms operate and the engagement and influence of relevant stakeholders in transforming that context" (Gereffi & Fernandez-Stark, 2011). Therefore, the limitations identified through data gathering confirm existing literature as shown above.

6.3.3 Conclusive Results for Research Question 2

The research findings for Research Question 2 concluded that beneficiation is considered a viable option by gold mining firms in Zimbabwe. Most of the data gathered identified high-end jewellery as a viable option. The data revealed that there is scope for firms in Zimbabwe to tap into this high-end market for jewellery and enhance the value earned from gold mining. Results also revealed a new and innovative beneficiation option of minting gold coins for use as investment securities and currency. This model as shown in Figure 10 will create linkages with several economic players and thus mitigating against the DD which usually plagues countries that rely too much on the extractive sector. Both beneficiation options according to the results will enhance the value that gold mining firms can earn on the global value chain. It is, however, important to highlight that these beneficiating options were identified as possibilities that could be explored should the existing regulations change.

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The results also identified some limitations that are currently hampering the move into beneficiation in Zimbabwe. These limitations as shown in Table 20 above are (i) regulatory which includes the general business operating environment, regulations on the trade of gold which affects access to gold for beneficiation and the general ease of doing business, (ii) lack of expertise in the area of beneficiation, (iii) institutional voids in the form of power shortages, a banking sector that cannot finance beneficiation projects and (iv) disconnection from the GVC, which limits access to markets and linkages with other players from the developed markets where there is huge demand for high end beneficiated gold products.

Therefore, the results on this Research Question prove that beneficiation into high-end jewellery and other products is a value driver on the GVC but there are limitations in Zimbabwe against beneficiation.

6.4 Discussion of the Results for Research Question 3

Research Question 3: How can position on the GVC enhance the value earned from participating in the GVC?

This research question sought to tie in the data gathering to the overall research topic. There is abundant literature that speaks to positioning on the GVC as a key influence on value earned (Gereffi & Lee, 2016). Through this question, the factors that influence positioning on gold firms in the GVC and the resultant benefits were investigated. From the data analysis, five themes emerged and the following sections will discuss these themes in detail.

6.4.1 Theme 1: Factors Influencing Positioning

According to data gathered, several factors were identified as influencing a position on the GVC. The factors identified from the data will be discussed in detail below.

6.4.1.1 Regulations

According to the data gathered, regulations have a huge impact on the global positioning of the gold mining firms in Zimbabwe. Under the current environment, regulations determine the

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marketing of gold and access to the gold that the mining firms can have. As a result of these regulations, FPR operates as a monopoly and lead firm in the gold value chain. The net effect of these regulations has been to affect the position of gold firms on the GVC. This scenario agrees to what Gereffi and Lee (2016) state on public governance of GVCs. According to Gereffi and Lee (2016), public governance entails the formal rules and regulations that the government put in place. These rules and regulations can either facilitate or be a hindrance to social and economic upgrading (p.31). If the regulations hinder social and economic upgrading, as in the Zimbabwean case noted in the data gathered, then it affects the position of the firms on the GVC. In support of this position, Pipkin and Fuentes (2017) state that the regulatory environment and the capacity of the government to craft the relevant supporting and facilitative statutes and laws influences the upgrading processes.

6.4.1.2 Expertise

The level of expertise determines the quality of the product and the capacity to upgrade to high value-added activities or products. In the global gold value chain, downstream are high value and luxury products where quality is of the essence. Now given the fact that the industry is new in Zimbabwe, there is a skills gap to support upgrading along the GVC. This agrees with the existing literature on human capital development and positioning on the GVC. Fernandez-Stark et al., (2012) reinforce this point by stating that cheap labour is no longer a global competitive advantage but it must be skilled and be able to perform specialised functions. Without such skills, the authors further state that the country or the firm will eventually fall off the GVC. Therefore, existing literature supports that expertise has an impact on the position of a firm and country firms on the GVC.

6.4.1.3 Access to Capital

According to data gathered, many firms are affected by a lack of capital. As already noted under the limitations to beneficiation and specifically on institutional voids, if firms cannot have access to capital through FDI or bank credit lines, they will not be able to develop capacity.

6.4.1.4 Size of Operation

Data gathered also identified the size of the operation as a huge factor in determining the position on the GVC. Size, according to the data, determines the firm’s power to influence

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market outcomes and in other instances to break through barriers to upgrading on the GVC that may be imposed by lead firms. The size of the firm also determines its capabilities to upgrade. This is consistent with literature which states that the size of the firm determines the level of power it can exercise on the GVC. (Murphree & Anderson, 2018) buttress this position by stating that depending on the size of the firm, its strategic response to power is constrained by its dependency on the GVC (p. 133). This agrees to Quentin and Campling's (2017) assertion that relations of control between firms along the same GVC tend to be spearheaded by lead firms which are located in nodes where there are high barriers to entry. According to literature, a key strategy for firms to improve their position on the value chain is through upgrading their capabilities and make a transition into more complex and high value-added activities (Murphree & Anderson, 2018). However, depending on the complexity of the capabilities, it may not be able to transfer the same capabilities to other stages of production. Upgrading may also be difficult if it requires firm-level capabilities fundamentally different from those fostered while seeking competitive advantage and profit in a given stage of the GVC (p.125). Therefore, size is a major factor in attaining upgrading along the GVC and hence this discovery from data agrees to existing literature.

6.4.1.5 Access to International Markets

Access to international markets is the gateway through which upgrading can be attained. This is the point that came out in the data gathered. This access determines the linkages with global players and opens up avenues to niche markets and facilitates the appropriation of knowledge and technology. As stated by Quentin and Campling (2017), lead firms are located at nodes that are characterised by high barriers to entry. Literature supports that lead firms, in the absence of a strong dependency on the supplier firms and regulations compelling them for fair competition practices, would always try to keep control of the markets. “Where lead firms themselves have no tangible assets such as production capabilities, they coordinate the network through their position as international buyers and command of intangible knowledge assets such as intellectual property, designs, and brand identity” (Murphree & Anderson, 2018, p. 125). Lead firms of these GVCs have a strong command of branding and a big wall chest of marketing budget to sustain their superior brands. Although they do not have the resource endowment, their brands give them access to the high-end markets, which on its own constitutes a form of rent. Literature also supports the position that joining a GVC could trigger increased output and open up new opportunities for the local firm in the form of access to

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markets, knowledge and enhanced value (Del Prete et al. 2018). Therefore, the data gathered is consistent with extant literature.

6.4.2 Theme 2: Benefits of joining The GVC

According to data gathered, there were benefits of joining the GVC that were identified. The benefits identified are discussed below.

6.4.2.1 Eliminates the Middleman

According to the data gathered, joining the GVC eliminates the middleman and allows firms to reach out to the end market. This will further enhance the value earned on the GVC. FPR sits as the middleman and is slicing up the margin for the gold miners. This is consistent with literature that joining the GVC brings a firm into contact with the lead firms who have access to the end markets (Gereffi, 2014).

6.4.2.2 Access to Markets

Data gathered indicated that joining the GVC will create access to markets that would not be accessible to the firm had it not been part of the GVC. This agrees with what Sampath and Vallejo (2018) state about the governance of GVCs. The authors state that governance affects "market access, determines the fast track acquisition of production capabilities, dictates the distribution of gains, and often suggests various policy entry points to change GVC-related outcomes (p.485).

6.4.2.3 Access to Capital

Data gathered revealed that being part of the GVC will create access to capital for the local firms. This is consistent with what literature says on the importance of GVCs to developing countries. According to Gereffi (2014), industries in developing countries and highly industrialised countries are no longer operating in isolation but have become connected through "recurrent waves of foreign direct investment (FDI) and global sourcing" p. 438. The firms in developing countries will, therefore, benefit through accessing more capital brought in the form of FDI.

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6.4.2.4 Knowledge and Technology Transfer

According to data gathered, participation in the GVC facilitates knowledge and technology transfer. This knowledge and technology may not be readily available, especially in developing countries. According to Casillas et al., (2015), “lack of international experience and knowledge impedes venturing across borders as firms are presumed to avoid uncertainty and to prefer operating in areas of greatest experience and knowledge” (p.102). However, Buckley and Strange (2015) affirm that when a firm in a developing country becomes part of the value chain of a led firm from a developed country, it will benefit from technology and knowledge transfer. It will be in the best interest of the lead firm to improve the production processes of the supplier and hence will assist in introducing new technology. This is more so in industries that are technology-driven (Gereffi, 2014). Pedersen et al., (2019) also agree to this assertion and state that given their global nature, MNEs have the opportunity to mobilise and distribute knowledge across organisational boundaries. This position is also supported by Gereffi, (2014); Hernandez and Pedersen, (2016); Gereffi and Fernandez-Stark, (2011); Gereffi and Fernandez-Stark, (2016) and Gereffi and Lee, (2016).

6.4.3 Theme 3: Linkages

Data gathered revealed that linkages are important for sustainable positioning on the GVC. For the firm to realise maximum value, it needs to build linkages that will enhance its strategic position on the GVC. The issue of linkages is well supported by existing literature and therefore the need for linkages agrees to existing literature (Gereffi, 2014; Hernandez & Pedersen, 2016).

6.4.4 Theme 4: Integrated Mining

Data gathered also focused on an integrated mining approach that brings together mining social and environmental issues together. Under this approach, the mine is generating its power from solar farms installed at the mines to address the challenges of institutional voids as noted above. The excess power generated is connected to mine communities' homesteads to improve living standards. The mine then drills boreholes to sustain grass growing for suppressing ad controlling dust around the mining area. They then introduce sheep to control the growth of grass, and the mutton will be sold to the surrounding communities. This approach is consistent with the literature on social and environmental upgrading. Golin et al., (2018), state the need for a comprehensive approach to how GVC literature approaches upgrading. To this end, the authors suggest that in addition to EU and social upgrading (SC), new focus must be put towards environmental upgrading (EnU). EnU is “the process by which economic actors move towards a production system that avoids or reduces the environmental damage from their products, processes or managerial systems (De March et al., (2013). Therefore, the findings from the data gathered on this integrated mining approach agree to existing literature. It also agrees to another strand of literature that states that the EU should normally lead to SC and now EnU (Rossi, 2013).

6.4.5 Theme 5: Leverage on Gold for National Development

Data gathered also introduced a different paradigm to the whole GVC discussion. This paradigm advocates for focusing on national development rather than focusing on the GVC. The main argument here is that the GVC is out of reach and is already saturated with players who have perfected their trade over the years, leaving little or no scope for new players. As a result, the focus should be on leveraging on the gold output to promote national development initiatives. In simple terms, put some of the gold in reserve to strengthen the currency and then sell the rest to raise money for national development projects. This seemed to tie into the conclusion made by Hausmann et al., (2008) where they stated that “Government does not have limitless capacities and resources, so a focus on beneficiation is necessarily at the expense of policies that would enable other sectors to emerge. The data clearly show that this is a bad tradeoff, as the better opportunities are more often ‘lateral’ than downstream. Quite simply, beneficiation is a bad policy paradigm” (p.22).

6.5 Conclusive Results for Research Question 3

The results confirm the position in the literature that positioning on the GVC is crucial to enhance the value that a firm gets out of the value chain. The data gathered identified 5 factors that influence the position of the firm on the GVC. These are; (i) regulations, (ii) expertise, (iii) access to capital, (iv) size of the firm and (v) access to markets. These factors identified agree with existing literature. In addition to the factors identified, the data also confirmed some of the benefits that literature presents for joining a GVC. These benefits include among other things, the elimination of the middleman, access to better markets, access to capital and market linkages.

Also, the results brought to the fore, two emergent views from the data gathered. The first one was on the integrated mining approach which incorporates social and environment upgrading into the firm's economic upgrading initiatives. This again agrees to literature which now promotes these three upgrading initiatives. The second view was different from the thrust of the research. This view argues that instead of worrying about joining the GVC, developing countries must focus on leveraging their mineral resources for socio-economic development initiatives. This also agrees to existing literature that countries must shift focus and ignore the beneficiation paradigm.

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7. CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

The results presented in this research have demonstrated that gold mining firms in Zimbabwe are not part of the GVC mainly because of regulatory constraints which have impacted the way gold mining firms operate. Whilst there is scope for beneficiation and the opportunity to enhance the value earned on the gold if it is beneficiated, there are systemic limitations that adversely affect the beneficiation of gold and consequently the active and direct participation of gold mining firms on the GVC. Beneficiation, as shown in this research will open new markets as gold firms upgrade to high value-adding activities along the GVC. Through this upgrading, they will have access to new markets and through linkages created, benefit from technology and knowledge transfer. The results also demonstrate that the State plays a critical role beyond what existing literature suggests as the facilitative, governance and distributive roles of the State (Mayer & Phillips, 2017). The state has a leading role in crafting regulations that have positioned a State Owned Entity (SOE), as a monopoly charged with the buying and selling of gold to external markets. This role of the State has a bearing on the overall value earned by gold mining firms and their beneficiation initiatives, thus shaping the value chain of gold in Zimbabwe. An integrated mining approach, as shown by the results could also lead to an integrated upgrading approach that brings together EU, EnU and SU. Beneficiation, as a value maximisation strategy needs to be supported by a relevant regulatory framework that will promote access to global markets where demand for beneficiated products is high. This access to global markets will position the gold mining firms on the GVC beyond a peripheral role as primary producers but as significant suppliers.

The results of this research will help business managers in formulating strategies to enhance value earned within a context of strong sate involvement. As stated by Islam and Polonsky (2020), managers need firm-specific strategic options of various upgrading options to improve their value earned on the GVC. Instead of looking at the State's role as a limitation and an end in itself, this research offers business managers an option to pivot on their dynamic capabilities and build new capabilities to become globally competitive. Extractive industry firms have significant rents in the form of ownership of gold resources to leverage on as they seek to position themselves on the GVC (Davis et al., 2017). A model of combining firm strategy and country policy to join and upgrade position on the GVC is suggested based on the results of this research. This research sought to cover three objectives in response to an identified business problem on the impact of beneficiation as a value driver on the gold GVC. Firstly, the research sought to investigate how gold mining firms can leverage on gold beneficiation to maximise the value realised on the global gold value chain. Secondly, it sought to determine the beneficiating options available to gold mining companies as they seek to maximize value earned on the GVC. Finally, the research sought to explore whether the position on the GVC enhances the value earned from participating in the GVC. The following sections shall discuss the results in relation to the research question and present the suggested model.

7.2 Value Maximisation

The value earned by a firm on a product is a function of the value of the product at the point of sale and the total input costs incurred in bringing the product to that saleable condition. The value earned is, therefore, a reflection of the value-adding activities performed by the firm. In particular, the value earned by a firm on the value chain is ascertained based on the node or position of the firm on the value chain. The higher value-adding activities the firm does, the more value it gains on the value chain. This value increase as the firm moves up the value chain (upgrades) and be positioned on the GVC. Data gathered confirmed that the value chain in Zimbabwe is a captive governance chain that starts and ends in Zimbabwe when gold is sold to FPR as shown in Figures 8 and 9. With the lead firm, FPR, setting prices and controlling the end market, value maximisation is compromised. The situation is further compounded by the payment model that is in use, which effectively knocks 15% off the real value of the gold as a result of exchange rate disparities. This payment model is has contributed significantly to the leakage of gold from the formal value chain into the black market. Firms in the gold mining sector have a primary source of rents in the form of resource rent. They control access to gold through the mining licences that they have. These resource rents are currently their source of value but without adding more value to the resources, value earned will be minimal and the firms will remain at the tail end of the value chain. Bamber et al., (2014), confirms this situation stating that firms in developing countries are mainly in mineral extraction without adding extra value and high value-added activities of the chain are performed abroad (p.10).
To counter an adverse regulatory environment, gold mining firms as shown in Section 6.2.5 have to focus on internal processes to ensure they maximise value earned. They have to pivot on their dynamic capabilities and to remain viable.

According to Davis et al., (2017), firms that can earn sustainable value from the GVC should be able to create and protect dynamic rents. Rents along the GVC are not static because of

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the upgrading initiatives of other players along the GVC. It is therefore important for the firm to then leverage its dynamic capabilities to create dynamic rents. Through sensing the operating environment and seizing opportunities the firm can continuously pivot to renew its competitive advantages. A firm's claim to value on the value chain is based on rents that accrue to it. In the case of gold mining firms, their primary rent is a gift of nature – the resource itself. However, these would not be enough if they are not complemented by Schumpeterian rents of innovation and technological advancement. Possession of these will not be enough in the absence of relevant country-specific policies that are GVC oriented and protect the local industry.

7.3 Beneficiation as a Strategy for Value Maximisation

The results of this research agree to the extant literature and prove that the beneficiation of gold will lead to an increase in value earned by the mining firms. Beneficiation will increase the economic value of gold. Table 14 shows the beneficiation options that can be adopted to maximise on value earned. Through the manufacture of high-end jewellery, gold mining firms would be able to open new avenues into the luxury markets where demand is price inelastic. This will be a viable way of positioning and upgrading the value chain. Jewellery manufacturing becomes the gold mining firms' product upgrading and will inadvertently lead to increased value earned (Gereffi & Fernandez-Stark, 2011). Another beneficiation option from the results is the minting of gold coins which can be used as currency. This novel idea was a result of a firm sensing the environment that there is always an acute loss in value on investments and pensions due to macro-economic issues like hyperinflation. Such an initiative is a result of the firm leveraging its dynamic capabilities. Such an upgrading initiative unlock value in other economic sectors through linkages. Narula (2018) identifies three types of linkages that can accrue as a result of beneficiation in the extractive sector as follows;

- **(i)** **Fiscal linkages** - these are incomes that flow into the national treasury from taxes, royalties, etc.
- **(ii)** **Consumption linkages** - these are a result of the increasing demand for other products in the economy by the extractive industry firm, be they services or other goods.
- **(iii)** **Production linkages** - these are either forward through value addition to the products of the company or backward through producing products that feed into the production line of the company.

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However, despite the opportunities that are available to beneficiate gold, some limitations exist as presented in Table 20. These limitations are consistent with extant literature on the factors that affect extractive industries' competitiveness as shown in Table 20. Effective implementation of beneficiation initiatives in developing countries requires that these limitations be addressed. Some of the limitations can be addressed at firm level and some through engaging with the government for policy changes.

7.4 Impact of GVC Position on Value Maximisation

Section 6.4.1 discusses the factors that influence positioning on the GVC. As already stated, the higher up the value chain, the more value a firm stands to earn. If a firm is positioned at the tail end of the chain, the value earned is minimal. The factors identified are key for successful and profitable positioning on the GVC. Literature supports the notion that the State can play multiple roles in facilitating encouraging local firms into joining the GVC. Literature also attests that the State is not a passive spectator in the governance of GVCs but has an active political role that could shape the governance of a GVC. However, existing literature does not cover cases where the State has a dominant role played out through SOEs like FPR in the case of Zimbabwe. Further research is therefore needed to enhance current discussions around the GVC.

A vantage GVC position is crucial as it brings the firm closer to the end market where value is high and through linkages created, there is a cross-pollination of knowledge and technology as lead firms seek to mitigate against risks of poor quality, inefficiencies that will affect delivery times and reputation. As a result, they are obligated to share knowledge and at times assist with technology that will enhance the supplier firm’s delivery capabilities. It is also noteworthy for managers that upgrading initiatives will not necessarily be initiated by the lead firm, but as supplier firms become vulnerable to price movements and other lead firm initiatives, they will initiate upgrading and change their position on the GVC. Shocks from the operating environment will also trigger upgrading initiatives as firms seek to insulate against future shocks.

Extant literature confirms an emergent view from this research focusing on integrated mining. This approach is underpinned by a firm leveraging its dynamic capabilities to sense future changes in the environment and then seizing the opportunity to transform its business model to align with changes. This approach deserves more academic research to come up with firm-specific strategies in the extractive sector to support current discussions around EnU and SU.

Another emergent view that also has some grounding in literature advocates for a complete shift away from beneficiation and focus on national development through addressing the socio-economic needs of the country. Hausmann et al., (2008) argue that a focus on beneficiation comes at a very high trade-off where the growth of other sectors is stifled. This assertion ties into the DD propositions. This emergent view, like Hausmann et al., (2008), regards beneficiation as a bad policy paradigm which must be avoided. However, there is enough literature that supports the benefits of beneficiation. However, this calls for a quantitative research approach to be deployed to establish the benefits in value terms of beneficiation against non-beneficiation of minerals. This type of research would need to consider mineral exports over a period of time both for beneficiated minerals and non-beneficiated minerals to establish the extent of the difference in value.

7.5 Model for Value Maximisation along the GVC

Figure 12 below shows a theoretical model for value maximisation along the GVC, developed from the findings of this research to address the research questions identified in Chapter 3.

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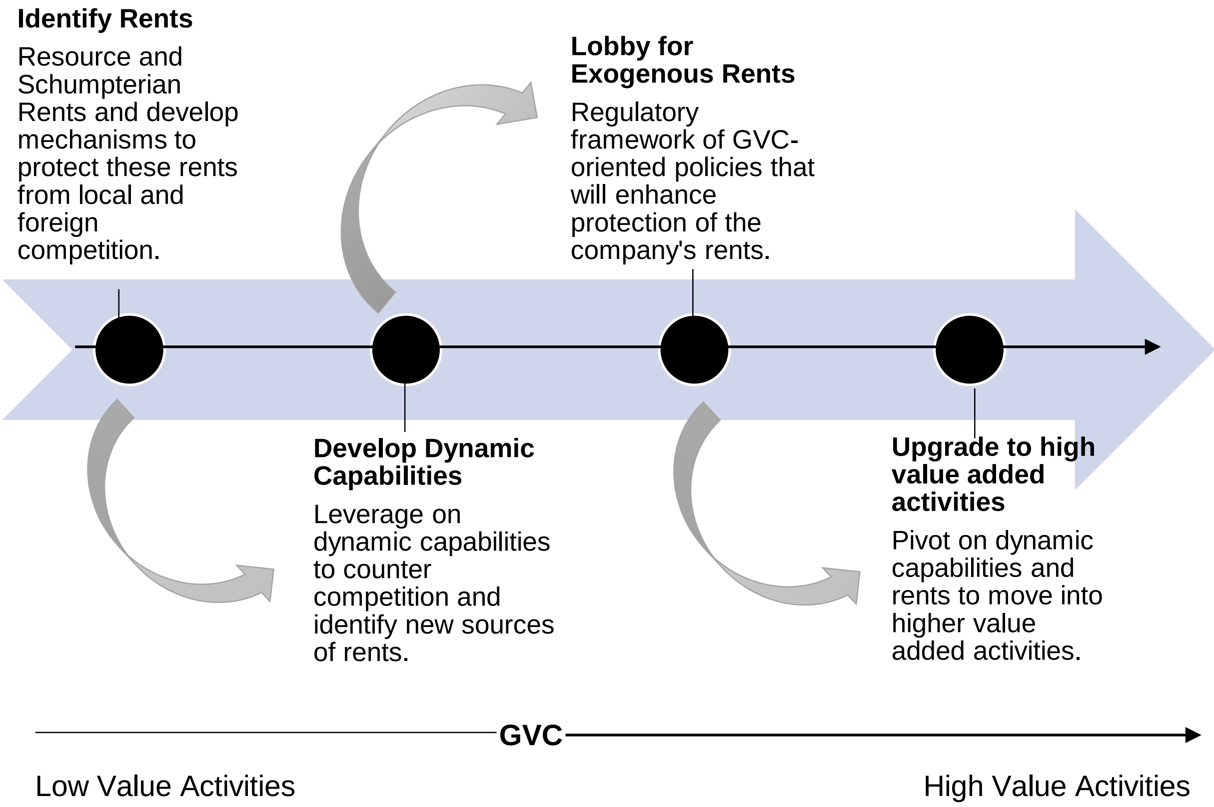
Figure 12: A Model for Value Maximisation along the GVC



Developed by Author

The above model shows a four-stage process that a firm can undertake to maximise the value earned on the GVC.

Stage 1 – Identify Rents

At this stage, the firm has rents that will generate value. These rents are resources rents and Schumpeterian rents which the firm can leverage on to maximise value. However, these are rents are not enough to generate maximum value. These rents are enough to give the firm a competitive edge but will ensure maximum value. Schumpeterian rents involve the introduction of new and more efficient technology which may improve the production process of the firm but over time, these will be imitated by competition and the competitive edge eroded. To remain viable and increase value earned through upgrading on the GVC, the firm

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needs to move into Stage 2. During Stage 1, the firm is capability exploiting, maximising returns out of the existing capabilities.

Stage 2 – Develop Dynamic Capabilities

At this stage, the firm will have to develop dynamic capabilities in the face of uncertainty. This stage involves creating new capabilities that will put the firm ahead of the competition whilst protecting the existing rents. As the firm develops new dynamic capabilities, it will enhance its position on the GVC and this also increases the value earned along the GVC.

Stage 3 – Lobby for Exogenous Rents

In the face of strong State involvement in the value chain, the best strategy at this is to engage and lobby the State for GVC-focused policies that will enhance the positioning of local firms on the GVC. Such policies will protect the rents of the local firms from foreign competition, but still promoting the inflow of FDI.

Stage 4 – Upgrade to high value-added activities

This stage involves upgrading to high value-added activities through pivoting on dynamic capabilities and exogenous rents. This will further enhance the value earned from the GVC.

The above model can be applied as a model for maximising value by managers as they develop firm-specific strategies to maximise value on the GVC.

7.6 Recommendations for Managers

The findings of this research demonstrated that there is a disconnect between extant GVC literature and practice especially in developing countries where the State plays a dominant role in shaping the value chains of commodities. In the face of limitations to upgrade on the GVC, managers can leverage what they have control over as shown in the model presented in Figure 10 above. Managers should:

a. Be aware of the rents under their firm's control. In the gold mining sector, the primary rent comes from the resource endowment and the firm's control of the resources. This

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awareness enables managers to create strategies to maximise the value earned from these rents as well as protecting them.

b. Develop Schumpeterian rents. Through innovation backed by research and development, managers can develop such rents. These will keep the firm ahead of the competition and also increase production efficiencies which will enhance value maximisation.

c. Focus on creating new capabilities. Without creating new capabilities, the firm will not be able to sustain its position on the GVC and sustain its competitive advantages.

d. Managers should always engage and lobby for GVC-focused regulatory policies for global competitiveness. This will open new global opportunities on the GVC.

e. Managers should always focus on strategies that will upgrade their position on the GVC. An integrated mining approach will enable the firm to integrate EnU ad SU into Eu initiatives.

f. Managers should be aware of the limitations that affect the adoption of beneficiation as a value driver and pivot on their dynamic capabilities to overcome these limitations.

7.7 Recommendations for Future Research

a. The results of this research showed a dominant role by the State in shaping the gold value chain in Zimbabwe beyond the scope covered by existing literature. Future research could focus on exploring the impact of State policies on the leakage of minerals from the god value chain.

b. A lot has been written on the subject of the resource curse hypothesis and the DD, but these focus on how revenue generated is either misapplied due to corruption in government systems and misaligned priorities that lead to underdevelopment of other economic sectors. However, no research has been done on the impact of policies on the leakage of mineral resources. This research showed that developing countries like Zimbabwe, depending on economic or political ideologies that they will be pursuing, craft policies that trigger black market dealings in minerals as producers seek for better prices. The research could focus on specific strategies that managers could adopt to mitigate pricing disparities that led to leakages in the gold mining sector.

c. Another interesting field of study would build on the integrated mining approach identified in this research and tie it to the existing studies in EU, EnU, and SU. From the data gathered during this research, it was established that whilst EU is the primal focus of firms along the GVC as they seek to maximise on value earned, an integrated

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mining approach will promote EnU and SU spontaneously and in ways that will also benefit the mining firm. So future research could also plug into this gap in the existing literature.

d. This research followed a qualitative approach, but the results gathered demonstrate that there is a need for a quantitative research-based study to establish the benefits in value terms of beneficiation against non-beneficiation of minerals. This type of research would need to consider mineral exports over a period of time both for beneficiated minerals and non-beneficiated minerals to establish the extent of the difference in value.

7.8 Research Limitations

The main limitation of the research methodology and design is that it is subjected to the understanding and biases of the chosen respondents to the semi-structured interviews (Saunders et al. 2016). However, as noted above, due care was exercised during the research to minimise the impact of bias and subjectivity. In addition to this limitation, the following additional limitations were observed:

a. The interviewer had no prior experience in interviewing and hence this could have been a weakness in the data collection process and could have impacted the overall results of this research.

b. The sample selected was limited to gold mining firms in Zimbabwe only and therefore the findings of the research may be heavily influenced by the country-specific issues and therefore some of the findings may not apply in other jurisdictions.

c. The sample size of 12 that was used in this research does not allow for the generalisation of the findings of this research across a big sample size.

d. The researcher had prior working experience in the gold mining sector and as such personal biases could affect the interview process.

7.9 Conclusion

The results of this research will enrich the current discussion and body of literature on GVC value sharing. Specifically, it will add to the discussion on how firm-specific strategies could be an avenue for disadvantaged firms to leverage on and upgrade along the value chain. As Pipkin and Fuentes (2017) stated, initiatives for upgrading can no longer be initiated by lead

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firms only, because they normally have no incentive to do so, but disadvantaged firms will initiate when they are pushed by shocks and feel vulnerable. Lastly, this research will contribute to the formulation of policies on beneficiation in Zimbabwe. The government of Zimbabwe regards gold mining as a key driver for economic transformation and beneficiation of minerals (gold included) is a critical pillar that has been identified. Policy formulation in this regard will be aided by the results of this research.

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APPENDIX 1: CERTIFICATION OF ADDITIONAL SUPPORT
(Additional support retained or not - to be **completed by all students)**

Please note that failure to comply and report on this honestly will result in disciplinary action

I hereby certify that (please indicate which statement applies):

- ***I DID NOT RECEIVE*** *any additional/outside assistance (i.e. statistical, transcriptional, and/or editorial services) on my research report:* ………………………………………………………………………………….

- ***I RECEIVED*** *additional/outside assistance (i.e. statistical, transcriptional, and/or editorial services) on my research report* …………………………

If any additional services were retained– ***please indicate below which:***

☐ ***Statistician***

☐ ***Transcriber***

☐ ***Editor***

☐ ***Other (please specify) ……………………***

Please provide the name(s) and contact details of all retained:

NAME: ………………………………………………………………

EMAILADDRESS: ……………………………………………………

CONTACT NUMBER: ……………………………………………….

TYPE OF SERVICE: …………………………………………………

NAME: …………………………………………………………………………………...

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EMAIL ADDRESS: ………………………………………………………………………….

CONTACT NUMBER: …………………………………………………………………………

TYPE OF SERVICE: ……………………………………………………………………….

NAME: ……………………………………………………………………

EMAIL ADDRESS: ………………………………………………………………………….

CONTACT NUMBER: …………………………………………………………………………

TYPE OF SERVICE: ……………………………………………………………………….

I hereby declare that all *statistical write-ups and thematic interpretations of the results for* **my study were completed by myself without outside assistance**

NAME OF STUDENT:

SIGNATURE:

STUDENT NUMBER:

STUDENT EMAIL ADDRESS:

APPENDIX 2: CONSENT FORM

Title of Research: Exploring the global value chains of gold beneficiation in Zimbabwe

Dear Participant

My name is Cougan Matanhire, I am an MBA student at the University of Pretoria's Gordon Institute of Business Science (GIBS). As part of my studies, I am conducting a research entitled **"Exploring the global value chains of gold beneficiation in Zimbabwe"**.

I am grateful that you have agreed to participate in this research. The interview will be between forty-five minutes to an hour. Your participation in this interview is voluntary. You can refuse to participate or stop at any time without giving any reason. The information recorded during the interview will be kept in a safe place to ensure confidentiality and only my supervisor and I will have access to the files and any audio recordings. Your data will be anonymised – your name will not be used in any reports or publications resulting from the study. All digital files, transcripts and summaries will be given codes and stored separately from any names or other direct identification of participants. If findings of this research are used, it will be solely for academic purposes.

I would also like you to understand that we are looking for your opinions and perceptions and that your honest answers are very important. Hence, there is no true or false answer.

Should you have any concerns, please contact my Supervisor on the details below:

Name: Theresa Onaji-Benson

Telephone number: +27 11 771 4000

Email address: onajit@gibs.co.za

Physical address: 26 Melville Road, Illovo, Johannesburg

I would like your signature below as confirmation that you are happy that we can proceed with this interview.

Signature of Participant:

Date:

Signature of Researcher:

Date:

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APPENDIX 3: COPYRIGHT DECLARATION FORM

Student details			
Surname:	MATANHIRE	Initials: C	COUGAN
Student number:	18398040		
Email:	18398040@mygibs.co.za		
Phone:	+263772239904		

Qualification details			
Degree:	MBA	Year completed:	2020
Title of research:	Exploring the global value chains of gold beneficiation in Zimbabwe		
Supervisor:	THERESA ONAJI-BENSON		
Supervisor email:	OnajiT@gibs.co.za		

Access

A.	My research is not confidential and may be made available in the GIBS Information Centre and on UPSpace. **YES**

I give permission to display my email address on the UPSpace website

Yes	✓	No	

B.

	My research is confidential and may NOT be made available in the GIBS Information Centre nor on UPSpace.

Please indicate embargo period requested

Two years		Please attach a letter of motivation to substantiate your request. Without a letter embargo will not be granted.
Permanent		Permission from the Vice-Principal: Research and Postgraduate Studies at UP is required for permanent embargo. Please attach a copy permission letter. Without a letter permanent embargo will not be granted.

Copyright declaration

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I hereby declare that I have not used unethical research practices nor gained material dishonesty in this electronic version of my research submitted. Where appropriate, written permission statement(s) were obtained from the owner(s) of third-party copyrighted matter included in my research, allowing distribution as specified below.

I hereby assign, transfer and make over to the University of Pretoria my rights of copyright in the submitted work to the extent that it has not already been affected in terms of the contract I entered into at registration. I understand that all rights with regard to the intellectual property of my research, vest in the University who has the right to reproduce, distribute and/or publish the work in any manner it may deem fit.

.

Signature:	Date:
Supervisor signature:	Date:

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APPENDIX 4: INTERVIEW GUIDE

1. When was your company started?
2. What is the ownership structure of your company?
3. Describe the product cycle for your gold?
4. Describe the marketing arrangements for your gold.

   Probe: What factors influence your marketing decisions?

   Probe: Where are your major markets for gold that you produce?

   Probe on location, market segments, and pricing decisions.
5. How can you secure the best possible value for your gold from:
   a. current markets?
   b. marketing arrangements?
6. In what form/condition do you sell your gold in and why?
7. Describe what you think could be done to beneficiate the gold further before you sell it to enhance its market value to your company?
8. How can your company benefit from participating in the Global Value Chain of gold?
9. What influenced your current positioning on the gold global value chain?
10. What measure does your company have in place to ensure maximum value is derived from selling your gold?

    Probe: What do you think would be success factors that will motivate your company to be part of the GVC?
11. What are the limitations of beneficiation?

    Probe: How can these limitations be overcome?
12. If you were to do further beneficiation of your gold before selling it, by what margin would you increase its value?

29 January 2020

Cougan Matanhire

Gordon Institute of Business Science
University of Pretoria

Dear Cougan

Please be advised that your application for Ethical Clearance has been approved.

You are therefore allowed to continue collecting your data.

Please note that approval is granted based on the methodology and research instruments provided in the application. If there is any deviation change or addition to the research method or tools, a supplementary application for approval must be obtained

We wish you everything of the best for the rest of the project.

Kind Regards

GIBS MBA Research Ethical Clearance Committee