Graduate School of BUSINESS
UNIVERSITY OF CAPE TOWN

MPhil

Dissertation Title:

Micro-Enterprise innovation in Zimbabwe's Knowledge Economy: Navigating the contextual barriers to achieve business viability.

A Dissertation presented to

The **Master of Philosophy (MPhil)**
Graduate School of Business
University of Cape Town

In fulfilment
of the requirements for the Degree of
Master of Philosophy in Inclusive Innovation

by

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2023

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DEDICATION

For the loves of my life…

McCloud

*Towera * Sibongile * Chawanangwa*

#PurpleHearts last forever…

ACKNOWLEDGEMENT

I thank my Lord and Saviour, Jesus Christ, for enabling me to achieve this work against all odds.

I am grateful to my supervisor Dr Tarek Virani for his insight, guidance, and support.

I appreciate my "critical friends" and peer students, who understood the journey and made it possible, with special mention to Paradzayi Jawona and Amantle Mokubung; thank you both.

A special thank you to every microenterprise firm that graciously agreed to participate in this research.

I am forever grateful to my parents, Advocate Vanani Simon Nyangulu and Dr Nyepudzayi Mercy Nyangulu, who are my original cheerleading squad, now joined by my beautiful children Towera, Sibongile and Chawanangwa, who cheer even louder! I am so grateful for their patience and perseverance with me over this 2-year journey and for giving mummy time and space 'to do her schoolwork'.

Most of all, I want to thank my husband, McCloud, who supported me in many ways, believing in me, proofreading, critiquing, and cheering me on till the end; I am eternally grateful for your love.

DECLARATION

I, Rudo Nyangulu, hereby declare that the work on which this thesis is based is my original work and that neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other university.

Each significant contribution to, and quotation in, this thesis from work, or works, of other people, has been attributed and has been cited and referenced.

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ABSTRACT

Micro-enterprise firms in emerging markets facing scarcity tend to adopt unconventional strategies infused with innovation fuelling their enterprising efforts to achieve viability. The nature of the environment drives micro-enterprises to come together, forming business hubs in formal and informal structures relying on business theories to enable them to organise effectively. In such settings, traditional business theories cannot be applied in conventional ways; however, they can be utilised to innovate and create new processes. The theories identified in this study include national innovation systems (innovation systems) and business ecosystems driving knowledge generation and sharing. Underpinned by the theories of business model adaptation and collaborative bricolage. Bricolage typically regarded as a behavioural trait or skill that allows entrepreneurs and innovators to operate in challenging environments. Its practice is observed in economies like Zimbabwe, where micro-enterprise firms are constantly adapting to a constantly changing operating environment. This study examines the relationship between those micro-enterprises in the knowledge services sector as they self-organise in what has been identified as business ecosystems that rely on collaboration to co-create thereby improving as well as developing new products for market.

In discovering if there is a link between co-creation and sustainability in emerging markets, four overarching factors are considered to impact the significance of innovative co-creation approaches. These factors are, namely, structure, trust, reliability, and necessity. Structure relates to how they organise themselves (ecosystems); '*trust'* speaks to the depth of faith held among business hub members, and consideration of reputational risk. Reliability, quality, skills, and professionalism of each co-creator or collaborator; and *necessity* (the extent to which collaborative bricolage is used in co-creation in an economy characterised by scarcity). In this thesis, the research will explore, through qualitative inquiry, how these factors are leveraged by micro-enterprise firms.

With the insight from this study, the research aims to determine an optimal operating model that allows the co-creating actors to minimise the impact of the volatile operating environment and reward participation proportionally to the cost they bear to foster conditions of reciprocity, enabling collaborative bricolage in an enabling ecosystem that leverages innovation systems to achieve business viability.

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INTRODUCTION

1.1 Background

Sub-Saharan Africa (SSA) has undergone a renaissance evidenced by economic growth through diversification, increased political stability and a conducive policy environment in many countries (Babajide et al., 2020; Dosso et al., 2021; Igwe et al., 2018). An exception to this, however, has been Zimbabwe, a country that has experienced a significant degree of economic decline from 1999 to the present. By 2008, the country's GDP had declined by 52%, and rampant hyperinflation dominated the economy as businesses and industry collapsed (Kanyenze et al., 2017a; Mlambo, 2017). With its historical contextual roots in colonialism, struggle for independence and the post-colonial era shrouded in bad economic policies and deindustrialisation; Zimbabwe has demonstrated its ongoing economic instability (Kanyenze et al., 2017a; Luebker, 2008; Nyoni & Bonga, 2018; Zivanai, 2016).

'Scholars and practitioners alike have assumed that entrepreneurship was the same the world over, but entrepreneurs in developing countries like Zimbabwe face different circumstances than their counterparts in developed economies (Broockman et al., 2017; Davey et al., 2016; Estrin et al., 2013; Kanyenze et al., 2017a). These differences result in significant variances when it comes to establishment and growth of enterprises, with developing countries experiencing a lower percentage of sustained growth than developed countries (P. Jones et al., 2018; Pitelis, 2012). Growth-oriented micro-enterprise firms operating in the Zimbabwean context face significant contextual challenges, which have hindered their growth strategies as they strive to scale their enterprises. They often rely on traditional entrepreneurial theories and approaches in an unconventional economic context which cannot yield the desired results.

It is evidenced that micro-enterprises in frontier market economies like Zimbabwe face contextual barriers when establishing and growing their enterprises (Kanyenze et al., 2017b; Manuere et al., 2018). This is due to the underlying complex and multi-faceted socio-economic conditions and operating (business) environment (Bocken & Geradts, 2020; Kanyenze et al., 2017b; Pachouri & Sharma, 2016). This dynamic is further compounded by the political climate and policy environment in which they operate. Zimbabwe's post-colonial economic policies accelerated deindustrialisation and the decline of the traditional private sector. This

has resulted in multi-layered and interconnected socio-economic challenges causing economic instability in the country (Gukurume, 2018).

Viability remains elusive for small business owners in the Zimbabwean context as they struggle to find the financial means to position themselves for growth. Furthermore, they do not necessarily have the know-how, to strategically plan or take advantage of information systems technologies that can be key to their development Growth-oriented micro-enterprises can benefit from employing innovative strategies and integrating information and communication technologies (ICT) to enhance their business models (Mungofa, 2018). These firm's need to re-position their business and adapt their processes for agility, giving them a competitive edge in a volatile economy (Minges, 2016). Therefore, these growth-oriented micro-enterprises they typically group together to maximise their economic reach, require access to communities that foster innovation and enable their members to pivot successfully in the face of contextual barriers that inhibit them. Therefore, this research will explore the possibility of such ecosystems driving innovation (collaboration) and co-creation to help the micro-enterprise firms scale(Etuk et al., 2014; Lingelbach et al., 2011).

1.1.1 Zimbabwe's Contextual Barriers

Zimbabwe's de-industrialisation in the 1980s and 1990s was driven by post-colonial economic restructuring programmes that failed to stabilise the economy and resulted in economic collapse by 2008 and continued economic instability to the present day. To fully appreciate the extent to which this context impacts micro-enterprise growth, it is necessary to understand the significance and relevance of the contextual barriers faced by Zimbabwean growth-oriented micro-enterprises(J. L. Jones, 2010; Kanyenze et al., 2017a; Niskanen et al., 2021). The operating environment is not conducive to growth-oriented micro-enterprises due to its plethora of policy inconsistencies and regulatory inefficiencies.

The paucity of cohesive structures has resulted in a weakness of government institutions. The issues associated with institutional weakness vary significantly across the Zimbabwean government's operation (Asamoah, 2020; Menkhaus, 2010) and its ripple effects are felt across the economy, creating barriers to economic growth. Large corporations have been seen downsizing, whilst small to medium-sized enterprises have been seen to close their business operations rapidly. The environment is, therefore, much harsher for micro-enterprise firms, and

its impact is far-reaching and debilitating for many. The situation is further compounded by the degree of difficulty faced in accessing affordable finance and compounded by Zimbabwe's unfavourable regulatory environment with heavy taxation laws and other such inhibiting legislation as the Indigenization and Economic Empowerment Act that discourages foreign direct investment (Gukurume, 2018; Manyati & Mutsau, 2019.; Ndlovu, 2013; Niskanen et al., 2021).

The economic situation has been further exacerbated by Zimbabwe's 'Look East policy', which has opened the local economy to China. This poses a relevant threat to local manufacturing and fair competition for local Micro, Small and Medium Enterprises, particularly in crucial manufacturing sectors (Gukurume, 2018; Manyati & Mutsau, 2019). The 'Zimbabwe is open for the business' slogan(Nyamunda, 2021) has done little for local businesses growth. Still, rather it has advanced China's strategy in the country, evidenced by the growing number of Chinese firms and cheap imported products, which are further haemorrhaging the local market and stifling competition(Coomer & Gstraunthaler, 2011; Gukurume, 2018; Luebker, 2008; Nyemba et al., 2013). The unstable economy caused by the plethora of government policy inconsistencies, regulatory bottlenecks, and institutional inefficiencies, as documented in literature (Kanyenze et al., 2017b; Nyamunda, 2021), has resulted in a volatile operating environment. This environment has made traditional business modelling approaches challenging to implement effectively. The country's complex monetary policy strategy has further accelerated its economic decline, evidenced by the shrinking economy and hyperinflation that stifles enterprise growth (J. L. Jones, 2010; Nyanga et al., 2013; Sachikonye & Sibanda, 2016). The nature of the operating environment has impacted the entrepreneurial ecosystem to such an extent that micro-enterprise firms struggle to apply traditional business theories and principles. In a bid to secure ever-crucial profitability and survival, firms gravitate to ecosystemic grouping seeking collaboration and co-creation as a lifeline for these firms. However, there is no definition, regulation, formal processes, or framework to guide sustainable packing and organising within the ecosystem, which is problematic.

1.1.2 Knowledge-Economy

The knowledge economy is described by (Powell & Snellman, 2004) as "production and services based on knowledge-intensive activities that contribute to an accelerated pace of technical and scientific advance, as well as rapid obsolescence" (Powell & Snellman, 2004).

The critical component of a knowledge economy is a greater reliance on intellectual capabilities than physical inputs or natural resources (Asongu et al., 2020a; Powell & Snellman, 2004). The World Bank developed a knowledge economy index (KEI) (World Bank, 2013). The index has four dimensions, namely innovation, education, economic incentives and institutional regime, information, and communication technology (ICT) (Asongu et al., 2020a). These dimensions were put forward as the most essential requirements enabling a participating territory to be known as a knowledge economy player. 'If the rise of the knowledge economy is characterised by the establishment of knowledge services among consulting firms or by the rapid growth in intellectual property as a legal speciality, then its growth has been considerable' (Powell & Snellman, 2004). 'Knowledge is critical for development; therefore, the balance between knowledge and other resources has shifted so far towards the former that knowledge has become perhaps the most crucial factor in new sector growth in many economies' (Obamba, 2013).

When deciding if a country has the required environment to nurture a knowledge economy, specific considerations are made. The four critical requisites for a country to fully participate in the knowledge economy are (if) an educated and skilled population, (ii) information infrastructure, (iii) an excellent regulatory environment, (iv) and stable economy that enables the free flow of knowledge and innovation systems (Asongu et al., 2020a). The operating environment (economy) must be conducive for knowledge generation and knowledge sharing, with the ability to be effectively utilised for economic development (Asongu et al., 2020a). The term 'knowledge economy" covers a wide range of service delivery, and in some instances product-development-based activities. The four dimensions of the KEI constitute what has been described as the fundamentals for developing a national Knowledge Economy Framework (KEF). The national level commitment is essential for a knowledge economy to grow because the competitiveness of a knowledge-based economy heavily relies on infrastructure investment enabling an increase in connectivity and collaboration across public and private (national) disciplinary boundaries. Government buy-in and support to create an enabling environment are critical to mobilising diverse resources and optimising the exchange and application of knowledge (Obamba, 2013).

The question is whether Zimbabwe has the critical requisites to nurture a knowledge economy at a national level; the KEI must be utilised as the base measure. When we consider the case of

Zimbabwe, the first pillar, education, which is typically well-documented as a high level of education, resulting in a skilled population that generates, uses, and shares knowledge in various sectors, is evident. Innovation systems are the next pillar required to establish Zimbabwe's formal knowledge economy. An innovation system at the national level requires a 'network of research centres, universities, think tanks, private enterprises, associations, and communities of practice. It is necessary to have an organised and robust ecosystem of organisations that generate, analyse, and tap into the growing stock of global knowledge and contextualise it for local application—fusing this knowledge with indigenous knowledge to create new knowledge.

The economic incentive and institutional regime are characterised by the regulatory and economic environment that enables knowledge exchange, supporting investment in Information and Communications Technology (ICT) whilst encouraging the growth of entrepreneurship. This pillar, coupled with the information infrastructure pillar, is central to the development of the knowledge economy. 'A dynamic information infrastructure anchored in internet connectivity but also capturing lower tech like radio is required to facilitate the effective communication and diffusion of different types of information. The first two pillars are easily achievable in Zimbabwe as they have been realised and can be witnessed in the national system towards a more innovative country. On paper, the third pillar of regulatory, economic incentive and institutional regime, is also in place in the country. However, the government continues to have challenges in implementing regulatory policies and laws. This inconsistent regulation application is coupled with an unstable economy that hinders the free flow of knowledge and innovation systems (Asongu et al., 2020). Private sector telecommunications companies have championed the infrastructure requirement in ICT infrastructure; however, this makes access to connectivity costly, particularly for micro-enterprise firms. Another infrastructure challenges the country, and indeed the region, faces is the issue of inconsistent power supply (Dube & Gumbo, 2017; Kanyenze et al., 2017b; Manyati & Mutsau, n.d.; Matamanda et al., 2020).

1.1.3 Micro-Enterprise Firms

According to the International Organisation for Economic Co-operation and Development (OECD), 'Micro, Small and Medium Enterprises (MSMEs) are critical players in their economies; therefore, enabling micro-enterprise firms to adapt and actively adopt digital tools towards transformation is essential to boost economic growth (OECD, 2017). The literature has highlighted that the prevalence of growth-oriented entrepreneurial micro-enterprise firms in a country drives economic growth, innovation, competitiveness, and job creation (Gherghina et al., 2020; (Gherghina et al., 2020; Lingelbach et al., 2011b; Matfobhi & Ruffing, 2002; Minges, 2016). Growth-oriented micro-enterprise firms can be defined as tiny businesses with a modest staff complement, technology-enabled and poised for accelerated growth (Mcpherson, 1996). These micro-enterprise firms as considered in this study, can be further defined as an early-stage business that is within the first five to seven (5-7) years of operation, with fewer than ten (10) employees (OECD, 2017). They are predominantly start independently and owned privately by the founder(s). Typically, they earn less than one hundred thousand United States dollars (US$100,000.00) a year (Minges, 2016).

However, in Africa, and more specifically in Zimbabwe, the term microenterprise typically refers to informal small-scale traders who sell in most cases agricultural produce or cheap imports from South Africa and China. In this research study, however, microenterprise specifically refers to formalised or semi-formalised, banked, high-impact entrepreneur-led, microenterprise firms. These high-impact entrepreneurs are highly skilled and have advanced education. They operate in the knowledge services sector and possess technological skills (know-how). Formal micro-enterprise firms being tax compliant entities or individuals who are more likely to be linked to a professional body (association) be it a specific industry body or a knowledge and opportunities focused multi-sector ecosystem. Therefore, these micro-enterprise firms must develop strategies that will enable them to overcome the problematic socio-economic contextual barriers they grapple with as they navigate the operating environment and associated difficulty in doing business in Zimbabwe (G. Kanyenze et al., 2017a; Mlambo, 2017).

It must be noted that the Zimbabwean government has initiated numerous policy and strategic documents to foster the development and growth of the MSME sector (Dlamini & Schutte, 2020; Gukurume, 2018; Kanyenze et al., 2017b) demonstrating leadership. However, the

expected growth of the MSME sector has not been realised because the policies have either been mismatched or contradictory and not effectively or equitably implemented (Dlamini & Schutte, 2020). Some scholars attribute this institutional failure to enforce progressive policies and create an environment which adequately supports MSMEs growth, to the government's focus on large corporates in formal associations excluding micro-enterprise firms (Dlamini & Schutte, 2020). Business viability (sustainability) is therefore often elusive which is challenging for micro-enterprise firms that aim to scale (Mlambo, 2017)

As a direct result of Zimbabwe's economic decline, its growing informal sector has a significant number of 'necessity-based entrepreneurs' trying to meet their economic needs through trading. These informal micro-enterprise traders are often individuals with limited education, ICT and other skills, who have had to become entrepreneurial due to the necessity of survival to secure their livelihoods in an economy with high unemployment and even higher inflation rates (Njaya, 2015). This study does not consider informal 'necessity-based' micro-enterprises. It was focused on formalised growth-oriented micro-enterprise firms utilising the criteria outlined above. At this juncture, it is essential to highlight that due to Zimbabwe's prohibitive regulatory (taxation), monetary policy inconsistencies and the associated challenges these bring to establishing an enterprise, some growth-oriented micro-enterprise firms start informally. "Zimbabwe is ranked 140 among 190 economies in the ease of doing business, according to the latest World Bank annual ratings. The rank of Zimbabwe improved to 140 in 2019 from 155 in 2018" (World Bank, 2023). Therefore, in the early stages of growing their enterprises, some high-impact entrepreneurs opt to remain informal whilst seeking to prove their business concept and gain market traction before formalisation. This is due to the hefty cost and the length of time it takes to register your enterprise in Zimbabwe.

1.2 Research Question

This research explored how Zimbabwean micro-enterprise firms operating in the knowledge economy can leverage innovation theories and community relationships to achieve viability and profitability. The research topic focused on 'Micro-Enterprise innovation in Zimbabwe's Knowledge Economy: Navigating the contextual barriers to achieve business viability.' This thesis contributes to the growing body of scholarly literature evidencing the impact of innovation systems on the African continent (Asongu et al., 2020; Muchie et al., 2003).

1.2.1 **Primary Research Question*:***

"To what extent are Zimbabwean micro-enterprise firms in the knowledge economy leveraging bricolage capabilities and innovation through business ecosystems to overcome contextual barriers and achieve viability?

The secondary questions that were considered are:

- How are micro-enterprise firms **self-organising through ecosystems** in the face of the **contextual barriers** to drive business growth in Zimbabwe'?

- Do micro-enterprise firms in Zimbabwe's knowledge economy rely on **gained knowledge and information to innovate and adapt** their business models?

- How are these microenterprise firms **leveraging their communities to re-combine resources to achieve competitiveness** in their resource-constrained environment?

1.2.2 Aim

This study set out to discover how micro-enterprises in Zimbabwe's knowledge economy self-organise, collaborate (innovation) and utilise bricolage capabilities to achieve resilience and business viability, given the contextual barriers they face.

1.2.3 Objectives

To **assess** how microenterprise firms and their communities (ecosystems) overcome the contextual barriers hindering business growth.

To **identify** innovative approaches utilised by microenterprise firms to adapt their business models and achieve viability.

To **understand** the interaction between the firm and their community in the context of knowledge sharing and leveraging bricolage capabilities to co-create new products and services enabling access to new markets.

1.2.4 Purpose & Significance of Study

Purpose of Study

Whilst there is published literature on the impact of Zimbabwe's political economy and continued economic decline on private sector development, (Carmody & Taylor, 2003; J. L. Jones, 2010; Kanyenze et al., 2017a; Matamanda et al., 2020b) most of the literature on small business in the country is focused on informal sole traders primarily. There is need to gain a deeper understanding of how high-impact entrepreneurs running micro-enterprise firms can sustainably grow whilst navigating a plethora of barriers in a resource-constrained environment. As these firms operate in the knowledge economy, this study's specific interest is in exploring how innovation systems can be leveraged to enable sustainable growth for this sector and how they self-organise utilising bricolage capabilities on an individual firm and collective (ecosystem) level.

Significance of Study

This line of inquiry is two-fold; firstly, it has practical application as it will support enterprise development practitioners and entrepreneurs as they work to overcome the contextual barriers hindering business viability and value creation. Secondly, it has theoretical relevance as it will consider proffering a conceptual, theoretical framework that microenterprise firms can utilise to establish sustainable business ecosystems that leverage knowledge and innovation (collaboration) to strengthen their business models (enabling adaptation) and recombine their collective resources (skills and finances) to provide the market with services and possibly develop new products and access new markets.

1.3 Thesis Structure

1.3.1 Chapters Overview

This thesis comprises six chapters:

• **Chapter 1:** Introduction - Rationale and a brief study overview.

• **Chapter 2:** Literature Review - This study's theoretical concepts are explained. Research is outlined from the field within which this comparative case study is located.

• **Chapter 3:** Research Methodology - Research design, methodological approaches used in the study, ethical considerations, and study validity.

• **Chapter 4:** Findings - Identifying the key themes and insights from the collected data.

• **Chapter 5:** Discussion - Analysis of the findings considering the theory and concepts presented

• **Chapter 6:** Conclusions – Conclusions drawn from the triangulated data and recommendations for further research and practical purposes.

2. LITERATURE REVIEW

2.1 Overview

In the recent history of development economics, micro-enterprise firms have been thought of as a key driver for Africa's economic development. They also play a critical role in the development of innovation systems (IS) at country and continental level (Tilman Altenburg and Christian von Drachenfels, 2007; Watkins et al., 2015; World Bank, 2007). This study is therefore focused on these growth-oriented micro-enterprise firms due to their pivotal role in developing the continent through job creation. Despite the harsh operating environment, Zimbabwe's growth-oriented micro-enterprise firms have remained resilient and innovative in navigating the contextual bottlenecks that make growth challenging in a shortage economy (Qureshi & Xiong, 2017). Ndafira et al., (2022) highlighted the significance of innovation driven by these actors nationally in Zimbabwe and underscored the need to enhance the connection between innovation (knowledge, information, learning and collaboration) and microenterprise firms to improve performance (Ndafira et al., 2022).

The anchoring theories relied on as the lens with which the phenomena were studied in this research paper are National Innovation Systems (NIS) theory and Business Ecosystems. These concepts, whilst more widely applied in a Western context, in Africa and more specifically Zimbabwe, business ecosystems theory is more widely applied than NIS. NIS has not been fully applied due to complex dynamics at national level for many countries. However, there are critical aspects of the theory that can assist us in unpacking the phenomena, namely knowledge (generation and exchange) and collaboration through bridging institutions. Due to NIS' limitation in this context, the research has drawn from two other leading concepts to underpin the NIS theory, being collective bricolage and business model adaptation. These were viewed as appropriate scholarly conversations that speak directly to the research topic and give insights into a conceptual, theoretical framework. This study initially considered other theories as well, such as business model innovation, as they applied to the geographical context and phenomena; however, these theories did not adequately address the research question or accurately frame and respond to Zimbabwe's micro-enterprise firms and their resource-constrained environment.

2.1.1 Chapter Structure

The purpose of this chapter is to present the topics of the study and discuss them entirely, giving the reader the necessary background knowledge into the aspects of theories and concepts that relate to the research question and justifying the study's relevance. The structure, therefore, is designed to guide the reader through the relevant literature relating to the research question. Central to this process will be an exploration of the role of business ecosystems and the knowledge acquisition and its diffusion through innovation, and collaboration under the National Innovation Systems (NIS) theory literature. The theoretical literature will be reviewed with a focus on the relevant aspects of each theory. The supporting concepts of collective bricolage and business model adaptation will also be explored. The chapter will conclude with a reflection on the identified gaps in the literature and the opportunity these gaps have presented for this and future studies.

2.2 Theoretical Literature

The primary theories that will be the lens through which the problem is considered, are that of National Innovation Systems | Innovation Systems (NIS/IS) (Davey et al., 2016; Fransman, 2018; B. Å. Lundvall, 2004; B.-Å. Lundvall, 2015; Watkins et al., 2015) and Business Ecosystems (BE) (Gueler & Schneider, 2021a; Gupta et al., 2019; Moore, 2003; Valkokari, 2015a). The supporting concepts of Bricolage (Baker & Powell, 2016; Bojica et al., 2018; Gurca, 2016; Liu et al., 2021; Witell et al., 2017a) and Business Model Adaptation (BMA) (Balboni & Bortoluzzi, 2015; Foss & Saebi, 2018a; Saebi et al., 2017; Tina, 2017) will be explored. Together, they support the theoretical framework the research has identified. This is a framework proffered to enable long-term viability for micro-enterprise firms and will be reviewed with the backdrop of ecosystems as an implementing model approach. The interplay between NIS, BE and Bricolage and how it informs the way firm adapts to achieve resilience will be explored. Consideration will be given to the environment within which the firm operates on a micro-level (ecosystem) and how this affects the impact of the macro-level barriers on the firm. The ecosystem actors and their roles in innovation (knowledge diffusion) will be deliberated.

2.2.1 NATIONAL INNOVATION SYSTEMS (NIS)

Innovation through creation, diffusion and use of knowledge is a key driver of economic growth and provides part of the response to many new societal challenges (Vlasenko, 2017). The existing body of research relating to National Innovation Systems (NIS), or National Systems of Innovation (NSI) was first attributed to (Freeman,1982, 2000; Weinzimmer et al., 1998). However, Lundvall has been instrumental in further developing the theory since the eighties (Lundvall, 1999). Since the concept was first introduced, progress has also been made to develop the theory, rooted in empirical work. The expression 'national systems of innovation' was initially proffered by Bengt-Ake Lundvall (Johnson & Lundvall, 2020; Jones et al., 2018). National Innovation Systems (NIS) Theory literature in the 1990s was initially rather empirical focusing on the technologically based Schumpeterian rents in developed countries (Amir et al., 2013). However, as the theory became increasingly studied, it was found that not only could it be applied, but it stood to hold massive benefit for those countries that chose to implement NIS practices appropriate to their corresponding level of development (Amir et al., 2013; Lissborg, 2019).

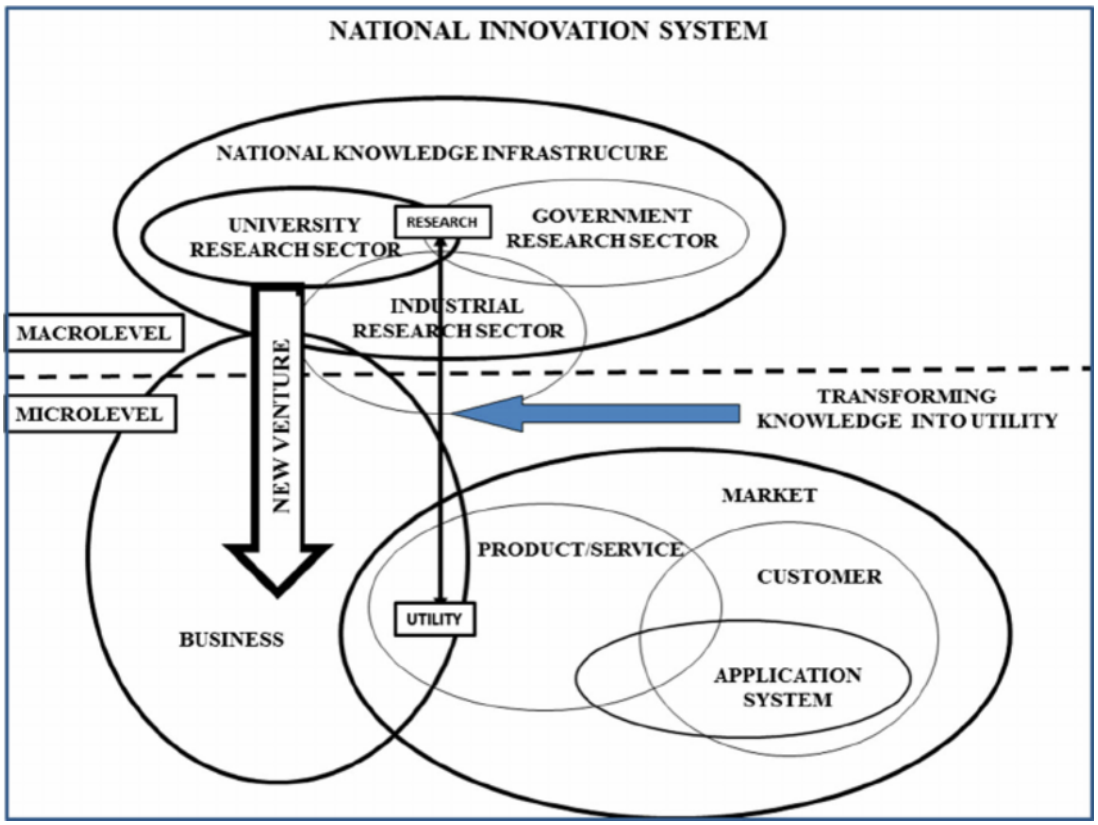


Figure 1 National Innovation Systems Model - (Betz et al., 2016)

Betz's National Innovation Systems model, (Figure 1), shows the intricate connections and flows required to establish a national innovation system. The model has two levels, the Macro-Level and Micro-Level. The Macro-Level is the national (government and related institutions) level, and the Micro-Level is the private sector (production/industry and consumer/ market) level. This model is most representative of a developed country where the national innovation system is well established. In developing countries, however, much of the macro-environmental requirements at the government/policy level are either not fully developed, poorly implemented, or not present at all. The lack of macro-level organisation is what is most seen in developing countries. Meanwhile it can be observed in frontier markets like Zimbabwe, that a number of actors at the micro-level have self-organised and developed innovation systems in their ecosystems, working within the constraints of the overall environment to continue to co-create (Dube & Gumbo, 2017; Kanyenze et al., 2017b; Ndafira et al., 2022; Tyson, 2017).This study, therefore, will focus primarily on the bottom half of Betz's model, the micro-level, and how innovation systems can effectively be developed at that level promoting productivity through collaboration (Betz et al., 2016).

NIS theory is introduced in this study to provide a basis for a theoretical framework that supports micro-enterprise firms' long-term viability through collaboration. An exploration into the various aspects of NIS theory enabled the identification of the key factors within NIS theory that are most relevant to the sustainable growth of micro-enterprise firms operating in the knowledge economy in Zimbabwe. The factors identified in this research focused on "intermediary organisations", and their role in knowledge generation and diffusion, information sharing in improving the relationship between the firm and its ecosystem in this complex context, and the influence innovation knowledge exchange and collaboration have on their business processes and performance (Chen, 2017).

The 'cluster' model proffered by (Gancarczyk, 2015; Gancarczyk & Gancarczyk, 2018) seeks to define an environment whereby enterprises share and improve the allocation of key resources, including knowledge/information they have at their disposal to overcome the contextual barriers and challenges in the business operating environment thereby enabling them to innovate (Watkins et al., 2015). The concept of clustering goes beyond firm networking as well as traditional sectoral boundaries, as it considers a broader cross-section of actors. When clusters are grouped to include customers, suppliers and other bridging institutions, and considers links to firms outside traditional sectoral boundaries (Vlasenko, 2017a) that

collectively these clusters are considered to form a business ecosystem (Anggraeni et al., 2007; Gueler & Schneider, 2021).

Knowledge Exchange

NIS theory regards interactive learning and collective entrepreneurship as fundamental to innovation (B. Lundvall & Johnson, 1994). The invention, in this context, refers to "a combination of the work of individual firms (micro-enterprises), as well as a collective endeavour (group of micro-enterprises) 'requiring diverse and substantive sets of knowledge, resources and expertise: (Asongu et al. 2015; Watkins et al., 2015) shared amongst the collective to create value. NIS theory is, therefore, an appropriate lens with which to gain insight into the impact of the economic dynamics, the resulting impact, and the related needs of the firms and the collective community that creates value through innovation.

The national innovation systems (NIS) theory offers a process that can be utilised (Watkins et al., 2015) to define an approach that is defined utilising (Gancarczyk & Gancarczyk, n.d. 2018) cluster approach, which create ecosystems that enable enterprises to share and improve the allocation of the technological and other vital resources. As we begin to interrogate the ecosystem, it is essential to define key bridging institutions' NIS intermediary perspective: organisations that might facilitate information exchange through collaboration and linking enterprises and processes that promote the development of new value-driven outputs. The intermediary or 'bridging' institutions has a function to draw upon collective knowledge in solving problems for individual micro-enterprise firms. These intermediary institutions, though, are not well defined or identified (Watkins et al., 2015), and we will seek to represent them during this research. The cluster model proffered by (Gancarczyk, 2015) when viewed as an 'ecosystem' (Anggraeni et al., 2007; Gueler & Schneider, 2021b), extends the collective by establishing relationships across the various actors in the micro-level of the economy (Betz et al., 2016).

Muponda's study of firms that gather or 'cluster' in Zimbabwe has provided insights into the opportunities of furthering this approach in this context. Key findings include the insight that the firms in Zimbabwe's clusters are micro-enterprises (tiny entities) which are "isolated" in that they lack access to knowledge, innovation, new technology and capital (Muponda, 2012).

Collaboration

Policy inconsistencies in development and application promote instability in Zimbabwe's operating environment (Manyati & Mutsau, 2021). This positioning presents a gap in the literature, which requires a radical approach to applying NIS with a focus on the micro-level rather than the theory's proposed holistic view of the macro-micro level interplay. By going back to the earlier work of NIS and reconciling that focus with the unique country context, we can understand if this shift could present new opportunities for the innovation process to be introduced and sustained outside the national institutional framework approach.

The existing clusters have the characteristics of complex adaptive systems (phenomena with emergent properties), which presents an exciting opportunity to apply NIS theory and other interventions instead of the policy changes proffered by Muponda (Muponda, 2012). Whilst the specific literature relating to the Zimbabwean context is nascent at best, there are important strands in the innovation systems literature that resonate with the context in Zimbabwe and can be employed in the process of shaping this research inquiry to build on the body of knowledge that is growing around NIS in the developing world (Lissborg, 2019).These strands include the consideration of the collective actors (firms and collectives) from an intermediary perspective and its potential for knowledge/information exchange (learning) and shared resources (Agogué et al., 2013). Another is the possibilities presented by a 'partnership' approach to the organisation of these actors (Watkins et al., 2015) as the idea of partnering in co-creation or collaborative activity is not novel (Obamba, 2013). This can be interrogated from the Zimbabwean context with an acknowledgement of the limitations presented by the limited literature available on the adoption and implementation of NIS in Sub-Saharan Africa presently.

The Firm as an Innovation Driver

Early work on the National Innovation Systems (NIS) theory focused on 'firms' (enterprises) as the central actor through which innovations could be channelled, created and operationalised for commercialisation (B. Lundvall & Johnson, 1994). NIS theory is a framework in which the interconnectedness and interactions between actors at multiple levels in the innovation system (both public and private actors) in the initiation, adoption and diffusion of new knowledge, technology, and other innovations (Lundvall, 2004; Lundvall, 1999b, 2015). Generally, innovation systems thinking is characterised by a comprehensive approach to analysing the

cluster of actors from various sectors of the economy that drive the innovation process in any one territory [national or regional] (Lundvall et al., 2009).

NIS as a concept was introduced into western academia in the 1980s. Since then, a body of literature has advanced the initial concept towards a greater understanding of the role NIS could play in achieving progress in developing countries (Lundvall et al., 2009). However, limited this reach is when considering the Sub-Saharan Africa context, which typically has weak institutions across the groups identified by NIS, with the government being the weakest actor in many African territories (Lundvall et al., 2009). As the literature developed, however, emphasis has been placed on the importance of the role of governments and national institutions as a primary contributor to the development of innovation frameworks. They are also seen as the primary sponsor of the generation and diffusion of new technologies. While they lobby the government to strive to negotiate for a better regulatory environment, firms and other non-governmental actors continue to operate in and influence the innovation process in this localised context (Watkins et al., 2015). This shift in focus has limited the available literature on the advancement of innovation processes outside the regulatory environment where governments are failing to discharge their duty to provide an enabling environment, as is the case in Zimbabwe with the contextual barriers it presents.

Limitations of NIS Theory

National Level Policy Focus

The impact of this shift in focus in the development of the theory must be explored from the Zimbabwean perspective. Zimbabwe's regulatory environment and policy inconsistencies contribute to hyperinflation and multi-currency complexities that threaten the sustainability of business enterprises and hinder knowledge exchange and product or process innovation advancement. (Gukurume, 2018).

A clear drawback in the application of the National Innovation Systems theory in this study is that NIS has a strong emphasis on national policy development on innovation and suggests a top-down approach to its application which is problematic. Early concepts of NIS were criticised for being unclear, open to misunderstanding, and extremely broad to the point of losing practicality (Sesay et al., 2018). The national focus of NIS is said to miss what was felt

to be the more important underlying processes (application) through which innovation can come about and certainly through which innovation is nurtured and developed. This focus in some contexts can be seen to be misaligned with how innovation is fostered. It must be noted that NIS's significance as a positive influence on economic growth (development) has been intensely debated by various actors, including academics and policy analysts, with one school of thought proposing that it has limited application because of a lack of practicality when it comes to the actual implementation of innovative processes, products and services. This is because "the ongoing empirical evidence on the relationship between innovation and economic growth is still mixed" (Sesay et al., 2018)

The NIS framework application in its traditional form remains elusive for developing countries like Zimbabwe instead of the policy changes proffered by Muponda (2012) to create a conducive environment to foster innovation. By going back to the earlier work of NIS and reconciling its policy (national government) focus with the unique country context, we will be able to understand if this shift could present new opportunities for innovation to be introduced and sustained outside the national institutional framework approach provided the necessary regulatory environment is created to enable innovation to thrive unhindered. The policy inconsistencies in developing countries promote instability in the country's operating environment (Manyati & Mutsau, 2021a). In Zimbabwe, the regulatory environment and existing policy inconsistencies have been contributing to economic instability (hyperinflation) for some time, and that has threatened sustainability hindered knowledge exchange and stifled product or process innovation advancement. (Gukurume, 2018).

This positioning presents a gap in the literature, which requires a radical approach to applying NIS with a focus on the micro-level rather than the theory's proposed holistic view of the macro-micro level interplay governed by policy. By going back to the earlier work of NIS and reconciling that focus with the unique country context, we will be able to validate this shift as it could present new opportunities for innovation systems to be introduced and sustained outside the national institutional framework approach. Whilst the specific literature relating to the Zimbabwean context is nascent at best, there are some important strands in the innovation systems literature that resonate with the context in Zimbabwe and can be employed in the process of shaping this research inquiry to build on the body of knowledge that is growing around NIS and innovation system theory in the developing world. These strands include a consideration of the collective actors (Lissborg, 2019; McCormick, 1998; Oyelaran-Oyeyinka,

B. & McComick, 2007) from an intermediary perspective and its potential for knowledge/information exchange (learning) and shared resources (Agogué et al., 2013).

Geographical and Socio-economic Context Limitations

National Innovation Systems theory cannot be fully applied in frontier market economies characterised by weak institutions that fail to implement a legal and regulatory framework that supports sustainable economic development in the country. This is due to the lack of 'political will' to create a conducive environment to foster innovation in practice despite the availability of relevant policy from the African Union level cascading downwards (African Union Commission, 2014) to the country level. NIS, as a theory, also fails to consider the African context and similar frontier market economies that do not have the traditional institutions in place to foster innovation in the way developed economies have. Literature on the theory is polarised to the economies of the global north. In sub-Saharan Africa, the body of literature supporting NIS's successful application is limited (Lee et al., 2021; Sesay et al., 2018).

NIS in this region is best understood from an ecosystem perspective whereby the micro-level is defined and structured in a way that achieves an alternative approach to utilisation of innovation systems, taking into consideration the ineffectiveness of national (government) actors and the need for private sector actors to innovate and collaborate. These actors including customers and both public and private bridging institutions including educational (universities, research institutions) & capacity development focused organisations (entrepreneurship hubs). The ecosystemic outlook also considers links to firms outside traditional sectoral boundaries and (Vlasenko, 2017a) focuses on collaboration to co-create new products and ideas with any actors that have a contribution to make to the innovation system. This approach is aligned with the sub-system of business ecosystems highlighted in the literature to provide a practical approach to implementing the relevant aspects of NIS theory at the firm/operational level (micro-level).

As NIS literature developed, emphasis has been placed on the importance of the role of governments and national institutions as a primary contributor to the development of innovation frameworks as well as the generation and diffusion of new technologies, development of policy and negotiation of the regulatory environment with firms and other non-governmental actors who influence the innovation process (Watkins et al., 2015). This focus has limited the available literature on the advancement of innovation processes in territories

like Zimbabwe. In this context there is need to consider innovation systems that have been established in the country even though the regulatory environment has not been conducive. Where governments are failing to discharge their duty to provide an enabling environment for innovation adoption and diffusion at national level, as is the case in Zimbabwe, the development of the country's economy(market) will drive innovation systems through the private sector instead (Dube & Gumbo, 2017; Manyati & Mutsau, 2019, 2021b; Ndafira et al., 2022).

2.2.2 BUSINESS ECOSYSTEMS

A Business ecosystem is a concept introduced by James Moore, (Moore, 1993) the pioneer of the application of the ecology (biological) ecosystems concept in business and management literature. Moore defined business ecosystems as, 'an economic community that is essentially a cluster of interacting actors, namely, organisations, firms and individual that operate in a similar environment.(Moore, 1993). These 'actors' were defined as customers, market intermediaries (agents, buyers), suppliers and firms themselves. These actors must all gain value, have economies of scale, and participate in continuing innovation, as well as invest in the expanding network of business allies. There are other secondary actors including government, standards associations and competitors that can be included here (Fransman, 2018). According to Moore, more recently Ritala et al's "market-driven ecosystem movement" (Ritala & Almpanopoulou, 2017), underscores the significance and relevance of an ecosystem perspective and the infusion of innovation driven by increasing scale as it relates to business and management dynamics (Fransman, 2018; Moore, 1993, 2003).

Valkokari, defines a business ecosystem as "an economic community supported by a foundation of interacting organisations and individuals working simultaneously to create and capture value by combining its resources, while it operates around a focal firm or is linked to a platform (hub)" (Valkokari, 2015). According to Fransman (2018), "A business ecosystem is not an empirical entity that can be seen, measured, and analysed; rather, it is an observer-dependent analytically constructed entity" (Fransman, 2018). This observation has very significant implications for the practical application of the innovation systems theories in business ecosystems.

Market driven business ecosystems are unique organisational spaces tailored for optimal collaboration and co-creation of firms and other actors they interact with, enabling the practical implementation aspects of business delivery in which the development of new and improved services (processes) and products and can be achieved. This process is increasingly 'non-linear' and rather very much system driven in the application (Smorodinskaya et al., 2017). The ecosystem's core business layer consists of the parties forming the heart of the business; the actors such as suppliers, a focal firm, distributors, and customers.

Business ecosystems are designed to be interactive, co-creative and value-creating, while systems are designed to create structure around processes. Therefore, most modern products, technological and other knowledge-based services are typically co-created through collaborative relationships of firms in a cluster (Gancarczyk & Gancarczyk, 2018). These are linked through innovation systems (collaboration) (Watkins et al., 2015) and the sharing of resources (bricolage) (Witell et al., 2017a) that enable them to create value (Fransman, 2018). The innovativeness of a group of actors can only be revealed through their co-creative collaboration activities achieved through defined innovation systems. They can be defined as business ecosystems, a term that conveys their specific organisational and functional characteristics.

A growing body of empirical studies have shown a relationship between economic growth, and innovation, which has become a significant component of the growth of developing economies across the globe, including frontier marker economies like Zimbabwe (Sesay et al., 2018). As we interrogate the business ecosystem and its emergence from a focal point (Valkokari, 2015b), it is essential to define the bridging (intermediary) institutions that often are these focal points as considered in NIS theory (Johnson & Lundvall, 2020). These organisations facilitate information exchange through collaboration and connecting enterprises, services, markets, and processes that enable the co-creation of value. To best understand the relationship between NIS theory and Business Ecosystems, the former considers the 'what' and 'where' questions and the latter probes more deeply into the 'who' and 'how' questions when assessing a phenomenon impacted by an innovation system (Fransman, 2018).

Limitations of Business Ecosystems

The business ecosystem concept is a viable categorisation of the collaborative working potential for micro-enterprise firms in Zimbabwe. However, the business ecosystem concept can be inadequate in this context if limited consideration is given to knowledge acquisition (the process of creating, capturing and storing) and dissemination (sharing the knowledge and experience of actors) to increase the overall knowledge, improve productivity and retain critical information (Chang et al., 2022; Wu & Chen, 2014) within the business hub (Crupi et al., 2020) (knowledge management)(Chang et al., 2022).

Zimbabwe's knowledge economy business ecosystem thrives on sharing knowledge, through collaborative working. Collaborative working resulting in co-creating new products and services improving business performance. Business ecosystems that have been established around value co-creation, grounded in effective knowledge management (Chang et al., 2022; Wu & Chen, 2014) and innovation systems that provide a direct business benefit to all ecosystem actors are required in this context. Where this has been most successful in Zimbabwe is where the ecosystem organically grows from a central focal point, for example an entrepreneurial/business hub (Crupi et al., 2020; Dovey et al., 2016). Applying the business ecosystem theory without factoring knowledge management is to limit its effective in frontier market economies that do not have a fully-fledged national innovation system external to the business ecosystem to support its development at the macro-level of the economy.

2.2.3 COLLECTIVE BRICOLAGE

Bricolage is typically regarded as a behavioural trait or skill (Witell et al., 2017) that allows individual entrepreneurs (firm leaders | founders) to be agile in their business operations in challenging resource-constrained environments. Collective bricolage on the other hand is considered by Lennerfors & Rehn (2014), as 'a coming together or combining of resources with no single actor ultimately responsible for the combination' (Lennerfors & Rehn, 2014). Baker and Nelson (2005) defined bricolage as 'making do by applying combinations of resources at hand to new problems and opportunities'(Baker & Nelson, 2005a). Papazu (2021) refers to collective bricolage as entrepreneurial bricolage and defined it as, "a collective process

firmly grounded in a community rather than an individual endeavour"(Papazu, 2021). Gundry et al (2011) framed collective bricolage as 'using existing resources for new purposes, recombining them, and making do to provide breakthrough solutions' (Gundry et al., 2011) Janssen, Fayolle, and Wuilaume (2018)'s definition focused on resource mobilisation(Janssen et al., 2018).

"This concept is parallel to the movement in entrepreneurship studies focused on the individual entrepreneur or on the act of 'entrepreneuring' as a specific process of development - to a collective bricolage which has a focus on the entrepreneurial collective" (business hub or ecosystem) (Lennerfors & Rehn, 2014; Papazu, 2021b). Collective Bricolage, therefore, is an extension of the bricolage theory that is focused on the application of bricolage capabilities of the individual entrepreneurial firms that strive to achieve diverse linkages, co-create, and innovative through their interaction and collaborations with other actors in the business ecosystem. The business ecosystem exhibits bricolage capabilities by the way the actors organise themselves when working together whilst making do with the resources available to them. Essentially 'making something out of nothing in many instances in order to survive.

Collective bricolage through partnerships can go a long way to mitigate the risk of inferior quality services and service delivery as the pooling of resources increases the overall access to resources for the community partners in a business hub to be able to re-combine and co-create new value in their service offering.

Bricolage Capabilities

"The bricoleur (someone engaged in bricolage) possesses a set of "odds and ends," which may be physical artefacts, skills, or ideas. These typically are accumulated "on the principle that 'they may always come in handy" (Baker & Nelson, 2005a). Broadly these are the resources the bricoleur is expected to rely upon when practising bricolage. Entrepreneurial ecosystems have adopted innovative survival strategies through bricolage capabilities as a means for survival; Witell et al., 2017). According to (Witell et al., 2017a) there are four (4) distinct bricolage capabilities that are critical to the theory. This research has considered these capabilities as they apply to Zimbabwe's micro-enterprise firms and their ecosystems. The four qualifications that have been considered are 1) addressing resource scarcity actively, 2) making do with what is available, 3) improvising when recombining resources, and 4) networking with external partners.

Collaborative innovativeness (Senyard et al., 2014)and co-creation are becoming increasingly important in practice as they enable micro-enterprise firms to work together to 'address grand challenges' that lead to the resource constraints they experience (Vivona et al., 2022). Furthermore, understanding the role collaboration plays in channelling new knowledge (knowledge creation and exchange) and critical information into developing innovative products and services within an innovation system to create value and achieve overall viability for micro-enterprise firms. To better understand how business ecosystems benefit from collaboration and how micro-enterprise firms gain a competitive advantage by participating in such 'ecosystems', particularly as they face recourse constraints, this study also considers the use of the concept called bricolage.

Addressing Resource Scarcity Actively

Resource scarcity can drive individual firms to be creative and innovative, using a combination of economic (business model adaptation) and social networks strategies (Baker & Nelson, 2005a; Linna, n.d.; Salunke et al., 2013) The process has not been scrutinized, but the concept of bricolage may help understand business ecosystems in a resource-scarce environment at the individual firm level and at the business hub level in an ecosystem. Resource scarcity drives individual firms to employ new strategies and develop adaptations to their business model (innovation) by using a combination of economic and social strategies (Linna, 2013). "The process of combining resources for new purposes sometimes serves as a mechanism driving the discovery of innovations in the form of new "services" from existing resources", and this can be very useful when a firm or community are faced with a bottleneck that depresses productivity or profitability (Senyard et al., 2014). During this research, an understanding was sought of how resource-constrained firms innovate alone. Collaboration through business ecosystems to address resource scarcity was another consideration. In these business ecosystems, firms are able to pool their resources in order to address the resource constraints experienced in their operating environment to achieve productivity and profitability even in resource-scare environments.

'Making do with what is available'.

According to (Baker & Nelson, 2005b), the bricolage capability of 'making do' "implies a bias toward action and active engagement with problems or opportunities rather than lingering over questions of whether a workable outcome can be created from what is at hand (Baker & Nelson, 2005a). The need to 'just act' is high, particularly where the firm is a micro-enterprise operating in a resource-constrained environment. These firms are often known to 'bootstrap' (J. L. Jones, 2010); through activity, they raise resources to finance their next move, so the risk of producing inferior quality services to a lower standard is also high. Firms working in the knowledge economy, in resource-poor environments like Zimbabwe, can gain the capacity to render their consulting services by recombining their available resources and re-purposing them in response to their environment (Baker & Nelson, 2005a; Linna, 2013; Witell et al., 2017). These firms work with limited resources to generate greater value for their clients almost on a daily basis. They have become accustomed to 'making do' by recombining resources at hand for new purposes as situations arise and changes take place in the operating environment (Baker & Nelson, 2005a; Baker & Powell, 2016).

Improvising when recombining resources

"The process of combining resources for new purposes sometimes serves as a mechanism driving the discovery of innovations in the form of new "services" from existing resources" (Baker & Nelson, 2005a). Improvision in service industries has been found to require significant innovativeness. Service innovation is a process of 'accessing the necessary resources, (re)combining them, and converting them into new services.' (Witell et al., 2017). The current knowledge on the success factors for service innovation, such as formalized new service development processes, has not been viewed from the perspective of resource constraints (Witell et al., 2017) for which Whitell (2017) has made a case for a bricolage perspective to explain service innovation in resource-constrained environments that can positively influence service innovation outcomes.

Partnerships

Given the socio-economic conditions in Zimbabwe (Kanyenze et al., 2017; Mlambo, 2017), knowledge generation and exchange alone are insufficient to enable innovation; there is a need to pool resources together to facilitate co-creation which is achieved in communities. Bricolage theory (Baker & Nelson, 2005b; Linna, 2013; Witell et al., 2017) is, therefore, an appropriate

concept to understand these phenomena in the Zimbabwean context (Kanyenze et al., 2017; Nyamunda, 2021). Linna (2013) emphasised the role of partnerships as a way of overcoming resource scarcity by pooling resources into a combined pot for co-creative use. Bricolage capabilities are often not all present in any one firm, and therefore, partnering is a viable way to work with other firms' business hubs. More often than not, bricolage behaviours have been unconscious depending on pre-existing environments. And in the developing country context, this cycle of events is also evident in the manner in which diverse and innovative approaches are employed by entrepreneurs who resort to bricolage sources as a primary means of mobilizing resources locally (Linna, 2013). Literature suggests that entrepreneurial bricolage is helpful as a coping and replacement mechanism for resource-constrained new micro-enterprise firms.

Limitations of Collective Bricolage

In the literature reviewed there is little documentation on the application of bricolage approaches to achieve productivity (Ferneley & Bell, 2006; Linna, 2013; Witell et al., 2017) and profitability (Schreyer & Pilat, 2001) which is a concept that can aid in understanding collaborative innovativeness in resource-scarce environments' (Linna, 2013). The body of literature on bricolage heavily criticises aspects of the concept when applied to entrepreneurship which must be taken into consideration when utilising bricolage capabilities as part of a model towards value creation and viability for micro-enterprise firms. The primary concern when it comes to the application of bricolage is that of sub-standard products and services being created and provided to the market. This criticism extends to other accounts documented in the literature of the detrimental effects of bricolage' relating to the quality of the solutions that firms produce in resource-constrained contexts that may compromise the quality of the service or service delivery. (Steffens et al., 2022).

Baker and Nelson (2005) explained the meaning of the "making do" bricolage capability as "a bias toward action and active engagement with problems or opportunities rather than lingering over questions of whether a workable outcome can be created from what is at hand" (Baker & Nelson, 2005b). Where this action is taken rashly, it can also lead to poor customer experience and sub-standard products or services. Studies have identified adverse performance outcomes such as the creation of sub-standard products, solutions unfit for purpose and poor reliability,

all of which may require continued reworking (Linna, 2013; Senyard et al., 2014; Steffens et al., 2022).

Collective bricolage does present some resource-related risks. Resource sharing and collaboration can lead to goal incongruence between firms and that may even lead to undue influence by those who contribute more resource or expertise and may impose self-interest above the collective interest / goal (Intindola & Ofstein, 2021; Kwong et al., 2019)

2.2.4 BUSINESS MODEL ADAPTATION

The business model of a firm has become a unique unit of analysis and is a concept that is gaining traction in business and management research, but it is still criticized for being "fuzzy and vague and lacking consensus in terms of its definition and compositional elements" (Fielt, 2013; Foss & Saebi, 2018b). "Despite the lack of a consensus on the definition of a business model, we can state that the concept generally refers to a set of decisions that relate to a firm's operations and capabilities of its leadership to determine its responses to the operating environment and opportunities resulting in its performance both inside and within the business environment through a series of transactions" (Balboni & Bortoluzzi, 2015). Many contributors to the literature define a business model as "the firm's value proposition and market segments, the structure of the value chain required for realizing the value proposition, the mechanisms of value capture that the firm deploys, and how these elements are linked together in an architecture"(Casadesus-Masanell & Zhu, 2013; Cucculelli & Bettinelli, 2015; Fielt, 2013; Wirtz & Daiser, 2017).

Business Models evolve over time, and often this evolution takes place in one of two ways, either by way of the business model being innovated or by the business model being adopted. The literature recognizes that business model adaptation (Balboni & Bortoluzzi, 2015; Eriksen et al., 2021; Tina, 2017) may be undertaken for a number of reasons, such as reducing operational or production costs, optimizing internal processes and improving the financial performance of the micro-enterprise firm (Foss & Saebi, 2017). Business Model Adaptation is considered an organizational change process and has been documented at length in literature with an emphasis on the capabilities of 'leadership and learning mechanisms. Which are at the centre of "consequential business model evolution" (Foss & Saebi, 2017 2018). With this in

mind, business model adaptation can then be defined as the process by which management actively aligns the firm's business model to a changing environment (Foss & Saebi, 2018; Saebi et al., 2017). When considering the two approaches in light of this research, whilst some innovation may take place, the primary thrust for any entrepreneur running a micro-enterprise firm in Zimbabwe will be a focus on change management (adaptation).

"Business model adaptation occurs under conditions of threat as well as opportunity" (Saebi et al., 2017). Business models are manifested in a set of structured and interdependent operational activities and relationships within and between the firm and its external stakeholders (Doz & Kosonen, 2010). While these structures and processes contribute to stability and increased operational efficiency, they can lead to growing rigidity. In other words, business models can become increasingly inert over time (Foss & Saebi, 2017).

A key driver for business model adaption is 'changes in the competitive environment' that the micro-enterprise firms are operating in, forcing them to reconsider their business strategy (Saebi et al., 2017b). These changes can be positive (opportunities) or negative (resource scarcity). Taking the external environment and financial landscape of the knowledge economy sector into account can help businesses prioritize service or product adaptation and expand over time. The changing environment, for example, changes in the preferences of customers, supplier bargaining power, technological changes, competition, etc. and therefore, it is essential that the firm can respond appropriately to these changes without completely remodelling their enterprise as these challenges are often short-lived as the market goes through various iterations of change and the associate volatility and scarcity caused by political power struggles in the case of Zimbabwe (Ndafira et al., 2022; Nyamunda, 2021).

"Important drivers of business model adaptation include the need to adapt to external stakeholders", which primarily are clients and other consumers (as reducing operational or production costs, optimizing internal processes, designing, building and deploying new products, launching new service offerings, accessing new markets, and, of course, ultimately improving the financial performance of the micro-enterprise firm (Foss & Saebi, 2017; Miller et al., 2014). Business model changes in response to the operating environment are not always as transformative as innovating the business model; in such cases where the business model is proven to be sound, yet the context continues to exhibit signs of volatility and instability, business model adaptation is a more appropriate action for a firm seeking to weather the storms

of instability whilst continuing to deliver a quality service to their customers. Business culture, consumer dynamics, competition, and the regulatory environment in a country all play critical roles in business model, service, and product adaptation (Foss & Saebi, 2017).

Limitations of Business Model Adaptation

When facing a threat in the macro-environment (external), adaptation may be hindered within the firm where the leader (entrepreneur) is risk averse because of past behaviour or failure to pivot previously, which then paralyses the firm leader(s) and inhibits them from acting in the present. There are a number of difficulties in managing the adaptation process, particularly for early-stage enterprises or entrepreneurs with no previous business management experience, generally and more so during times of crisis. In the Zimbabwean context, there is an equal chance of opportunity and threat or for both to interchange consistently in any given operating period of a micro-enterprise firm. Much like bricolage, when the adaptation is forced due to the constraints in the business environment, the impact can be very detrimental to quality and service delivery.

2.3 Theoretical Framework

The theoretical framework presented in this section was drawn from the literature related to National Innovation Systems (NIS) theory. The aim of this theoretical framework is to demonstrate how the primary theory of NIS, with the supporting concepts of collaborative bricolage and business model adaptation will, can be considered together to proffer an approach that micro-enterprise firms in Zimbabwe's knowledge economy can innovate to enable them to achieve viability in spite of the resource-constrained environment they operate in. The framework sought to understand the behaviours and mindsets as well as decision-making processes of microenterprise firms when faced with the day-to-day challenges of their environment. Understanding the value that knowledge acquisitions and diffusion bring when fostering innovation at the firm level, the literature enabled the identification of the 'cluster-based approach to NIS (Schumpeter et al., n.d.; Vlasenko, 2017).

This approach promotes the concept of bridging institutions (e.g., providers of technical or consultancy services like hubs) and customers as being key parts of localised systems of

innovation (Schumpeter, 2017). The firms, bridging institutions and customers are linked in a 'production chain' which goes beyond networking to adding value, as well as enabling all forms of knowledge sharing and exchange (Schumpeter, 2017) to increase productivity. These actors together form clusters in a business ecosystem, which drive innovation through knowledge exchange. Traditionally, Governments not only provide policies to drive innovation, but they also fund innovation nationally (B.-Å. Lundvall, 2016; Vlasenko, 2017b). In territories like Zimbabwe, where the economy has been broken down by mismanagement, dysfunction and general institutional inefficiencies at the national level (Ndafira et al., 2022; Nyamunda, 2021), NIS is not resourced by the government for private sector development. Therefore, micro-enterprise firms and bridging institutions (business hubs) have to address the resource scarcity issue through action. Firms have to be creative with the case of resourcing by leveraging collaborative bricolage in a bid to utilise the knowledge gained through partnerships (external partners including bridging institutions and customers) to improvise and recombine with the goal of creating new services/products that the market can afford and are willing to pay for (competitiveness) (Salunke et al., 2013; Senyard et al., 2014; Witell et al., 2017). The processes of clustering (knowledge exchange hubs) and leveraging collaborative bricolage ultimately results in the firm either innovating or adapting its business model in response to the environment and its new positioning in the market as part of the business ecosystem (Schumpeter, 2017).

The theoretical framework is positioned to enable the reader to understand the interaction between the 'firm' and the 'bridging Institution' and explore the opportunities that community building presents when considering the need to share resources, knowledge and leveraging both to achieve viability and perhaps, in the long-term, scalability.

2.4 Theoretical Conceptual Framework

This conceptual framework details the logical orientation followed in this study as means of synthesising the theoretical framework theories and concepts presented above. This framework will explain the approach taken in this study to understand the phenomena and demonstrate how the identified theories and concepts work together to achieve the working model in response to the research question.

The theoretical conceptual framework draws from the leading national innovation systems theory concept of two key themes of knowledge and collaboration at the firm level. *Knowledge Exchange* between firms within the business ecosystem equips the firms with industry information and professional expertise to enable the firm to improve its business process or product, or service. The firm's active application of the knowledge received, and utilisation of the information shared with them is the primary aim of the knowledge exchange. This is essentially, *co-creation* to improve business development processes, products, and services for the market by working in collaboration to create value. The model sees the firms operating in partnership and pooling their resources together to serve their market (bricolage). The bridging institution (intermediary organisation) provides the anchoring role of the funnel in the above model by providing the space, structure, a repository for the knowledge to be stored and diffused and where the firms can deposit their resources for shared distribution into the products and services needing financing to get to market. *The bridging institution* or intermediary organisation from NIS theory plays the anchor role of the funnel in the above model by providing structure, space, a repository for the knowledge generated to be stored and diffused and a central pot where the firms can deposit their resources for the purpose of shared distribution to enable almost ready products and services that need resourcing to get to market.

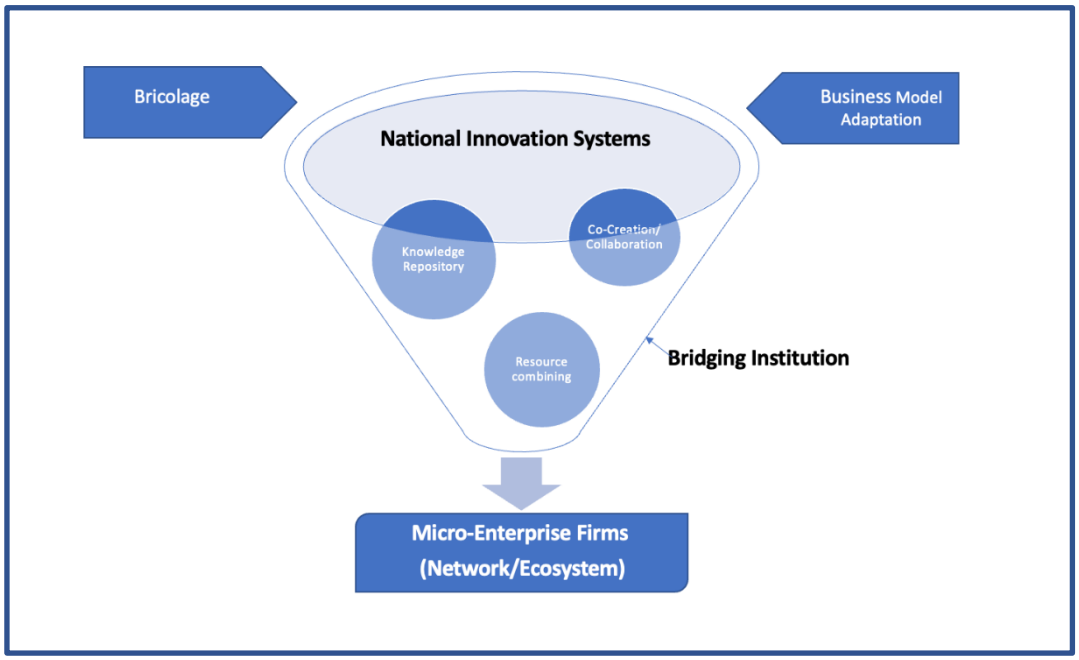


Figure 2 Theoretical Conceptual Framework

2.5 Summary

The purpose of this chapter was to present the study topic and give the reader the necessary background knowledge into the aspects of theories and concepts that relate to the research topic and justify the relevance of the study. National Innovation Systems (NIS) theory literature was identified as the anchoring literature for the theoretical framework supported by two concepts, namely, Business Model Adaptation and Bricolage, which were also explored as far as they relate to the research question. A theoretical, conceptual framework was then proffered as an avenue for the micro-enterprise firms to create value and achieve long-term viability. The interplay between NIS, Bricolage and Business Model Adaptation (Saebi et al., 2017) promoted innovativeness and adaptability in the framing of a business ecosystem.

National Innovation Systems theory presents a viable approach for micro-enterprise firms that can be achieved through bridging institutions (intermediaries) at a micro-level to drive growth for these firms working in the knowledge economy (Johnson & Lundvall, 2020; Watkins et al., 2015). Considering actors or organisations from an intermediary perspective can facilitate information exchange and create knowledge systems that can support the co-creation of new services/products. Collaborative bricolage enables micro-enterprise firms to operationalise their innovation by funding the implementation of new services and the development of new products (Witell et al., 2017a). The micro-enterprise firms have to adapt or ultimately innovate their business models in response to their context and their participation as members of these knowledge-based clusters (firms, bridging institutions and customers), sharing their limited resources and re-combining them in a bid to co-create new services/products could enable them to achieve the value they desire.

3. RESEARCH METHODOLOGY

3.1 Overview

This chapter discusses how this research study was conducted. Firstly, it describes the research design, paradigm and methodology used in the study. The target population is then outlined, and the sampling strategies are discussed. After this, the data collection process is explained, and then the ethical considerations taken into account during this study have also been discussed. The overall objective is to give a detailed account of how the study was conducted and provide the reader with the context for how the findings were interpreted. The organizing philosophies contained in this chapter provide clarity on the process undertaken and how it informed the research procedures and research design (Eriksson & Kovalainen, 2011) .

The philosophical approach that underpins this study is also discussed in this chapter. The target population and sampling techniques employed have been detailed, followed by an explanation of the research instrument used and the approach to data analysis. Following this, the trustworthiness and authenticity of the study have been assessed, the limitations have been explained, ethical considerations have been detailed, and finally, a conclusion about the research methodology has been drawn.

3.2 Research Design

This section provides the blueprint for the research that was conducted. The research design discusses the data that was required, the methods used to collect and analyse that data, and how the research question has been answered using this approach (Eriksson & Kovalainen, 2011). The research design gives the necessary structure to the phenomenon being considered in this study, and it will connect the conceptual research problem to the examined literature. A qualitative methodology facilitates an all-encompassing view of the phenomena being studied. (Makiwa & Steyn, 2019). The research plan identifies the unit of study, describes the methods employed to gather the data, and explains how the data was analysed, and the tools utilized to carry out all of those activities. The discussion of the findings will then take place, and in the process, the results will be validated (Carter et al., 2014) This study will also take a social interactionist approach as a conceptual, theoretical framework proposed by this study to enable

knowledge economy micro-enterprise firms in a resource-constrained operating environment like Zimbabwe to overcome their contextual barriers and achieve viability.

3.2.1 Research Philosophy (Paradigm)

A research philosophy details the concepts or beliefs held by a researcher and can also be referred to as a research paradigm. In the case of this research study, the belief system that informed this study was interpretive (Dudovskiy, 2018). Interpretivism is concerned with the unique nature of a specific phenomenon and focuses on providing context and depth to the phenomenon. Interpretivism is based on the belief that a deep understanding and exploration of concepts encourages the significance of qualitative research (Maxwell, 2012; Tracy, 2013). Following an interpretivist mindset allowed for a flexible approach to the data collection and overall research process, which enabled critical insights not previously predicted to be brought to light, providing depth and context to the research topic.

Interpretive paradigm

An interpretivist paradigm is concerned with the unique nature of a specific phenomenon and is focused on providing context and depth. Interpretivism is based on the belief in multiple interpretations of reality and a deep understanding and exploration of concepts, encouraging the significance of qualitative research (Maxwell, 2012; Tracy, 2013). An interpretivist philosophy enabled a flexible approach to the research process resulting in an exploration of the phenomena in such a way that new insights not previously predicted were uncovered, which provided greater depth in understanding the phenomena. This characteristic was deemed essential for the type of research that was conducted in this study. The kind of information collected by following this approach included thoughts, feelings, strategies, and first-hand accounts of the impact of the problems (contextual barriers) being faced by the micro-enterprise firms who participated in the study and how they have addressed them (Dudovskiy, 2018).

Assumptions	Positivism	Interpretivism
Nature of reality	Objective, tangible, single	Socially constructed, multiple
Goal of research	Explanation, strong prediction	Understanding, weak prediction
Focus of interest	What is general, average and representative	What is specific, unique, and deviant
Knowledge generated	Laws Absolute (time, context, and value free)	Meanings Relative (time, context, culture, value bound)
Subject/Researcher relationship	Rigid separation	Interactive, cooperative, participative
Desired information	How many people think and do a specific thing, or have a specific problem	What some people think and do, what kind of problems they are confronted with, and how they deal with them

Assumptions and research philosophies

Figure 3 - Assumptions and research philosophies - (Dudovskiy, 2018)

By conducting this line of inquiry, this study, intends to uncover to what extent Zimbabwe's micro-enterprise firms in the knowledge economy leverage enterprise innovations to overcome contextual barriers to enable them to achieve viability. The line of inquiry conducted in this study suited the information that was expected to be gathered for the purposes of this research from following an interpretivist approach. The data collected validated the approach taken; however, this research study considered the 'common criticisms' of interpretivism limited. The limitation is related to the difficulty in the generalisability of data due to the personal point of view of respondents during the data collection process. This is then thought to undermine the reliability of the data. It is important to weigh this potential limitation against the more significant benefits of interpretivism, which include a greater level of depth in the research' subject matter from practitioners and participants in the relevant ecosystems that are being studied (Dudovskiy, 2018).

3.2.2 Qualitative Research Approach

'Qualitative researchers observe the research subjects closely when interacting with them to make sense of their resource-constrained context, thereby building a knowledge repository

which was drawn from during the discussion chapter' in this research (Tracy, 2013). Qualitative research requires the researcher to immerse themself in the data-gathering activities. The qualitative research technique was utilized to gain critical insights into the phenomena presented. This was the most relevant approach to achieve the research output (Foster & Heeks, 2013) as this research study sought to proffer a new conceptual model (framework). This approach suggests that qualitative data can be systematically gathered, organized, "interpreted, analysed, and communicated so as to address (Tracy, 2013) the contextual barriers faced by firms. A qualitative methodology will encompass the view of this study (Makiwa & Steyn, 2019), which explores a praxis-based approach.

An inductive reasoning approach which is exploratory in nature, and anchored in grounded theory, was used during this research study (Gioia et al., 2013). Inductive reasoning starts with "detailed observations of the world which moves towards more abstract generalizations and ideas" (Dudovskiy, 2018) and theories are proposed towards the end of the research process. While following the inductive approach, empirical generalizations were developed and identification of preliminary relationships and patterns of behaviours and choices was carried out. No hypotheses were formulated at the beginning stages of the research about the type and nature of the research findings. These became apparent during the analysis process after the study was completed (Dudovskiy, 2018).

The qualitative approach undertaken here allowed for an in-depth, lesser structured data collection process, and small sample sizes, further aiding in the research objectives and motivating the choices made by the researcher. Qualitative research is most relevant to the research output proposed here as we are seeking to proffer a new conceptual framework towards viability leading to financial sustainability through growth (Foster & Heeks, 2013b) for micro-enterprises firms.

3.3 Research Design

The study was exploratory and interpretative in nature (Dudovskiy, 2018). The aim was to explore specific aspects of the research topic and the theories in literature to achieve a deeper understanding of the perspectives and lived experiences of miro enterprise firms working in Zimbabwe's resource-constrained economy. Exploratory research sheds light on the research

topic by gaining insights from the actors participating in the relevant ecosystem rather than providing final and conclusive answers to the research questions. During the data collection and analysis processes, the research study's focus was altered to a certain extent as the findings emerged presented new evidence gained during the data gathering process. "Exploratory research is often used in cases where little is known about a topic or in situations such as this research where further definition and discovery achieving more significant insights and gaining new information around the subject matter is required" (Dudovskiy, 2018).

The objectives of this study were to uncover insights into the phenomena which are challenging to find through other research designs. Considering the research paradigm that informed this study, an exploratory research design was deemed the most appropriate research avenue for this study. The advantages of taking an experimental research approach include but are not limited to; flexibility and ease of adaptability in response to the data, generally lower costs when conducting the study, and this type of approach can save time by determining at an earlier stage the focus of the research that should be pursued, as well as successfully seting the groundwork that can lead to future studies. It is essential to be aware of some of the drawbacks to this research approach as well so that the exploration could be navigated around these or acknowledge them as limitations to the study. The disadvantages most relevant to this study are the potential bias that can existing during exploratory studies which generate qualitative information requiring interpretation and, the sample size may not adequately represent the population therefore the findings cannot be generalized. The research design enabled the study to reduce its exposure to the potential impact that could result from these drawbacks on the research findings.

3.3.1 Target Population

For the purposes of this research, target population describes all the actors in the knowledge economy ecosystem that share specific characteristics, which are to be generalised by the findings of the study. The target population for data collection purposes was micro enterprise firms' leads, existing bridging institutions (business hubs). The ideal sample size set at the beginning of the data collection process was 5-10 micro enterprise firms' participants in focus groups. However, due to lack of resources, connection, and time constraints, two focus groups were held with nine (9) micro-enterprises participating. These participants and a further sixteen (16) then completed a digital online survey making the total number of participants twenty-

five (25). These participants are knowledge services based micro-enterprise firms working primarily in business services support (education), Information technology (ICT) and construction (technical consultants).

3.3.2 Unit of Analysis

The unit of analysis can be defined as the major entity that is being analysed in the study. The unit of analysis for the purpose of this research is growth-oriented micro enterprises; firms that provide knowledge services/products being the primary unit of study. This research study sought to identify underlying mechanisms that motivate participation in innovation and collaboration as well as what drives these microenterprise firms to join both formal and informal clusters. The secondary unit of analysis that was considered was that of bridging institutions or intermediaries.

3.3.3 Sampling Plan (Rationale)

A sampling plan is a researcher's strategy on how they will specifically choose sources for their data collection which involves the selection of viable respondents from a target population to participate in the study. Sampling is a necessary step in terms of choosing the right people, industries and events/activities related to the research topic that the research study should follow (Tracy, 2013). In the sampling process, there are two main methods used, (1) probability and (2) non-probability. *Probability sampling* follows a random selection approach using a pre-defined and is generally used in quantitative methods (Drammeh & Karlsson, 2017; Henderson & Mirko, 2015). The alternative way is a *non-probability sampling* approach which relies on the judgement of the researcher to select a sample unit(s); therefore, the samples are not randomly selected. Non-probability sampling is more commonly used in qualitative research (Drammeh & Karlsson, 2017) and has four main methods, namely, purposive, convenience, snowball, and quota sampling. Of the four non-probability sampling methods, purposive sampling is a method in which respondents are selected due to their ability to answer the research questions, while the convenience sampling method refers to respondents who are readily available to the researcher.

In this research, the initial method that was used was a non-probability, purposive sampling method to select and contact key respondents because the knowledge economy sector is still a

very small yet growing sector in Zimbabwe and therefore, the overall sample size was narrow, and the respondents required specific knowledge and experience and needed to be selected based on this criterion. This ruled out the possibility of using a random sampling technique as it would not have been appropriate. Therefore, a random sampling technique could not be used to find the relevant respondents. Non-probability, convenience, purposive sampling was a proper method to use for this study as the researcher had worked in Zimbabwe's knowledge economy for six years prior to the study and was able to successfully select key respondents fitting the necessary requirements of knowledge and experience (Drammeh & Karlsson, 2017; Tracy, 2013).

3.3.4 Theoretical Sampling

The process of theoretical sampling is such that data is collected for the purpose of generating theory whereby data is collected, then codes applied, and finally analysed enabling the identification of key themes. The researcher decides what data should be collected next after reviewing the previously collected and analysed data so as to develop a theory as it emerges (Dudovskiy, 2018). The sampling method chosen by the researcher for this study is closely associated with grounded theory methodology (Henderson & Mirko, 2015; Tracy, 2013). "Whilst a variation of purposive sampling, theoretical sampling attempts to discover categories and their elements in order to detect and explain interrelationships between them" (Dudovskiy, 2018).

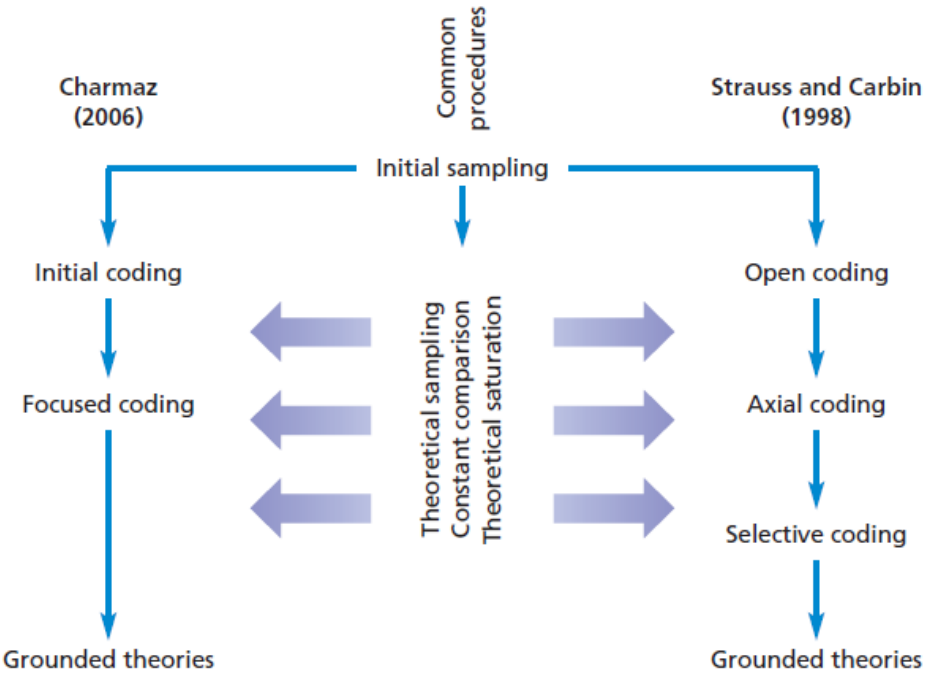


Figure 4 Theoretical Sampling Model (Saunders et al., 2012)

3.4 Research Instruments

For the purpose of this study, the data collection had a two-pronged approach. Primary data was collected in two stages: firstly, in the form of semi-structured, open-ended questions in a focus group discussion set-up. The second line of inquiry took the form of a digital survey which gathered demographic data as well as sight insights into the respondents' experiences. The rationale for the approach taken during data collection was to be able to triangulate the data collection process and minimise researcher and interviewer biases such as confirmation bias.

Data collection

i) *Desk Research*

The desk research process had a two-pronged approach. It started with the researcher going through the database of an 'intermediary' bridging institution (NIS) enterprise hub organization called Stimulus Africa that runs a business network called Perspectives Consultants, a group that delivers knowledge services in various sectors in Zimbabwe. The researcher specifically drew respondents for the focus group from this network of micro enterprise firms as they were accessible to the researcher in line with non-probability convenience sampling coupled with

purposive sampling as the respondents in the network that participated in the focus group had the ability and experience to answer the research questions. These individuals also had shared experiences that brought a commonality among them that elevated the conversation (Tracy, 2013).

The study then 'widened the net' by utilising the digital platform LinkedIn as well as 'word of mouth' to identify other micro-enterprise firms outside of Stimulus Africa's Perspectives Consultants Network to ensure reaching the research target number of respondents and to gain broader insights on the experiences and perspectives of micro-enterprise firms including those who were not affiliated to any collective or business group and directly. These additional respondents were invited to complete the online digital survey.

ii) *Focus Groups*

Focus group discussions were identified as being ideal for this research and they took the form of a recorded digital conversation (Via Zoom) between the researcher and the growth oriented micro enterprise firms. The researcher obtained the data required from the focus group discussions. This type of interview is a great, cost-effective way to reach a significant number of people quicker during data collection. Focus groups also help researchers produce deeper insights on the phenomenon as the group are able to give more in a shared space, feeding off each other's energy, thereby raising participants' consciousness about specific issues or helping them to learn new ways of seeing or talking about a situation. This is known as 'the group effect' (Tracy, 2013). Good focus groups require an element of strategy when identifying and combining group participants. Therefore, the benefits that come from conducting focus groups can only be realised if the researcher exercises skill and foresight in the selection process. Qualitative data provides further insight into aspects of cultural, behavioural activities, customs, and norms that might otherwise be missed in structures surveys or experiments" which is in part, why this method was selected (Tracy, 2013).

In this research, the focus group participants were members of the same business hub with shared experiences which elevated the conversation and brought about greater depth to the contributions of each of the participants as well as created a space of learning from one another and revelation as to the extent to which the contextual barriers have affected all of them in different ways with similar outcomes. Stimulus Africa is based in Zimbabwe's capital city,

Harare, where the majority of the focus group participants were also living. As is the nature of the kind of services offered in the knowledge economy, the Perspectives Consultants Network however is a virtual platform and therefore it has members living across the country and some in the diaspora. For the purposes of this research, the sample of participants were drawn from its members who were based in Zimbabwe. Through this intermediary organisation the initial nine (9) respondents drawn who participated in the focus groups that formed the first phase of data collection during this research. This study was able to identify suitable research participants. There were two (2) focus group discussions with different participants that were conducted on the 4th and 6th of June 2022. Prior to the focus groups, respondents were provided with the interview protocol, a background to the study, and a consent form via email or WhatsApp to complete and return as part of the registration process. The focus group discussions took place virtually via ZOOM and were voice recorded. The data was transcribed within four days of the interviews to eliminate researcher error and further split into individual respondent records and uploaded to NVivo for coding and analysis. The researcher facilitated both focus group discussions and transcribed the conversations thereafter.

During the focus group discussions, the researcher listened intently to the respondents, taking note of the tonality of the respondent's voices as they contributed to different questions, reactions, and responses from other participants during the sessions. The researcher used a set of pre-determined questions as a guide for the discussion but prioritised allowing the conversation to flow organically based on the contributions given and the reaction that then came from the other participants. Overall, the focus groups were carried out in the conversational style allowing each participant to share where they felt they had experiences and perspectives they wanted to contribute and without restriction. During the first focus group, the co-founder of Stimulus Africa participated in his personal capacity as a knowledge services firm as well as shared critical insights into how the collective started, how it is organised and how it seeks adds value to its community of micro enterprise firms as well as the gaps in service that they are striving to address. The overarching goal of the focus groups was to lay a foundation for the research and validate the researchers understanding of the context. It was in understanding the lived experience of the micro enterprise firms as they navigate Zimbabwe's contextual barriers and resulting resource scarcity and difficulty in doing business that gave the researcher deeper insights.

Table1: Approach to the Study

	Guideline	Researcher's approach for this study
Format	*Determine the most effective format.*	The researcher selected a virtual format through ZOOM Meeting platform due to (1) availability of respondents to meet physically (2) Post COVID-19 reduced gathering (3) respondents did not all live in Harare which could have unnecessarily excluded some would be participants had the discussion been face-to-face.
Number of participants per group	*6 to 9 participants are ideal. Over-recruiting is helpful, as 10–20 percent of participants may not show up*	Each of the two focus groups had 10 miro enterprise firms invited to participate with the goal of getting at least 5 participants. Focus group one (1) had five (5) participants. Focus group two (2) had four (4) participants
Length (time)	*90 minutes is usually ideal*	The focus groups were scheduled for 90 minutes with leeway to overrun to 120 minutes in terms of the time booked with the participants on registration. The two focus group sessions ran as follows: Group 1: 75 minutes and Group 2: 115 minutes
Strategic groupings	*Complementary or argumentative interactions are most ideal*	This research had complimentary exchanges whereby the participants generally had similar experiences albeit in different sub-sectors, which gave a richer appreciation to the extent of the problem as well as the needs these firms have in common
Facilitation	*Respondents must be able to feel comfortable*	Efforts were made to ensure the participants felt comfortable by (1) keeping the groups small and intimate, (2) ensuring their anonymity (3) each of the participants already knew at least one other participant in the group (4) the researcher had personally invited each participant therefore the researcher was the common link to the group in addition to their business hub (Perspectives Consultants).

The decision to use focus group discussions was twofold. Firstly, it was made on the basis that the researcher felt it was critical to hear, what the affected firms felt the problem was in their own words. This would then validate the search question / line of inquiry. Secondly, the focus group discussions had an interview format which allowed the participants to express themselves freely in their own words and have the comfort of engaging with others in similar situations who validated their own experiences and views on the topic. The resulting discussions provided more depth to the insights the study aimed to gain from the research process.

iii) *Digital Surveys*

Data was collected from a purposive sample in an all-inclusive survey administered as a digital survey questionnaire. The qualitative survey design was primarily open-ended questions that invite the respondent to explain their experiences and perspectives not just select options in a multiple-choice fashion. The findings from the initial focus groups were then utilised to finalise the digital survey questions to enable the researcher to get more focused contributions from the digital survey participants. The digital survey was designed using a digital data collection platform called Survey Sparrow. The digital survey titled "*Zimbabwe's Knowledge Economy Micro-Enterprise' innovation research*" was developed with the following sections: (1) General demographic data, (2) exploration on networks, (3) contextual barriers, (4) strategies relating to business model innovation and adaptation and (5) knowledge exchange (National Innovation Systems). There were 36 questions in total and the survey took on average 28 minutes to complete.

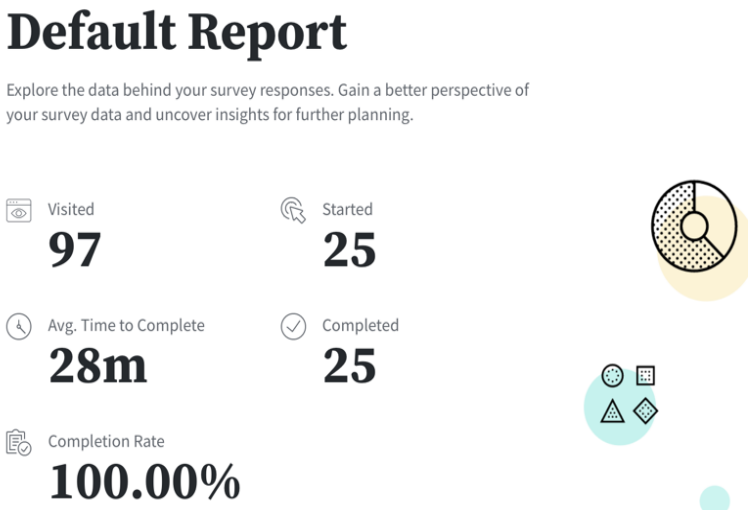


Figure 5 – Research Survey Report Statistics

The link to the digital survey form was shared within a closed group of pre-identified micro-enterprise firms identified during the desk research phase. The initial 9 respondents were invited to complete the digital survey and an additional 16 respondents from various backgrounds, some in business hubs and others independent. The digital survey was utilised to gather critical data and supplementary information required to enable the

researcher to gain sufficient insights into the knowledge economy in Zimbabwe and the micro-enterprise firms and bridging (intermediary) institutions participating in it. Digital surveys were deployed to gain insights from the micro-enterprise firms providing knowledge services and based in Zimbabwe.

3.5 Analysis & Interpretation

Data analysis in research involves the researcher taking the contributions, be it oral, written or observed, from the participants in a study and utilising these to explore the underlying meanings and resulting themes that come from them and then considering how these themes begin to address the research question Tracy (2013). Whilst qualitative data analysis does not have a set structure for conducting analysis that must be followed Drammeh & Karlsson, (2017); found that a common thread in data analysis can be drawn and a proposed approach or procedure can be clearly identified and followed called an *inductive qualitative data analysis process*. "This common thread takes the form of data reduction, data display, conclusion drawing and verification" [insert ref]. The researcher identified an approach to data analysis proffered by (Braun & Clarke, 2012, 2014, 2021) who proposed a six-phase approach to thematic data analysis as follows:

Phase 1: Familiarising yourself with the data.
Phase 2: Generating initial codes.
Phase 3: Searching for themes.
Phase 4: Reviewing potential themes.
Phase 5: Defining and naming themes.
Phase 6: Producing the report.

The researcher adopted the (Braun et al., 2014; Braun & Clarke, 2012, 2021) thematic data analysis 6-phase framework when reviewing the collected data in this study.

Pre-Analysist Steps: Focus Groups

Preparation for the focus group research exercise took the following steps to gathering the data which was later analysed as follows: the researcher developed a list of questions that were to

be used in a semi-structured format to get the conversation started and guide the discussion. The researcher engaged with Stimulus Africa to gain access to the business hub's Perspectives Consultants Network of micro-enterprise firms to participate in the focus group sessions. A list of twenty participants were availed whom fit the criteria of the study; knowledge services micro-enterprise firms whose primary operation and business lead are based in Zimbabwe at least 50% of the year, has less than 10 employees and their primary business is to sell knowledge services or intangible products (software and applications). Once the list was availed, the researcher called the selected participants and invited them to participate by completing a digital registration form which was designed for this purpose. The link shared with the shortlisted micro enterprises via WhatsApp or email. The focus groups were then held on the 4th and 6th of June 2022 online via ZOOM. The focus group sessions were then recorded for later analysis.

Table 2: Data collection and analysis stages: Focus Groups and Digital Survey Processes

Stage	Description (Braun & Clarke, 2012)	Analysis / Review Activities	The Process
Phase 1: Familiarising yourself with the data.	*The* researchers immerse themselves in the data, becoming intimately familiar with, its contents.	*Listening to recordings *Transcription *Reading collected data	The first step in the data analysis process was transcribing the focus group interview data. The transcription process converts the data into a useable format. It also reminds the researcher of the respondent's exact words, enables clarification of anything that was not clearly heard during the focus group or anything that was missed altogether during data collection. This process allows the researcher to begin to gain a better understanding of the data (Braun & Clarke, 2012). The focus group interviews were transcribed into a Microsoft Word document providing the researcher with a record to use when listening to the

			recordings to confirm understanding of the data captured.
Phase 2: Generating initial codes.	*Coding involves generating* descriptions for important points in the data of relevance to the research question guiding the analysis process (Braun & Clarke, 2012a, enabling thorough comparison).	*Prepare transcripts *Upload data to NVivo-12 *Code data line by line and in paragraphs *Group coded items	After compiling the transcripts, the next step in this process is coding the data. According to Braun & Clarke (2012), "Coding is both a method of data reduction, and an analytical process, so coding enables the researcher to capture both a semantic and conceptual reading of the collected data". Coding is the process of categorizing, sorting and ordering the gathered qualitative data. The transcripts containing the collected data were uploaded onto the data analysis digital tool, NVivo-12 which assists in the coding process. NVivo-12 has a function called auto code in which the software attempts to create codes from the data. Although it is possible for a researcher to code the data manually, this method could result in a kind of confirmation bias which is why the researcher chose to use the auto code function before defining the codes manually.
Phase 3: Searching for themes.	Theme Construction and the next stage in this process whereby the researcher identifies a clear and meaningful pattern	*Searching for similarity in the data by reviewing the code	In thematic data analysis, coding helps the researcher categorise insights that are identified in the data that could be essential to answering the research question (Braun & Clarke, 2012). Nvivo-12 software was used by the researcher as the primary

	from the collected data that is relevant to the research topic	*Interpretation of the similar data to identify themes *Theme construction and definition *Collating all the coded data relevant to each theme	means of coding and theme identification. The different themes and other critical relationships were then analysed to find common themes and concepts as part of the thematic analysis. In the NVivo software the researcher was able to search for and group the codes into themes then define them identifying some level of patterned response or meaning within the data. The initial search for themes involved looking at the visual NVivo-12 output which groups the NVivo codes into themes.
Phase 4: Reviewing potential themes.	*The researcher must c*heck that the themes are relevant in relation to the coded extracts, the whole dataset, and the research topic.	*Reflect on the story the themes tell to see if it is convincing and compelling *Ensure the story is reflective of the data *Define the essence of each individual theme and its connection to other themes	In the fourth step, the researcher reviewed and reflected on the potential themes as categorised in NVivo. The process of reviewing the themes included the restructuring of the NVivo output into themes in line with the research question because the software when used to categorise data automatically can group codes that should be separate therefore the researcher had also to eliminate any software error in the review process. In addition to this, the reflection process directed how the researcher proceeded with the categorisation of the themes. In some instances, it was necessary to combine some themes and separate others into two focus areas or remove other less relevant

			themes altogether until the final list of themes most pertinent to the research question/topic was achieved.
Phase 5: Defining and naming themes.	This requires the researcher to carry out a detailed analysis and document the same for each theme	*The researcher asked the following: - What 'story' does this theme tell?' - 'how does this theme fit into the overall story about the data?'	In this phase the researcher goes through a process of identification of the 'essence' of each theme and then naming the theme. To achieve this, the researcher considered what story each theme told and how the theme fits into the bigger picture about the data? Identifying the 'essence' of each theme and constructing a definitive name for each theme was the researchers next task in this phase. These themes were then properly defined and labelled (Braun & Clarke, 2012).
Phase 6: Producing the report.	Writing is an essential part of the analysis process in Thematic Analysis.	*Writing an analytic narrative *Extracting data to tell the data story *Contextualizing to existing literature	The writing process in this phase involves weaving together a narrative of the analysis, providing extracts from the data. These tell the reader a clear, coherent, and persuasive story about the findings from the data and contextualising it in relation to existing literature. Linking the data to the research question and possible solutions

3.6 Establishing Validity and Quality

3.6.1 Quality

Evaluating the quality of qualitative research is essential mainly if the findings are to be utilised (Noble & Smith, 2015) by practitioners to inform their business strategy. In considering the evaluation of good qualitative research for quality, Meyrick (2006) proposed that researchers are to fulfil the dual core criteria of "transparency" and "systematicity" (Figure below). Meyrick (2006) suggests that 'good quality research ensures that epistemological and theoretical stance of the researcher is stated clearly in the study' (Meyrick, 2006). All aspects of the research process from logistical considerations, theory development, research design, sampling, data collection and analysis through to the discussion of the findings, results and conclusions must be validated for transparency and systematic application. The aim of this approach is to give the study reader a selection of epistemological techniques and approaches to establish rigour at each stage of the qualitative research process.

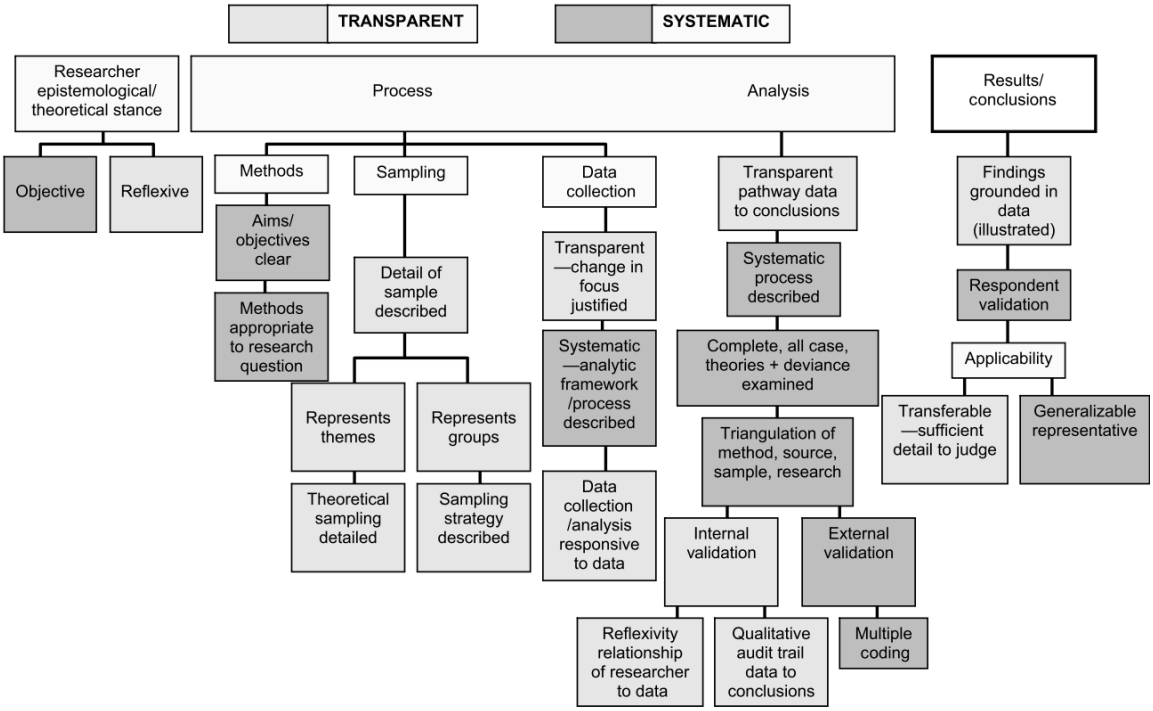


Figure 6: Quality framework for qualitative research (Meyrick, 2006)

The above framework sets levels of adequacy for each technique in the process of collection and analysis of the data. Using the key reference points of systematicity and transparency with the relevant colour code in figure 6 above, the reader evaluating the process, (methods,

sampling, data collection) and analysis (method, finding) can determine if the end-to-end research process can be assured of high rigor and robustness (Leung, 2015; Meyrick, 2006). The researcher has considered Meyrick's (2006) measure of transparency and systematic process approach and applied it to this research study in how the data has been sourced, analysed, and stored. Furthermore, the research study has also undergone an assessment of its validity (Tracy, 2013), and reliability.

3.6.2 Validity and Reliability

When carrying out qualitative research studies, it is critical to establish the validity of their data in order to gain credibility and ensure reliability of the data and study findings and any resulting proposed frameworks and leads towards further study (Leung, 2015; Meyrick, 2006; Tracy, 2013). With a growing number of qualitative researchers needing to demonstrate their thoroughness and diligence when carrying out their research (Tracy, 2013), ensuring validity through cross-checking, the researcher must be able to present their captured findings using digital records (surveys), as well as audio or video recordings to enable a re-examination of captured data (Maxwell, 2012). Reliability, in qualitative research, refers to the possibility of precise replicability of the data collection processes that were carried out and the results. Defining reliability in qualitative research with its complexities is challenging and even considered counter-intuitive (Leung, 2015). Therefore, the essence that is being sought when considering the reliability of qualitative data and findings is consistency because there is an anticipated and expected margin of variation in the results of such research (Leung, 2015; Meyrick, 2006; Noble & Smith, 2015). For the purposes of validity and reliability it is critical that the research process is dependable in that all collected research data is carefully stored and made available for auditing purposes (Leung, 2015). In this study the researcher went to great lengths to ensure that the data collection process was straightforward, the data was captured by way of recording (audio or visual and survey responses).

Validity in qualitative research refers to the "appropriateness" of the data gathering tools, research processes, and data handling and storing by the researcher (Leung, 2015). The researcher's choice of methodology enabled detection of the phenomena in the context of the experiences of micro enterprise firms in Zimbabwe whilst giving due regard to the cultural and contextual variables of the country and the ecosystems that these micro enterprise firms operate. The sampling procedures implemented for this research were appropriate for the

research paradigm and followed the process of theoretical sampling as explained in an earlier section in this chapter. In this paper, clearly defined data extraction, analysis and findings methods (Braun & Clarke, 2012) were adopted by the researcher to enhance validity (Tracy, 2013), and this was supported by for triangulation verification.

3.6.3 Elimination of Bias

An interpretivist paradigm takes the approach of the researcher being involved in the data collection and analysis which can lead to bias at any point up to interpretation. To eliminate bias in the data analysis process, the method of triangulation of data was followed (Carter et al., 2014; Husted et al., 2015; Leung, 2015; Noble & Heale, 2019). Triangulation is a validation mechanism used by researchers to establish the credibility and validity of their qualitative research findings. Credibility here is referring to believability of the study whilst 'validity is concerned with the extent to which research findings accurately reflect or evaluate the concept or ideas they are investigating' (Noble & Heale, 2019).

"There are four primary types of triangulations which are proposed by (Denzin, 2017);
(1) Data Triangulation - This includes matters such as time, space and people.
(2) Investigator Triangulation - This includes the use of multiple researchers in the same study.
(3) Theory Triangulation – This encourages several theoretical schemes to enable interpretation of a phenomenon.
(4) Methodological Triangulation - This promotes the use of several data collection methods such as interviews, surveys, focus groups and observations (Noble & Smith, 2015).

Methodological triangulation was utilised in this study when the researcher sought multiple data sources to gain a better understanding of the phenomena and can link those data sources back to the literature corroborating their own theories creating the triangulated connection that in turn validates the data (Leung, 2015; Noble & Smith, 2015). This process enabled the researcher to corroborate their research findings. Three primary data sources were accessed for data collection which were, focus group interviews, digital surveys, and an in-depth review of relevant literature. In the focus groups, open interview questions were used which helped to

eliminate interviewer bias as it enabled the respondents to answer questions freely. The use of methodological triangulation was most appropriate for this research considering the research design.

3.7 Limitations

This section speaks to the limitations faced when carrying out the research study from three perspectives: resource availability in terms of time and finances, the boundaries of the research approach selected posed potential resource constraints faced by the research study as the research was carried out.

- IDENTIFYING PARTICIPANTS: Finding a large pool of suitable respondents who were willing and available to participate in the digital survey either from an organisation as a whole or from an individual level was challenging. As a result, the numbers of respondents were lower than had been expected, therefore a smaller sample size was achieved than initially planned however those who did participate enabled the research-to-research saturation for this specific line of inquiry determined by the research question.

- TIME: Time was a limiting factor in terms of gathering more responses to achieve further, in-depth information leaving room for future research.

- RESEARCH TYPE: The researcher's choice to carry out *qualitative research,* in that this type of research has been criticised for having perhaps too much flexibility/free rein in the data collection process, and the possibility of researcher bias and error in interpretation.

- POST COVID-19 REMOTE ENGAGEMENT: The researcher decided to host virtual data collection as a precaution coming out of the COVID-19 pandemic due to the potential risk to those participants with pre-existing conditions. Furthermore, most of the participants had migrated to remote working and therefore were preferring to have virtual rather than an in-person engagement for the focus group discussions.

3.8 Ethics

There were several ethical considerations that the researcher considered, when preparing to conduct the data collection exercise as part of this study.

- **Respondent/Participant Consen**t - Written informed consent will be sought from all respondents/participants in the research study. A consent form was developed by the researcher outlining the scope and purpose of the research and this was shared with all participants in the focus groups and these were signed and returned to the researcher before any data collection is carried out. For digital survey respondents, the first question on the survey presented the consent form with the opportunity for the respondent to read and select either to consent or not consent. The Survey Sparrow platform enabled the researcher to set this option to skip to the end if the respondent declined to approve thereby not collecting any data from that individual. These measures ensured all respondents/participants were fully informed about the objectives of the research, how the study would be conducted, what their participation would involve and any potential risks or possible discomforts that they may experience

- **Respondent/Participants Rights** - The researcher set expectations and ensured all participants are aware of their rights. Importantly, they were advised at the point of consenting to participate in the research that they could choose to withdraw (*opt out)* and no longer participate at any time during the research data collection process.

- **Anonymity** - The researcher ensured anonymity of all respondents / participants and advised them verbally upon invitation and in writing on the consent forms that their identity would be protected and that they would remain anonymous in their participation in the study. Furthermore, no identifiable information shared by the participants would be utilised in the research output document (thesis).

- **Data Protection** – The raw data collected, including recorded focus group interview (audio/video), digital survey responses and transcriptions, and these have been stored securely and in accordance with the University of Cape Town's ethics guidelines.

- **Ethical Approval** - Ethical approval was applied for and approved for the researcher to carry out this research from the Faculty of Commerce at the University of Cape Town Graduate School of Business. Ethical clearance to collect data was granted under reference number 2021/20/002 which was valid until 31st December 2022. All data for this research study was collected in line with the ethical clearance given. Data collection was concluded on the 29th November 2022.

3.9 Summary

This chapter provided a detailed account of how the researcher approached the study from the research design, research methodology through to data collection in the study. The research's philosophical thrust, interpretivist paradigm opened up space for the research process to be flexible and follow the lead of the participants/respondents (track the data). The target population for this research was forty (40) micro enterprise firms working in the knowledge economy in Zimbabwe. Due to limitations in sourcing respondents, the study gained insights from twenty-five (25) respondents/participants. The theoretical sampling approach was adopted by the researcher. The sampling technique used was non-probability purposive sampling to find the initial respondents, thereafter convenience purposive sampling was used to identify the rest of the respondents. The research instruments used were focus group discussion interviews and digital surveys which were all conducted online, recorded and transcribed. The data analysis process was carried out via NVivo and Survey Sparrow software platforms. The former being a data analysis platform and the latter being the digital survey platform that has some reporting functionality which enabled the researcher to draw insights and make comparisons using the tool in addition to manual data analysis carried out by the researcher. The study's limitations have been identified and detailed, as well as consideration of the elimination of bias using triangulation. Finally, ethical considerations and the researchers' actions to ensure that ethical guidelines were followed have been fully detailed. All ethical approvals were obtained before the start of the data collection process and concluded within the timeframe of the ethical clearance given by the Faculty of Commerce.

4. DATA ANALYSIS AND FINDINGS

4.1 Overview

The unit of analysis in this research study is the knowledge services micro-enterprise firms based in Zimbabwe. The researcher explored how these firms navigate the resource-constrained economic environment with Zimbabwe's unique context of volatility because of regulatory inconsistencies, constantly changing monetary policies, multi-currency, and hyperinflation. Understanding how these microenterprise firms navigate their operating environment and strive for viability despite these challenges is the primary focus of this study. Drawing on the qualitative research carried out during this study; the researcher lays out the findings from the data collection process.

In this section, the term, "network" refers specifically to a business hub (collective of businesses working together within an intermediary institution/association) or cluster of firms and other actors informally organised and doing business together.

4.1.1 Chapter Structure

In this chapter, the researcher will share the outcome of following the methodology outlined in the preceding chapter, which details how the data gathered was analysed, interpreted, and finally presented. The story of the data begins with the identified relevant themes. After theme identification, in-depth thematic data analysis was carried out and then interpreted by the researcher with consideration for the research focus. Finally, the researcher drew conclusions guided by the analysis of the themes relevant to the research question. Specifically, the purpose of this chapter is to utilise the data collected to answer the objectives of this study. The research question being explored is:

"To what extent are Zimbabwe's micro-enterprise firms leveraging enterprise innovations to overcome contextual barriers and achieve viability in the knowledge economy?"

The secondary questions that were considered during this research are:

- How are micro-enterprise firms **self-organising for sustainability** in the face of the **contextual barriers** to business growth in Zimbabwe'?

- Do micro-enterprise firms in Zimbabwe's knowledge economy rely on **gained knowledge and information to innovate and adapt** their *business models*?
- How are these microenterprise firms **leveraging their networks to re-combine resources to achieve competitiveness** in resource-constrained environments?

4.1.2 Participant | Respondent Sample Size

Graph 1: Respondent Sample Size

Graph #1 Findings: In this study, the sample size was determined by a number of factors, including access to appropriate participants/respondents, time constraints around data collection, and saturation being reached by the respondents that did participate in certain data sets.

Sample Size Target:

The researcher aimed to draw insights from fifteen (15) participants in the focus group set-up and thirty (30) respondents to the digital survey.

Saturation:

According to Hennink & Kaiser (2022), saturation is the most common guiding principle for assessing the adequacy of purposive samples in qualitative research (Hennink & Kaiser, 2022). The theory relating to 'saturation' was initially developed by Glaser and Strauss

(1967), who carried out research from a grounded theory perspective where the goal was to gain a deeper understanding of social phenomena when gathering and reviewing qualitative research data. “Theoretical saturation” is the point during qualitative research data collection whereby the collection of any more data will not reveal any new information about the phenomena being studied”(Hennink & Kaiser, 2022).

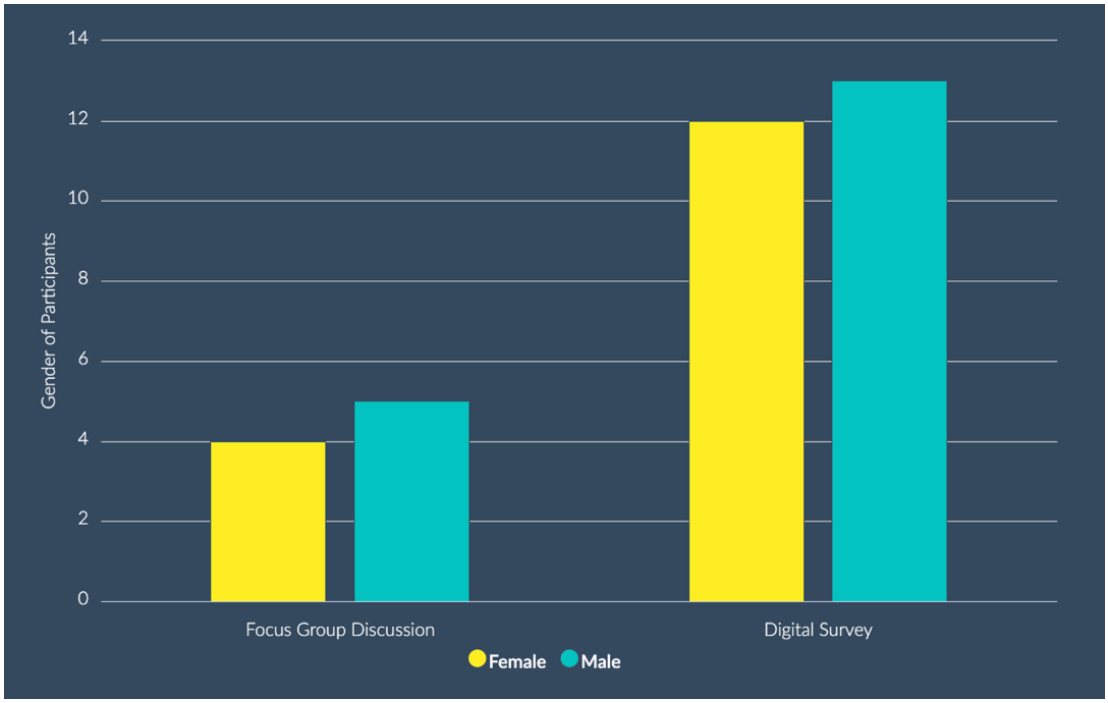
Saturation Level:

The activities they carry out to mitigate them, and the relevance of innovation, co-creation and collaboration. The plan was to hold three focus group discussions with 15 participants. During the first two focus groups, which had 9 participants, it became clear that the research had reached saturation by the end of the second focus group as the respondents were all giving very similar information relating to their experiences of the context. At this point, where the research had reached saturation for the focus group interviews, the study then went on to collect the second data set through a digital survey, as described in this chapter.

4.1.3 Participant | Respondent Profile

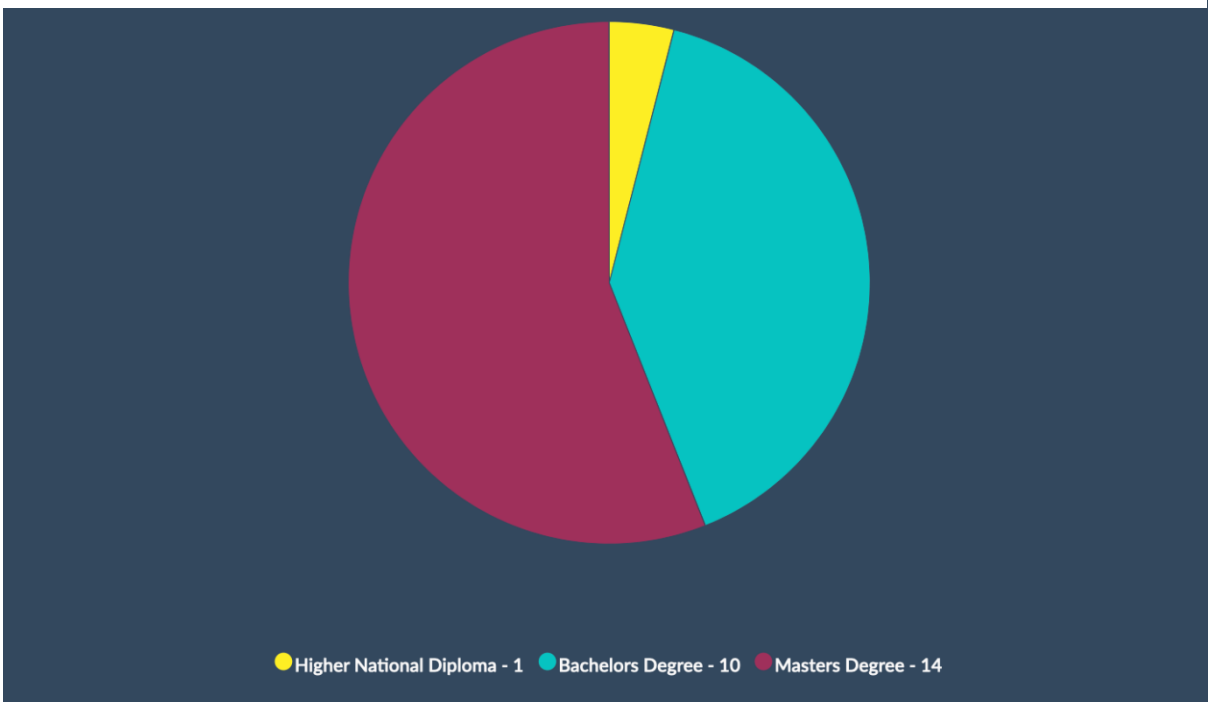
In this section, we will look at demographic and enterprise data to give an overall view of the micro-enterprise firms that participated in the research study:

Graph 2: Distribution of gender



Graph #2 Findings: The research focus group participants were composed of four (4) women and five (5) men. The digital survey respondents were comprised of twelve (12) women and thirteen (13) men. Throughout this chapter, the focus group sample will be referred to as participants, and the digital survey sample will be referred to as respondents. The researcher went to great lengths to ensure a gender-balanced sample to ensure the insights gained reflected the experiences, views and perspectives of men and women working in knowledge services in Zimbabwe.

Graph 3: Highest Qualification Level



Graph #3 Findings: Knowledge economy micro-enterprise firms tend to be led by highly qualified individuals with experience. Overally, the respondents had a very high education level, with the majority of respondents (14) having achieved a master's degree, followed by (10) respondents with an undergraduate (bachelor) degree. Interestingly, one respondent held a higher national diploma qualification, the lowest level among the group; however, the same respondent had been providing knowledge services for over 15 years, combining their qualification with industry knowledge through experience.

4.2 Emerging Themes Overview

In this section, the researcher reviewed the findings from the data analysis process carried out during the research. The research was carried out in two phases; first, the researcher carried out exploratory focus group discussions designed to give the researcher insights from micro-enterprise firms on the contextual barriers they face and how they navigate these. This initial research then informed the researcher how to craft the questions for the second phase of the research, the digital survey. The focus group discussions lay the foundation of the thematic findings, whilst the digital survey results strengthened the initial findings enabling the researcher to critically analyse all the data and apply it to the research question and sub-questions above.

Contextual Barriers

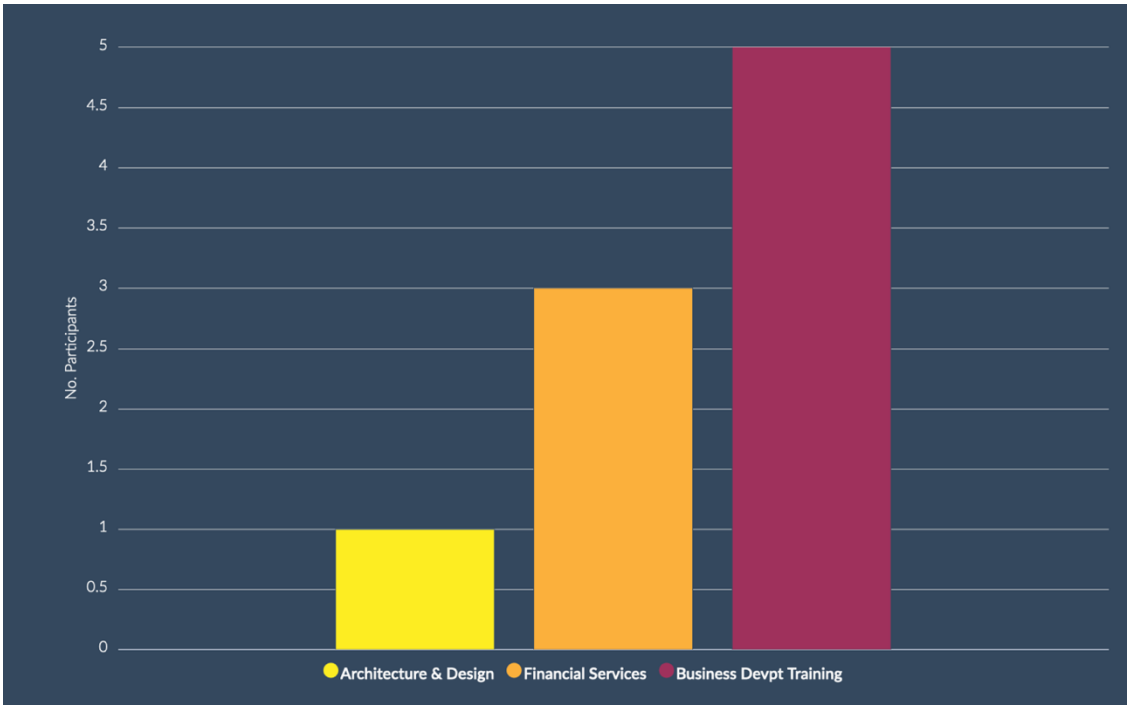
The participants highlighted the following barriers as being the most significant when it comes to adversely affecting the ease of doing business in Zimbabwe; *Formalisation:* 3 of the participants recounted their experiences in trying to formalise. Their experience is that the business formalisation process is challenging due to the cumbersome government registration processes and the lengthy process of setting up business banking as examples of the barriers to formalisation. *Culture*: The impact of cultural practices affecting business was raised as a limitation to growth as there is a perception of young entrepreneurs. *Corruption:* 8 out of the 9 participants indicated that corrupt practices in government and the private sector significantly impact their business operations adversely. Service delivery from the government (local and national) was cited as 'poor'. According to *Participant 8,* "The City of Harare property development bylaws that we are currently working with are from 1964." These archaic and outdated bylaws stifle innovation. *Infrastructures:* All 9 participants cited poor infrastructure, including roads, power, and water supply, to be inconsistent at best, which has a significant impact on productivity. *Monetary Policy*: The Zimbabwe Government and Reserve Bank of Zimbabwe have issued many statutory instruments since 2018 that have exacerbated the country's hyperinflation status. In addition, high-interest rates have slowed down lending and created a 'financial crunch' impacting private sector operations in the country as a way of controlling the parallel market to no avail. These are the primary challenges identified by the

focus groups and digital survey participants as the main contextual barriers that adversely impact or limit their business performance (profitability).

4.2.1 Summary of Key Themes

Two focus group discussions were held virtually via ZOOM and had a total of nine (9) participants, four (4) women and five (5) men. The focus group had a mix of knowledge services firms working in different sub-sectors, from Business Development and ICT to Architecture and Design Services. The context in which these micro-enterprise firms operate is a critical point to note, as the volatility of the operating environment has led to resource constraints they experience and difficulty in doing business. All participants agreed that the contextual barriers they faced were rooted in regulatory inconsistencies, and the volatile operating environment makes Zimbabwe a problematic economy to trade in.

Graph 4: Focus Group Participants by Sub-Sector



***Graph #4 Findings*:** The dominating sub-sector in the focus group participants was business development and training.

As described in the previous chapter, the researcher worked with a business network hub called Stimulus Africa based in Harare, the capital of Zimbabwe, to identify the initial micro-enterprise firms that participated in the focus groups. The participants were all knowledge

services firms working in varying sub-sectors, as shown in graph #3. Under finance, there were companies in FinTech (financial technology), development finance and traditional accounting. The age range of participants was from their 30s – 50s, which enabled the participants shared experiences to be varied, which made the conversations richer as they were mixed.

FOCUS GROUP DISCUSSION OVERVIEW

After the researcher conducted the focus group discussions, a rigorous and in-depth analysis began. The transcripts data was coded using traditional data analysis methods and the NVivo software. The researcher identified themes in the data relevant to the research question. Further analysis, considering the data alongside the research question and sub-questions, aims and objectives, the researcher was able to draw out key themes that were most relevant to the research topic. The researcher presented the findings in this chapter using the "reveal" approach (Gioia et al., 2013; Tracy, 2013). The researcher will share the key themes and concepts that emerge from the analysis and their relationships.

Table 3: High-Level Insights from the Focus Group Interviews

Key Theme	Summary High-Level Insights from Focus Groups
Knowledge Exchange	All the participants identified knowledge exchange and general information sharing as a form of currency due to their relevance in further developing the consultant's skillset and providing access to information critical to accessing work opportunities.
Adaptive and Innovative Practices of the Firm	During the focus group discussions, the researcher observed the participating micro-enterprise firms as they engaged in the debate and took note of what they shared and documented the innovative and adaptive attributes that have helped them navigate the economic crisis and remain in business, achieving viability.
Co-Creative Partnerships	The participants identified collaborative working through personal networks or formal groups as a critical part of survival

	for young enterprises. Some indicated that through this channel, they gained referral business which sustains them.
Enterprising Communities	Critical considerations regarding access to new markets and enterprise viability were raised during the focus group discussions. The micro-enterprise firms highlighted that a consistent referral pipeline is essential for their survival, and these communities/groups that are both formal and informal give access to opportunities.

DIGITAL SURVEY OVERVIEW

The focus group discussions guided the approach to developing the digital survey through the findings gleaned from that line of inquiry.

The digital survey had the following sections:

Table 4: Digital Survey Questionnaire Summary

Section	Questions	Focus	Overview
1	1	Consent	Consent statement
2	2-3	Demographic Data	This section assisted the researcher in confirming that the respondent fitted into the pre-defined parameters for the sample, which included; (1) Being resident in Zimbabwe and living in the county for at least 50% of the year, (2) Selling/offering knowledge services to their customer base (3) Their micro-enterprise firm employed less than ten people (4) They had sufficient qualification (degree and above) coupled with work experience to qualify as a consultant/expert in their field.
3	4	About the Enterprise	This section gathered critical metric data about the enterprise, its size, turnover, number of employees, sector and client base

4	5-16	Networks (Community)	This section sought to understand the relevance of networks/groups /communities with regards to the viability of micro-enterprise firms, their performance overall, and if participation gives the firm a competitive advantage.
5	17-23	Business Model	This section sought to understand what, if any, influence and to what extent innovation has on the micro-enterprise firm's business model and strategic planning for growth.
6	24-35	Knowledge Acquisition (NIS)	This section aimed to get an understanding of the importance of knowledge generation, acquisition and diffusion between micro-enterprise firms and their communities / professional body associations and groups
7	36	Respondent led	In this section, the respondent was invited to share anything else they felt was relevant that perhaps the researcher had overlooked

Similar to the focus group transcripts, the digital survey responses were downloaded individually, uploaded in NVivo and, coded, then grouped into themes by the researcher. Insights were drawn from the data that contributed to the identified critical themes in this chapter.

Table 5: High-Level Insights from the Digital Survey

Theme	Summary High-Level Insights from the Digital Survey
Knowledge Exchange	All the respondents considered knowledge acquisition necessary, with some generating knowledge; however, not all respondents actively sought knowledge for continuous professional development or knew where to find knowledge and information relevant to their sector (firm). Some viewed Information access as the most important source of information for their firm.

Adaptive and Innovative Practices of the Firm	The innovativeness and adaptive disposition of the micro-enterprise firm and its ability to manage change as it affects its business model are essential to its survival and ultimate growth (sustainability). The firm's perspective on knowledge acquisition and general approach to collaboration are key indicators here. The survey respondents demonstrated adaptability in their responses to questions about the contextual challenges they face and how they address these.
Co-Creative Partnerships	Collaborative working enables micro-enterprise firms to combine and re-combine their resources and share their skills to maximise market opportunities. This motivates them to join these enterprising groups to grow their revenue base.
Enterprising Communities	Most respondents indicated that they joined a community/group or network to get access to opportunities, referrals, and industry-specific information.

4.3 Thematic Analysis Overview

A thematic analysis is a method for systematically identifying, organising, and offering insight into patterns of meaning (of the identified themes) across a dataset" Braun and Clark (2012). The thematic threads woven throughout the data across the two phases of data collection have been identified by the researcher as **1) Knowledge Exchange**, **2) Adaptive and Innovative Practices of the Firm, 3) Co-Creative Partnerships and 4) Enterprising Communities**. Having identified these four key themes and given high-level insights above to demonstrate their relevance to this research, an in-depth thematic analysis will now be carried out. During the analysis process, the researcher understood the data patterns through coding. The researcher then identified the most relevant codes and groups of codes. The researcher was then able to derive meaning from the practices in the coding, coupled with the connection of shared experiences expressed by the participants during the discussions; themes were identified and further developed into the key themes.

This study set out to discover how micro-enterprises in Zimbabwe's knowledge economy utilise innovation to achieve resilience and business viability given the contextual barriers they face. As we start to explore the findings from the data through the analysis, it is important to have the research objectives in mind as follows; (1) assessing how micro-enterprise firms and their communities overcome the contextual barriers that are hindering commercial enterprise viability; (2) identify innovations utilised by micro-enterprises to adapt their business models to overcome the contextual barriers they face and (3) finally understanding the interaction between the firm and the collective in the context of knowledge sharing and leveraging Information for growth. This section lays out the data's thematic story through analysis, theme definition, and exploration that aligns with the research objectives.

Following Gioia's 'reveal approach' to data analysis (Gioia et al., 2013; Tracy, 2013), the researcher will take the reader through the data thematically while linking insights to the research questions and sub-questions ensuring that these are answered through the data and determining a pathway to a conceptual framework that responds directly to the problem being studied proffering a possible solution.

4.3.1 **Knowledge Exchange**

This theme closely responds to the research sub-question, "*Do micro-enterprise firms in Zimbabwe's knowledge economy rely on gained knowledge and information to innovate and adapt their business models?"* The researcher went on to explore how knowledge is acquired, generated, diffused, and exchanged by firms and how this differs within a collective. The benefits of being part of a community that actively shares business development knowledge were noted by *Respondent #7,* who's explained that they would join a knowledge exchange collective because it would enable; ***"Shared knowledge from and with others [which] would sharpen my skills and increase my earning potential."*** This sentiment was shared by many of the respondents who completed the digital survey and the participants who were part of the focus groups.

Knowledge and Information Acquisition

All the participants acknowledged the importance of knowledge and information as a driver for growth in micro-enterprise firms. *Participant 4* stated, *"I think investing in knowledge has been very important…companies need to invest in knowledge... So, it's the knowledge you need to invest in; it's training people up; I think those are the things that keep you afloat." Respondent #5 also* highlighted that one of the critical roles of knowledge exchange is for the micro-enterprise firm to 'learn and grow'.

The participants in the knowledge services space also identified how acquiring knowledge enabled them to earn more. They not only utilise the knowledge they acquire for their enterprises, but they also then pass on the benefit of this knowledge to their customers. *Respondent #22* agreed with this by adding, "*To a considerable extent - without access to information, our knowledge and therefore our services as a knowledge business becomes stale and will certainly stifle growth."*

When asked how the information or knowledge/research they receive from their current network enables them to improve their products/services and business strategies, the respondents shared various insights into their lived experiences, with some highlighting that access to knowledge, particularly industry-specific knowledge, helps them to benchmark themselves against international products and services which results in higher standards being passed on to their customers.

Respondent #25 contributed substantially to this theme and shared, "*100% we have gained access to information that has given us insights into the root causes of clients' problems or performance inhibitors and allowed us to create solutions relevant to their contexts. Access to client and industry information has allowed us to move from doing many things to keeping what works and is likely to work going forward*."

Knowledge Generation

A critical part of the knowledge exchange process is the generation of new knowledge through research and sharing experiences and findings. When asked how they contribute new knowledge to their sector or community, the respondents gave mixed responses. Some respondents make significant contributions to knowledge generation through conducting and sharing the findings from their research publications with those who verbally communicate at

networking events. Below is a sample of the responses submitted by a random selection of respondent's answers to the question on their individual contribution to knowledge generation and exchange.

"I write articles and collaborate with other authors as part of giving back [knowledge] to the community" [*Respondent # 10*]

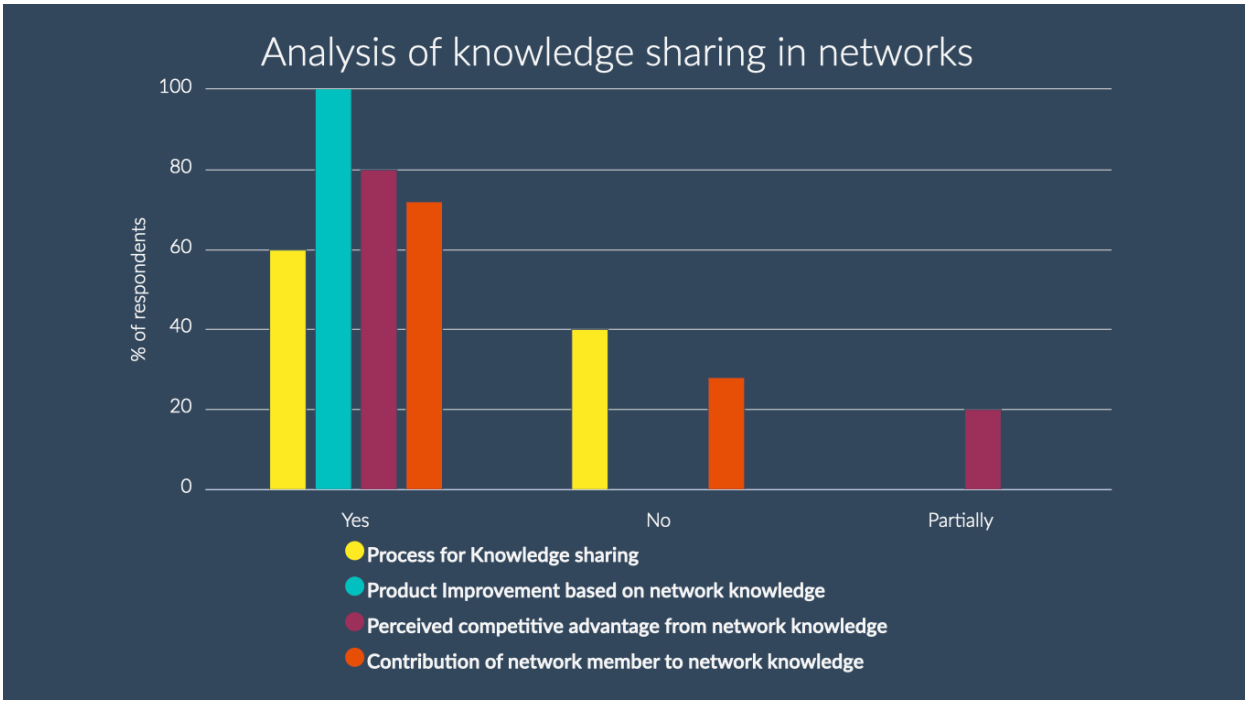
"We have what we call brainstorm Mondays where we look into how we can better our service provision." [*Respondent #13]*

"Through the internet, holding meetings and having troubleshooting sessions with various artists and producers" [*Respondent #11]*

"We were doing all this research, [and wondering] who may want to know this research, and how can we use that the research you've done to help those people...."

[Respondent # 6]

Graph 5: Analysis of knowledge sharing in networks based on respondents from the Digital Survey



Graph #5 Findings: * Generally, knowledge-sharing processes are inconsistent and informal across the respondent profiles, as shown in the graph above.

* The general perception is that products or services are improved through knowledge accessed from the networks in which the participants/respondents are involved.

* Where there is some knowledge exchange taking place in these networks, this appears to be more informal by virtue of the nature of collaborative working or connecting; however, there is no structured process in place to capture, document and widely diffuse the knowledge or capture new knowledge born out of the exchange in most of the networks that the respondents were involved in.

* There is a high perception from the majority of respondents that a competitive advantage is gained from being in a network and having access to the knowledge source from that network in terms of business process as well as product/service development.

* Whilst accepting the need for knowledge, it is apparent from the data that a significant number of respondents are consuming knowledge and information but are not in turn feeding knowledge back into the network [ecosystem], with some not knowing how they can contribute knowledge products, perhaps this may be due to the highly informal or non-existent knowledge exchange processes in most of the networks.

4.3.2 **Adaptive and Innovative Practices of the Firm**

This theme most closely responds to the research sub-question, "*How are micro-enterprise firms **self-organising for sustainability** in the face of the **contextual barriers** to business growth in Zimbabwe?"* Considering the reality of Zimbabwe's resource-constrained economy, making it volatile and riddled with hyperinflation foreign products and services, it is quite a feat to establish or grow a micro-enterprise in such an economic environment.

Entrepreneurship as is practiced by the microenterprise firms, is underscored by the self-organizing with the view that it provides opportunities for firms to explore and exercise their agency, determine the outcomes they want and then put in place mechanisms to enable them to achieve the same, regardless of the context they find themselves in. (Alvarez et al., 2020;

Shir & Ryff, 2022). "Entrepreneurship, in other words, serves as a unique and crucial force of engagement that grants individuals (firms) the freedom to align their moral vision with the actions they take in the material world of the market" to achieve their desired outcomes (Shir & Ryff, 2022). The entrepreneur driving a growing enterprise in such a market needs to be a change agent who responds well to crisis and is innovative and agile in their approach to change. The term self- organising when considering the business ecosystem, refers to "*the process by which individuals (firms) organize their communal (ecosystem) behaviour to create global order by interactions amongst themselves rather than through external intervention (government) or instruction (policy, statute)"*(Willshaw & O'Sullivan, 2009), *with the aim of achieving profitability.*

As the main research question and sub-questions seek to understand the role the micro-enterprise firm plays in its own survival by 'self-organising', which can be interpreted for the purposes of this study to mean the adaptiveness of the firm's business model and the innovativeness of the firm when it comes to delivering value to its customers. *Respondent #17 captures the context well with this contribution, "The ever-changing economies we live in require agility and ability to innovate with expanded skills. Access to knowledge and speed of [an adaptation] and innovation is crucial to our businesses' survival".* - Adaptation is therefore another important characteristic here.

As the researcher reviewed the data, some key attributes that a micro-enterprise firm (entrepreneur) operating in Zimbabwe needs to survive and thrive stood out. These attributes are summarised in the table below with the corresponding data from the contributing participant or respondent in the study.

Table 6: Attributes & Skills of an adaptive and innovative microenterprise firm

Attributes/Skills	Contributor	Quote/Comment
Gritt, Patience, Determination	**Participant 1**	**"**Just pure grit, and determination and patience, and a lot of patience"
Flexibility,	**Participant 1**	**"**Being able to be flexible… [its] important to be that nimble."
Detail-oriented manages risk	**Participant 2**	**"**I am good at seeing the bigger picture, but also getting into the minutiae details and identifying the possible risks."

Being strategic, customer-focused	**Participant 6**	**"**So, I think one of the things that the chaos in this market has allowed us to do is take some time to think and ask ourselves, what is the true value that we bring to the table?"
Adaptable, agile	**Respondent 10**	"Being able to adapt to the enterprise's environmental Factors, builds agility to respond to changes."
Planning, business continuity planning (BCP)	**Participant 11**	"Creating small tasks, packages, workflows etc., that can be executed with minimal time and using fewer resources while preparing for the drawbacks that may come and be ready when they do."
Good communicator, ability to pivot, optimistic outlook, innovative	**Respondent 25**	**"**Our relational approach helped us avoid costly litigation. When the money lost value, we understood that our expertise didn't lose value, so we used our knowledge & skills as the business."
Risk mitigator, frugal, leveraging technology,	**Respondent 25**	**"**We look at what could go wrong and build our models in a way that mitigates our risks of loss as much as possible and makes profitability probable. This has taken the form of minimising costs without sacrificing quality & relationships, leveraging technology to improve the manageable workload by employees."
Bricoleur	**Respondent 9**	**"**Worked with what we had"

The table above shows the sentiments of the sampled respondents on what it takes to survive and even thrive in a resource-constrained environment. The attributes and skills identified by the respondents and participants in their submissions provide a good foundation for any micro-enterprise firm to understand what it will take for them to be sustained in resource-constrained environments.

Adaptive Business Modelling Approach

The business models of micro-enterprise firms have to be agile to enable them to respond quickly to changes in the market and maximise every opportunity. The same is true where the

economy is volatile. The firm's business model has to not only be adaptable and responsive to what is happening at the micro level but also at the macro level. Participant #5 shared, "*so I think it's an issue of change management; how you implement it? Is it adaptive? Is it transformational change depending on how you run your [firm]*." There is a need for the firm to have a clear pathway to change management for sustainable shifts in its model as it adapts to the operating environment. The continuous review of the business positioning and updating of the firm's SWOT analysis at regular intervals will enable the firm to identify changes that impact them in the market and either respond to take up the positive shift in opportunity or will allow the firm to mitigate the risk of the negative. All the while ensuring that the firm follows the technological trends that can enable the firm to automate and streamline a number of functions with a view to keeping operational costs within a manageable range and remaining agile.

Respondent #10 pointed out that, "competing with more established players preferred in the market, [is hard but they] overcame [this] by authenticating our organisation through renowned certifications by best practice governing mother bodies and networking." Meanwhile, Participant #11 pointed out that technology, "allows me to adjust to any changes in real-time in my workflow, how [I interact with my tools of the trade, how to improve or solve problems that may or have arisen before and in the future".

4.3.3 Co-Creation Partnerships

This theme most closely responds to the research sub-question, *"How are these micro-enterprise firms* ***leveraging their business hubs to re-combine resources to achieve competitiveness*** *in resource-constrained environments?" Respondent #17* captures the context well with this contribution*,* "*The ever-changing economies we live in require agility and ability to innovate with expanded skills. Access to knowledge and speed of [an adaptation] and innovation is crucial to our businesses' survival and operating in a business hub allows us to navigate better in our space, giving us a competitive advantage vs operating in a silo*." Here we will consider collaborative working through partnering and co-creating, mainly, where there are limited options of how to grow it is important.

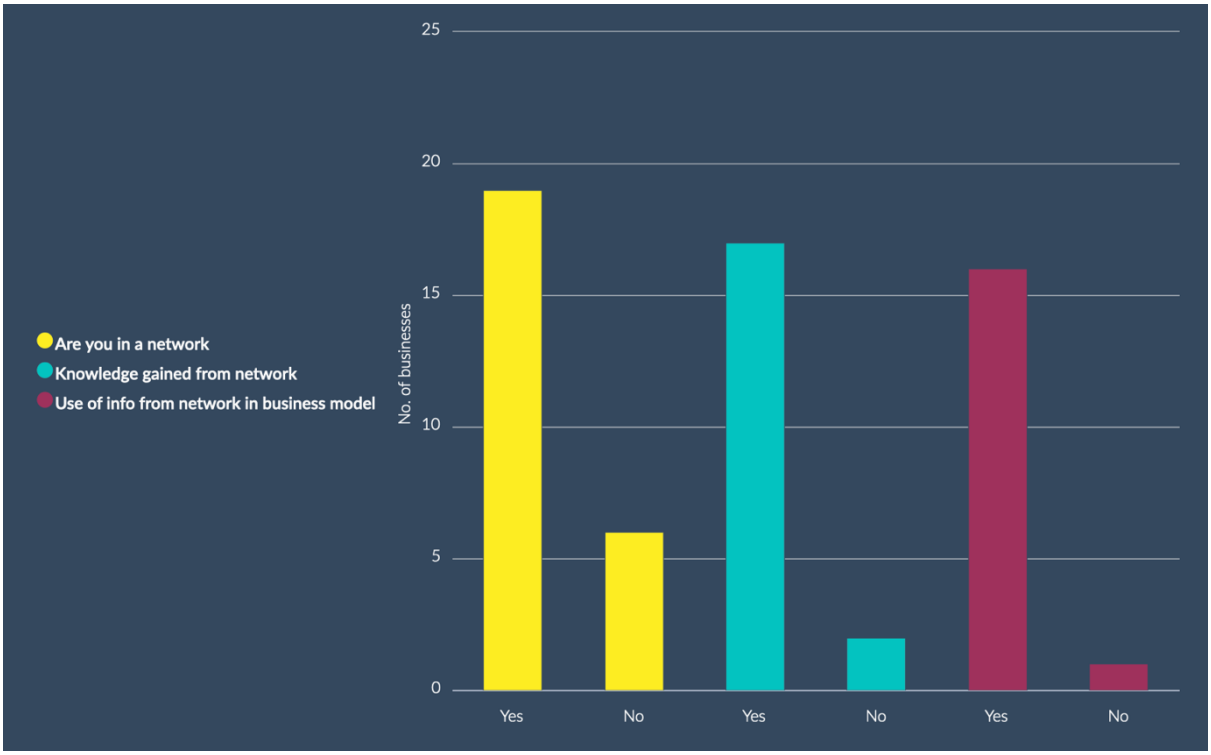
Graph 6: WordCloud Showing Respondent's Reasons for joining a Business Network

Graph #6 Findings: The word cloud above represents the most frequent answers in response to the question, "why did you join a business network?" The bigger the word, the more times different respondents have used the same word and, therefore the more relevant the term is for the purposes of our analysis here. From the image above, it is clear that the respondents are all looking for (1) Opportunities, (2) Knowledge, (3) Business (4) Work. This demonstrates that micro enterprise firms are actively looking for work opportunities.

Leveraging Partnerships

Partnerships/Collaboration was another strong theme that came from the research findings. Adaptability in the firms' business models as they come together is crucial to achieving the level of compromise required to be able to work together and achieve mutually beneficial outcomes successfully. This indicates that an adaptation of the firm's business models is required to accommodate alternative ways of working with other micro enterprise firms in the same and complementary sectors. The primary driver behind these collaborative partnerships is to achieve profitability by pooling resources and, in some instances re-combining resources to create new or improved products and services.

Graph 7: Business Network Participation & Perceived Value



Graph #7 Findings: This graph gives insights into the sample group's (digital survey respondents) perspectives on networks as well as an appreciation of their current positioning in relation to networks.

Q#1: Are you in [part of] a [business] network? - Of the 25 respondents, 19 said they are part of a business hub presently. At the same time, six indicated that they were not part of a network currently but would join one if it could meet their needs for access to lead generation and work opportunities, as well as collaborators to partner with as the need arises. This is an important insight as it further confirms what micro enterprise firms are looking for when they join business communities/groups.

Q#2: *Knowledge [you have] gained from [your] Network* – Of the 19 respondents who confirmed that they are part of a business hub, 17 indicated that they have participated in knowledge exchange and gained access to information through their network whilst two stated that they had not explored the possibility of knowledge exchange because their only interest in the grid so far had been accessing work opportunities.

Q#3: *Use of information[gained] from [you're] network in[you're] business model* - Of the 17 that have accessed information and participated in knowledge exchange in their hubs, 16

businesses indicated that they had applied some of the information and knowledge they have gained to improve their business models, products and services.

All of the respondents indicated that their networks did not specifically focus on knowledge exchange or have a system/process for knowledge generation; however, they all indicated that their networks shared some information actively through social media, their websites and some through a mailing list.

The idea of collaborative working in groups, sharing ideas, information, knowledge and resources to drive productivity was well reviewed among the respondents in this survey, with a number of the participants sharing their positive experience testimonials of partnerships they had participated in previously.

Respondent #16 shared that "networks *influence " as ideas and solutions flow from a meeting of minds and experiences. These bring insights we could never mine from just one individual.*

Participant #6 further expressed how such groups come together organically, demonstrating that there is a need for these networks and their connections and micro-enterprise firms are searching for somewhere to belong and where they can get help to grow. Participant #6 shared,*" that was just us trying to create a community of people in business who are willing to talk to each other, ready to share input and ideas.*

Competitiveness in Collaboration

Partnering is central to making collaboration more attractive for micro-enterprises struggling to grow in their silos. When asked how business performance and business development have been impacted by joining or participating in a network, *Respondent #11 said,* **"***by working as a group it has helped create better faster workflows, helps give insight into what the other parts of the system you are part of do to help produce the end product*." *Respondent #18 also responded, "my previous business model's revenue calculations were undervalued, and the network has allowed me to change my business model's pricing structure to display the value that I bring as an independent consultant*."

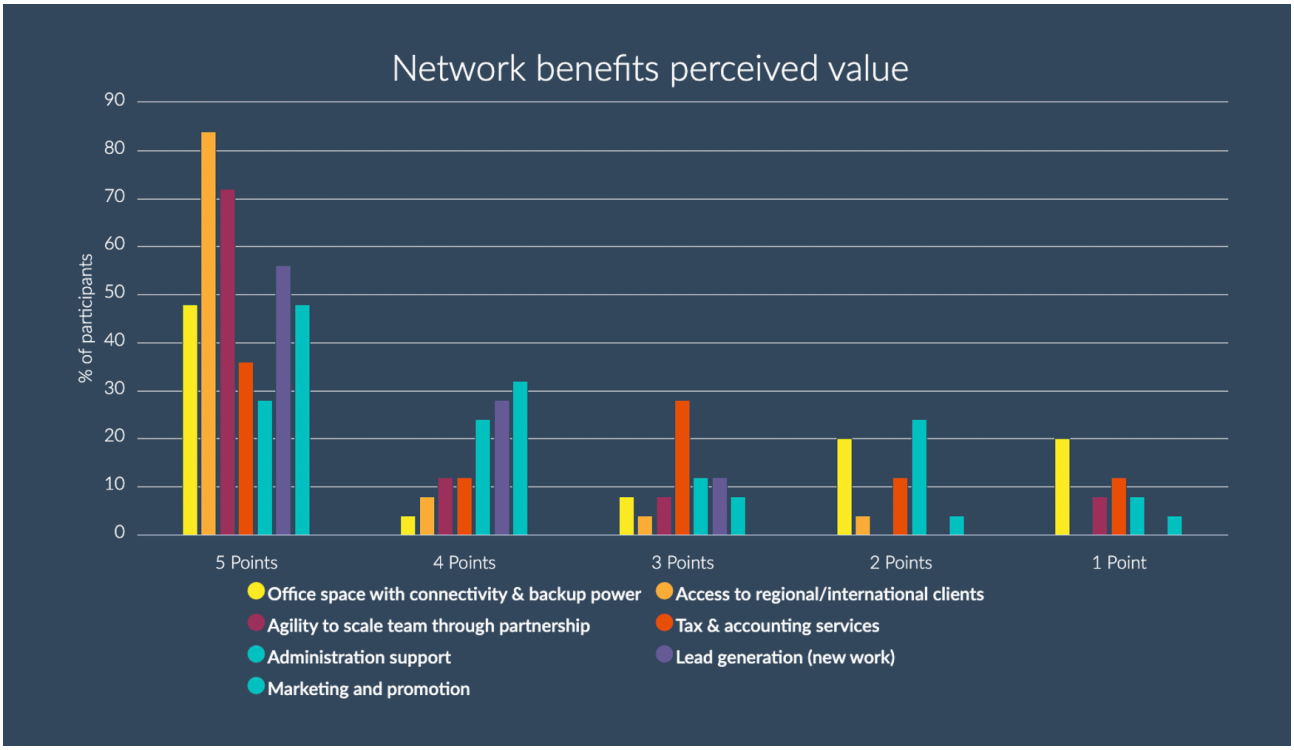
4.3.4 Enterprising Communities

This theme most closely responds to the research question, "*To what extent are Zimbabwe's micro-enterprise firms in the knowledge economy leveraging enterprise innovation to overcome contextual barriers and achieve viability?"* The researcher approached this section launching off from a contribution by *Participant #7 who said*, "*I would say, the other thing, which would be now closer in terms of my network, and connections, is finding ways to share resources. So, if I could share a finance person, and if I could share a comms person, if I could share those management services, in a way that makes sense for me financially and time wise, at my level, that would really work. But the people with the capacity to give me that shared service or timeshare type thing are probably bigger organizations, and they're not interested in little people like me."* When considering the role that these enterprising communities should and need to play in the entrepreneurial ecosystem, responding to the needs of Participant #7 is definitely a critical place to start. Their sentiments are echoed by many of the other participants in various responses and reflections in the data.

Access to New Markets and other Growth Opportunities

Graph 8 – Network Benefits Perceived Value

*Ratings given by participants with **1 star** being the lowest possible ranking and **5 stars** being the highest.*



Graph #8 Findings: This chart shows what the participating micro enterprise firms believe they require from a network for it to be seen as 'value-based'. The following insights are drawn from this chart which has a rating system as follows; **1 star** being the lowest possible ranking and **5 stars** being the highest:

***** The benefit that scored the highest in terms of demand was 'Orange' – ***Access to regional and international clients***. In both focus groups the participants had highlighted that one of the ways they are remaining sustainable is by having a percentage of foreign based clients who they work for remotely and who pay them in United State Dollars. This is a very important revenue stream for most of the participating enterprises. To be able to access this client base would enable another of these firms to immediately gain stability in terms of income and long-term sustainability.

*** Lead generation** (purple) is also a vital service required from benefit-based networks as leads convert into paying clients.

*The **Administration support** benefit (lighter turquoise) came in third, higher than office space, showing that the real need is less physical space and more a network that brings in work and helps them administer for the work they are doing.

***** The second highest benefit on the chart was 'maroon' - ***Agility to scale team through partnership***. Zimbabwe's labour law is skewed unfairly in favour of the employee therefore recruiting permanent staff is a concern for small businesses. This coupled with the fact that work and therefore income can fluctuate rapidly without warning, it is ill-advised for micro enterprises to hire an enormous staffing complement. The alternative which we have seen to be very successful is to collaborate with other micro small or medium scale (MSME) companies to achieve the 'size' required to secure and deliver more significant projects and once those projects are done, the project team is paid for the work they have done, and they disband and go back into their companies. The ability to do this is essential for sustainable growth for micro enterprise firms in the knowledge economy significantly as it is a newer growing sector. The challenge with this approach however is the reputational risk of collaboration with a separate entity that is not under your control and is also a small business with the same limitations and resource challenges.

Some of the focus group participants actively work in partnerships for scaling with other micro enterprises and their contribution to understanding how this is working currently was shared at length with regards to how these relationships are vetted, managed, and function as shown below:

"When [collaborating/partnering] to protect my reputation, the reputation of others, if I see that there's someone in the group or company in the group that's not pulling up their weight, I then have contingency plans to make sure that the project is done."

[Participant #2]

"I think they become important in that setup, to say then, look, how are we managing this, are we going to time keep? And then when we time keep, everyone knows that they're being paid for time. So being able then to split your project like that and applying the best skill within the network and within the group to the correct tasks, because there's nothing as frustrating as being in a network where perhaps one can't contribute, just looking at the other side, because people bring each other to these networks. So, I think it's very important to be able to have a process for identifying partnerships, and then actually a process template for contracting and actually delivering."

[Participant #4]

"*…because we are in constant interaction with each other and sharing each other's problems, you get to a point where I'm like, well, I can fix that for you. And you can fix that for me. So, I think for me, I've sort of formed these sorts of informal sort of partnerships, where we are helping each other and not really realising that you're actually solving something that's a headache for me along the way, and so for me, community is absolutely critical. I don't think anything, I don't think I'd still be here still in business."*

[Participant #6]

"I'm part of a consortium and it's more formally structured with service level agreements and a group of consultants working together, but we're not… I'm not loaded, I suppose, with the overhead costs of salaries when people are not performing and that kind of thing. So, it's a very interesting business model that I think works well with a creative temperament."

[Participant #7]

"*We are a collaborative of construction industry professionals. And what that has allowed us to do is we are the only firm is bubbly that offers all [Architecture and Design Services] related consultancy under one roof. It's a shareholder level, we run two companies and five shareholders, and the five shareholders then become the directors. We're now here at the partner level because we're a consulting firm.*"

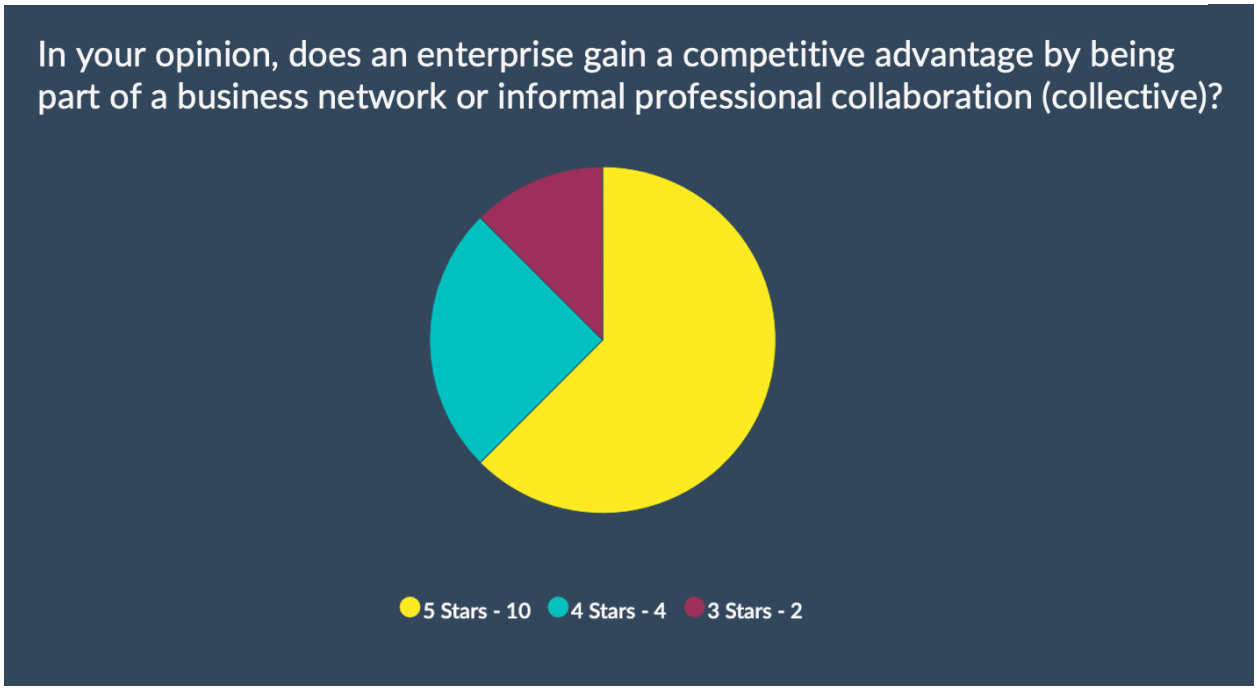
[Participant #8]

Each of the scenarios above demonstrate a different approach micro-enterprise firm have taken in order to scale sustainably through partnership collaborations in a "beneficial (financially profitable) relationship". The risk of operating in this way, from a reputational perspective primarily, has also been spoken to and a vetting process proposed to protect the primary firm with the client relationship from falling due to the third-party firm not delivering their part. Participant #3 shared this approach to safeguard one's firm from the higher level of exposure that partnership brings as follows, "*I think it's very important to be able to have a process for identifying partnerships, and then actually a process template for contracting and actually delivering.*" This sheds new light on the challenges firms face when trying to collaborate and connect with other firms.

Value-Based Collaboration

Graph 9: Competitiveness & Networks

*Ratings given by participants with **1 star** being the lowest possible ranking and **5 stars** being the highest. Most respondents saw competitive advantage in being part of a network.*



Graph #9 Findings: Of the 25 participants, 16 participants responded to the question, "In your opinion, does an enterprise gain a competitive advantage by being part of a business network or informal professional collaboration (collective)? – Of the 16, a large majority totalling 14 gave a score of 4 starts or more and 10 gave a score of 5 stars which is the highest score signifying agreement with the statement. Therefore, it can be concluded that the majority of micro enterprise firms believe that they can gain a competitive advantage by joining or participating actively in a network or collective group of professionals.

The researcher took a closer look at the data, identifying key respondent's views on participation in networks or collectives. The identified respondents shared these comments in addition to scoring the question above:

"The opportunities are endless especially because a collaborative approach in sourcing new leads with other professionals really expands the amount of experience in terms of years and value for our clients as opposed to looking for opportunities as an independent consultant."

[Respondent #18]

Formalisation of business processes influenced by the network *"The network has seen my business develop better S.O.P. This has then enabled the business to develop strategic plans."*

[*Respondent #19]*

"[Networks provide] access to knowledge resources you may be lacking internally."

[Respondent #16]

"The ability to scale resources in an (agile manner). Lower overheads as resource are only brought in when needed and an expanded knowledge pool widening product offering or capability".

[Respondent #22]

"I don't think I'd still be here still in business and still with a positive outlook for the future, had it not been for the communities we've helped create along the way."

[*Participant # 6]*

"*Being part of an informal group of professionals working collaboratively has been really helpful in expanding my knowledge and allowing me to use the power of collaboration to get work and be profitable as an independent consultant."*

[Respondent #18]

"*We plan around our business model and project portfolio to deliver on our strategy. In our space visibility is key so information systems planning and the use of digital tools with a combination of physical presence (to a lesser extent) is important."* [*Respondent #22]* - This respondent therefore would do well being part of a business hub that offers some work or meeting space to enable the perception they project about their enterprise to be achieved though their membership in that business hub.

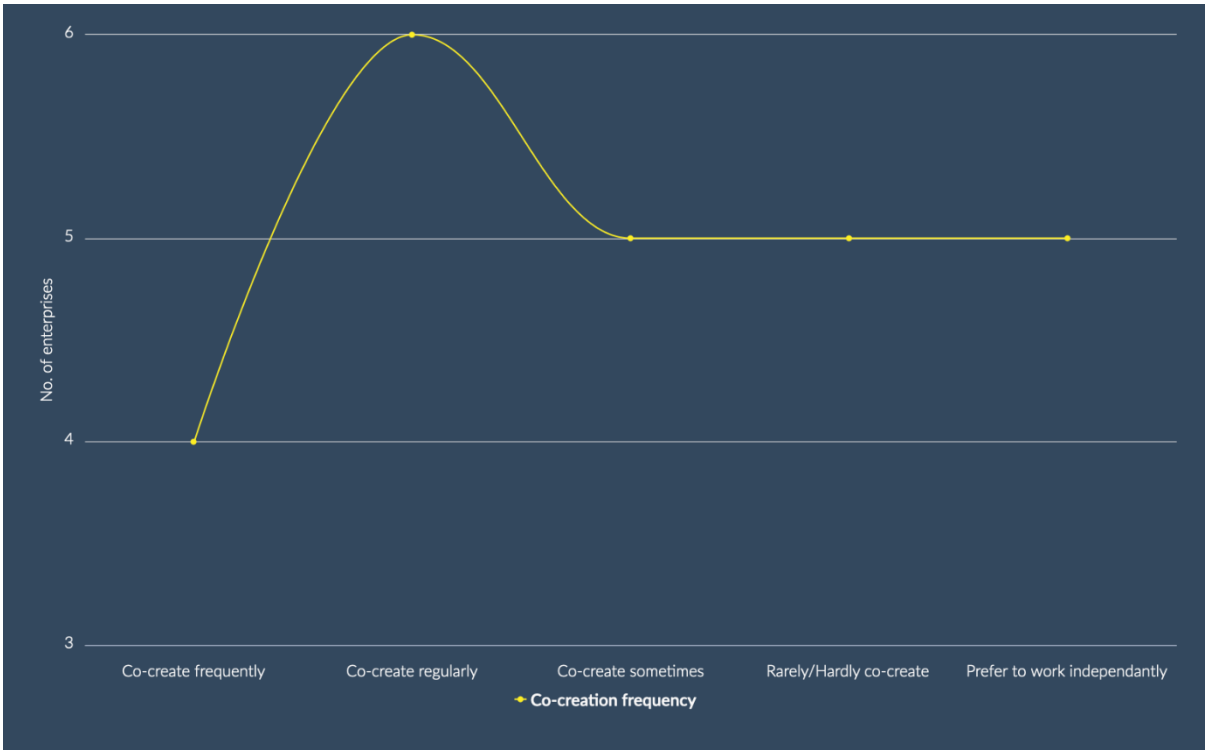
Defining the Trust Economy"

Trust is a unit of measure that the researcher has seen used by the micro enterprise firms that participated in the study across the dataset. "Trust and trustworthiness are important in achieving efficiency in the economy" (Arai, 2007). Trust drives the decision on whether or not micro enterprise firms collaborate/partner with one enterprise or another. The trust issue is multi-faced and even more so where scarcity, hyperinflation, regulatory inefficiencies and corruption best describes the economic context that these firms are operating in. The researcher has learnt from the data that in the context of Zimbabwe's entrepreneurial ecosystem, trust is currency with which micro enterprise firms refer one another, hire one another, collaborate with each other in a group/circle/pack/community/network.

The faces of trust we can see in the data are those relating to (1) reputation of the person giving trust in recommending the other, (2) financial in as far as giving the other person work that is critical to delivery to a client and (3) collaboration in pooling resources together with the goal of co-creation. Trust in this sense is significant, it is also difficult to measure, one participant

described it as a feeling they get about another person, making trust very individualistic and personal as well. Trust is built over time, proven even and is a pre-requisite for collaboration.

Graph 10: Perceived extent of microenterprise collaboration for business model development



Graph #10 Findings: The co-creation frequency (Graph 9) is very revealing of the respondent's attitude towards co-creation and is an indicator of their risk appetite and the level of trust they place in the network they are a part of. The frequency of co-creation (partnership/collaborative working together to achieve financial gain) varies across the sample size. Four (4) respondents recognised as frequent co-creators which means they are fully integrated into a co-creative business model / strategy for how they work today. An indication that strong 'trust relationships' are in place. Six (6) respondents identified themselves as "regular" co-creators indicating that they are open to co-creating and have the flexibility to partner as and when it makes sense. This perhaps being an indication of the firms having trust established in those collaborative relationships.

Co-Creation is recognised as an important avenue towards sustainability and profitability in the Zimbabwean context particularly for those enterprises seeking to grow.

However, an equal number of five (5) responses, shown below in the following, identified as, 'Sometimes co-creating, Rarely/hardly co-creating and prefer to work independently.' Ten (10)

micro enterprise firms demonstrated that they approach co-creation cautiously and therefore they are less likely to partner. The "trust factor" is a mitigating factor for collaboration and particularly for the five (5) businesses that prefer not to partner. Some respondents indicated that they had been let down and this had impacted them financially or reputationally resulting in a decision to not work with or partner with other enterprises.

The following statements from the focus group participants give a first-hand account of the importance of trust within this community of people in this context:

Table 7: Quotations on TRUST (Trust Economy)

Participant	Quote/Comment
Participant 1	"Networking and collaboration have been very crucial, I think, to our survival…You got to be really careful who it is that you recommend or who you partner with." "The way we've done it is that we are moving in this as a pack."
Participant 2	"So, the more we move in a pack and as we're agreeing on the power of having your pack to move with, and also being able to identify companies that you want to work with."
Participant 3	"And sometimes volunteer when a colleague is doing a project," (To build trust)
Participant 4	"The saying that your network is your net worth is lived every day in Zimbabwe." "Often you find that in that network, you've done work for each other. So, you can vouch exactly for what the next guy can provide."
Participant 5	"And that way you get to see within your circles, people being referred to you, because they know you're good." "Working within a circle. I've found so much support in working within a circle."

4.4 Summary

In this chapter the researcher laid out the findings from the data analysis process that was undertaken. The researcher followed the methodology outlined in the previous chapter which resulted in the key themes being identified. The following conclusions were drawn guided by the analysis of the themes relevant to the research question. Specifically, the purpose of this chapter was demonstrating how the empirical data can answer the objectives of this study. The researcher explored how knowledge services based micro enterprise firms navigate the contextual barriers.

Internal Competence of the Firm (Leader) – An important finding was the attributes of the entrepreneurs leading the micro-enterprise firms. The characteristics identified by the study sample size group include grit, patience, determination, flexibility, detailed oriented, risk managers, strategic thinker, adaptable, agile yet planners, business continuity planners, being good communicators, ability to pivot, optimistic outlook, innovative, risk mitigator, leveraging technology, customer focused, frugal and being a bricoleur. Understanding how these micro enterprise firms navigate their operating environment and for viability despite these challenges is the primary focus of this study.

Adaptive and Innovative Practices of the Firm - The innovativeness and adaptive disposition of the micro enterprise firms came through strongly in the findings. This disposition positively impacted their ability to manage the impacts of changes in the macro level environment (contextual barriers) on their business model was identified as being essential to the firm's survival. The firm's perspective on knowledge acquisition and general approach to collaboration were also noted as being innovate in their execution and impact on their business models.

Knowledge Exchange - All the participants identified knowledge exchange as well as general information sharing as an essential part of their business and product development. Knowledge acquisition was considered necessary by all the respondents with some also generating knowledge. The findings showed that knowledge exchange, particularly within a co-creative network is 'a specific innovate strategy' towards adapting business models. Generally, the

perception was that products and services were improved through knowledge accessed from the networks that the participants / respondents are involved in. However, the processes for knowledge exchange were found to be inconsistent and informal, across the respondent profiles as shown on Graph 4.

Enterprising Communities and Co-Creative Partnerships - The micro enterprise firms highlighted that a consistent referral pipeline is essential for their survival, and they view networks / groups / communities as a credible avenue to access these opportunities. Most respondents indicated that they joined a community/group or network in order to get access to opportunities and referrals as well as industry specific information. The majority of micro enterprise firms participating in the study believed that they could gain a competitive advantage by joining or participating actively in a network or collective group of professionals. The co-creation frequency demonstrated that co-creation is not as widely practiced however due to the concerns around trust. Collaborative working is another avenue that was viewed to provide access to new opportunities including referral business. The benefit identified by the micro enterprise firms as being most essential in a collective or network are access to regional and international clients, access t**o** partnerships that will enable the firms to scale, and the agility to do so. Lead generation was also identified as an essential service required from benefit-based networks as leads convert into paying clients.

Enterprise communities innovate in the ways in which they promote collaboration and co-creation enables firms to combine and re-combine their resources and share their skills in order to maximise on market opportunities which motivates them to join these enterprising groups in a bid to grow their revenue base. The current approach to organising of these business hubs however is not meeting the needs of micro enterprise firms and therefore there is an opportunity for innovation in this space.

5. DISCUSSION

5.1. Overview

The research question was considered through the theoretical lens of National Innovation Systems theory (Johnson & Lundvall, 2020; Lundvall et al., 2009; Lundvall, 2016) which was applied to the dataset collected from knowledge services based micro enterprise firms from Zimbabwe's knowledge economy that participated in this research. This theory is supported by two concepts, bricolage (Linna, 2013) and business model adaptation (Saebi et al., 2017). The focus of the study was the exploration of how innovation could be exploited to improve firms' performance in the Zimbabwean context, being a frontier market economy with its complex socio-economic challenges driven by its political economy (Foss & Saebi, 2018a; J. L. Jones, 2010; Ndafira et al., 2022). Also considered was the supporting concept of enterprising ecosystems that self-organise for growth leveraging innovation (Fransman, 2018; Sjödin, 2019; Valkokari, 2015a) and sharing based on trust.

5.2 The Peculiarities of Zimbabwe's Context

In this section, we will consider the differences that the Zimbabwe situation makes to the traditional understanding of knowledge economy, micro-enterprise firms, and their leaders and the barriers that are unique to this specific group of enterprises.

5.2.1 Zimbabwe's Knowledge Economy

Zimbabwe had a growing knowledge economy in the late 1990's into the early 2000's which declined along with every other sector as the economy has failed and companies have closed consistently over the last two decades (J. L. Jones, 2010; Kanyenze et al., 2017a; Matamanda et al., 2020b). In recent years, the knowledge economy has experienced a revival evidenced by local micro-enterprise firms emerging across all sectors, filling the gap that the collapse of the economy in previous decades has created. These micro enterprise firms along with international knowledge-based firms supply knowledge services to Zimbabwe's private sector (local market), however there is need to examine the country's capacity to nurture and grow the knowledge economy. Utilising the World Bank's Knowledge Economy Index (KEI) (Asongu

& Tchamyou, 2016) to measure the status of Zimbabwe's knowledge economy at national level Zimbabwe, in principle, meets the requirement pillars including the pillar on education, evidenced by Zimbabwe's highly skilled population that generates, uses, and shares knowledge in various sectors. In this study for example, of the 25 respondents who participated, 24 have an undergraduate degree and of those, 14 have a master's degree which supports the positioning of the sector being populated with highly skilled (educated) miro-enterprise firm (leaders). The economic incentive however is not practically applied as there are no specific policies from taxation through to the promotion of inventions and new innovations, that are in place to motivate innovation or make the processes of setting up an enterprise to foster innovation easier. Instead, the regulatory environment is deliberately punitive and designed to collect revenue over and above any other benefit it could offer by way of tax breaks and other economic incentives.

This is evidenced by the increase of taxation across the board year on year and the blanket approach to taxation for micro, small, medium, and large businesses alike. This lack of political will to invest in and create a conducive environment for innovation can also be seen in the weak government institutions that are present and charged with the role of fostering and diffusing innovation in the country. The primary challenge is that these institutions are not funded and without resource it is impossible to discharge their duties. The private sector institutions that also have a national role to play in this system, like telecommunications companies are also failing to make information and communications technologies (ICT) accessible, particularly to universities and micro and small businesses that have limited resource. Furthermore, the government heavily taxes these companies with substantial license fees which are inevitably passed on to the customer making internet connectivity unaffordable in Zimbabwe for the majority.

Furthermore, Zimbabwe cannot demonstrate that it has a connected network of 'research centres, universities, think tanks, private enterprises, associations, and communities of practice' that carry out and analyse research, generate knowledge, tap into the growing stock of global knowledge, contextualise it for local application and actively diffuse this knowledge and information to industry, enabling innovation. During this research it was ascertained that Zimbabwe does in fact have all the required components of a 'national innovation system' however, it lacks the political will to introduce regulatory reform to reduce taxation on new enterprises particularly in the knowledge economy. Other economic incentives that could be

introduced include the creation of special economic zones and policies to promote innovation whilst fully funding all the relevant institutions that participate in the NIS. Whilst political will to drive innovation has waned consistently over the last two decades, it must be recognised that innovation has not been wholly stifled in the country and the ways in which innovation is being driven should be recognised.

The various actors in the innovation system have bi-passed the inefficient national innovation systems in order to promote and carry out innovation, connecting with one another as the need arises and working independently where there is no access. For example, there has been a rise in innovation hubs in Zimbabwe, which are essentially business hubs that act as intermediary (bridging) institutions. Some have been established within universities like the Harare Institute of Technology and others are independent coming out of the private sector from independent hubs to those coming out of establishments like banks and financial institutions. These types of institutions establish relationships with individual organisations and companies to create their own sub-systems of innovation to derive economic value to varying degrees of success and failure. This approach of creating "*independent sub-systems of innovation*" is the avenue Zimbabwean micro enterprises will have to take if they want to develop a sustainable ecosystem for the knowledge economy to grown in. In this discussion, this study will consider closely what steps need to be taken to achieve these '*independent sub-systems of innovation'* which are not sector or region specific but rather more cluster based in nature based on a multifaceted number of parameters.

5.2.2 Contextual Barriers Specific to Knowledge Economy Micro-Enterprises

A critical line of inquiry during this research was to understand the primary contextual barriers that primarily impact micro-enterprise firms in the knowledge economy in Zimbabwe. The study confirmed that general contextual barriers including tax compliance and other business administration processes, inconsistent power supply and regulatory inconsistencies, affect these firms. However, there are some barriers that disproportionately affect this sector, namely the cost and reliability of internet connectivity and access to knowledge / information.

Information and communication technologies (ICT) based companies that offer internet connectivity and Mobile Data services are heavily taxed and pay hefty licensing fees to operate in Zimbabwe. These costs are passed directly onto the consumer making their services very

expensive and inaccessible to the majority of citizens which is challenging for knowledge serviced based firms that rely on internet connectivity to carry out their work, communicate with their clients and to search for and harvest information. Cost is even more so an issue, considering that the end user of some of the products or services created by the firms are for mass market consumption through digital devices. In addition to the cost of connectivity, there is a reliability issue as well which is linked in part to an inconsistent power supply and to the inefficiency of the services offered due to human failure and or poor customer service.

As the name *knowledge economy* implies, this sector is driven by the generation, analysis, diffusion and exchange of knowledge and information. It is essential for the micro enterprise firms to be able to access data from a cross section of sectors and generated from a variety of sources including but not limited to national institutions and research bodies. This information informs the firms on national statistics and industry specific knowledge that enables them to provide value to their clients. The challenges these firms face in accessing information is similar to that of their client's as well, which in turn limits innovation in the whole ecosystem.

One respondent described a project they were delivering for a bank to promote financial inclusion. They had developed an application to register rural populations on the banking platform. In a number of rural constituencies, they found that they were unable to connect to the central platform due to the mobile operators' base stations not being electrified and the backup generators not kicking in to provide backup power and therefore there was no connectivity in the area, even for those who could afford to pay for it, for several hours. This issue could have cost the firm time and delayed the project however they had invested in the knowledge that enables the development of offline applications and therefore they were able to register offline and save the information which then uploaded once they were back online. This situation is a learning that needs to be shared widely as it is an innovative way to work around the contextual challenges they faced. Whilst work arounds are possible and are being commonly utilised in Zimbabwe as a means of, 'making do', there is certainly need for a parallel process to take place whereby the private sector lobby the government to provide policies that support the sector's development through access to more consistent power supply, affordable access to internet connectivity and access to information (national research and development reports). The reason why the polices need to be changed is because the 'workarounds' are temporary fixes which will not lead to sustainable growth for any micro enterprise firm or private sector actor seeking to utilise information technology to grow their

businesses and better serve their customer base which knowledge services-based enterprises are designed to enable and support.

5.2.3 Zimbabwe's Micro-Enterprise Firms

Knowledge services based micro enterprise firms can be defined as being formalised (banked and tax compliant), early-stage businesses (under 10 years of operation). They have fewer than 10 employees, are predominantly started independently and owned privately by the founder(s) and earn less than one hundred thousand United States dollars (US$100,000.00) a year. These micro enterprises typically have a client base that is mainly International, regional and local corporate companies (private sector), International and local Non-Governmental Organisation (NGO) and Government (Minges, 2016; OECD, 2017). They are growth-oriented however their growth is inhibited by the complexity of the regulatory and operating environment in the country that hampers the scaling of enterprises. Zimbabwe continues to rank very low in the ease of doing business index (World Bank) due to the lengthy processes involved in formalisation coupled with the cumbersome and often confusing policies, taxation and other regulations imposed on formalised businesses which do not take into account size of enterprise or years of operation. The administrative bottlenecks faced by micro enterprise firms were identified clearly in the dataset collected during this research. The respondents to the survey confirmed the need for administrative services to support compliance (taxation) and other areas including marketing for these micro enterprise firms. These and other services could be a very relevant offering to micro enterprise firms by intermediary institutions (business hubs) to enable them to remain compliant and able to trade broadly in the private and public sectors. Through the offering of this service, a key barrier to growth by these firms, that is, remaining tax complaint which is linked to your ability to access business banking in Zimbabwe, can be removed. The removal of this barrier automatically opens up the firm's access to a broader client base particularly, locally, as formalisation is desirable for the knowledge services market.

5.2.4 Attributes of a Resilient Micro- Enterprise Firm Leader

When considering the type of entrepreneur that is required to lead and build some knowledge services-based micro-enterprise firm in a volatile frontier market economy like Zimbabwe, it

is clear that there are some specific characteristics this individual needs to have to enable them to successfully navigate the economic turbulence that come with operating in Zimbabwe and yet still manage to achieve productivity sustainably. As evidenced in the research findings, the entrepreneur here needs to have the mindset of a change agent that is unphased by pressure, able to make decisions quickly in a rapidly changing operating environment, and cope with the uncertainty in the market due to regulatory and policy inconsistencies and sometimes just complete absurdity. The entrepreneur leading the micro enterprise firm needs to be one who responds well in a crisis and is adaptive, innovative and exhibits stuffiest agility in their approach to change not to be disillusioned or discouraged if it takes longer for them to achieve their goal.

The ability to adapt is a core skill required of a micro enterprise firm leader is another important characteristic here. As the main research question and sub-questions are seeking to understand the role the micro enterprise firm plays in its own survival, it was viewed by the participants to be a relevant and core skill to be developed. 'Self-organising' which means, in this instance, the adaptive nature of the firm leader and, interpreted for the purposes of this study also appears to suggest the adaptiveness or agility of the firm's business model and the innovativeness of the firm. The firm's adaptiveness was viewed as starting with its response to its customer when it comes to delivering value and responding to customer needs or suggestions. The more answers the firm is to its customers, the easier it is for the firm to react positively to environmental threats on the basis of developing an adaptive culture and embedding change management principles and practices into the firm's business model. This point was highlighted by the contribution of one *respondent who stated that, "the ever-changing economies we live in require agility and ability to innovate with expanded skills. Access to knowledge and speed of [adaptation] and innovation is crucial to our businesses' survival*". With these baseline attributes clearly described, it is possible to explore other attributes that fortify the entrepreneur (firm leader) to the more significant benefit of the firm, namely, the innovator, the communicator, the strategist, the bootstrapper and the bricoleur.

The Innovator

Innovation has been viewed as the main driver for productivity, competitiveness, and growth in an economy (Fransman, 2018), to the benefit of micro enterprise firms and the economies they compete in. Innovation drivers are typically the leaders (entrepreneurs) of these micro-

enterprise firms particularly in the knowledge economy where the service that is provided to the market often results in new products and services. It has been evidenced in literature that micro enterprise firms (driven by their leaders /innovators) have been playing a significant role in the National Innovation Systems (NIS) framework of many economies and leading the charge in the adoption of innovation and information communication technologies in the developing world (B. Å. Lundvall et al., 2009; Muchie et al., 2003; Tilman Altenburg and Christian von Drachenfels, 2007; Watkins et al., 2015; World Bank, 2007)

Being innovative and promoting a culture of innovation is important for the growth of the firm and continued relevance of the firm in the business ecosystem it participates in. **"**Our relational approach helped us avoid costly litigation. When the money lost value we understood that our expertise didn't lose value, so we used our knowledge & skills as the business."

The Communicator

Having good communication skills be it with your team (internal communication) or with your customers and partners (external communication) is essential and more than that, designing and operationalising a good communications strategy could be the difference between success and closure for a miro enterprise firm. A good commination strategy particularly when navigating turbulence in your environment is critical. One respondent shared how their firm survived the de-dollarisation programme that Zimbabwe underwent in 2018-2019 as the Zimbabwe dollar was re-introduced to the economy and announced as being equivalent to one United State dollar on the launch day.

The current disparities aside, there was no notice of this monetary policy change that had as far-reaching impact as Zimbabweans who had paid in full for international payments which were yet to be transmitted through the banking system, waking up to find that their payment could no longer be honoured as the banks could not justify the unit of exchange as being equal to the US Dollar in the international markets. One respondent in the financial services sector explained, "our relational approach helped us avoid costly litigation. When the money lost value we understood that our expertise didn't lose value, so we used our knowledge & skills as the business." Good communicators who remain customer-focused have a strategic advantage over other firms as the firm is less likely to lose customers during volatile times in the economy even if their spend rate reduces.

The Strategist

As has been documented in the literature review, business model *adaptation* emphasis on the capabilities of 'leadership and learning mechanisms' which are at the centre of "consequential business model evolution" (Foss & Saebi, 2017, 2018) is another aspect for consideration. The link between business model evolution and business strategy is very powerful. In a micro-enterprise firm, the strategy is driven by the leader of the firm.

The strategist works both "in the businesses, delivering value to the market (services/product) whilst they work "on the business", that is, listening to customer feedback, studying the economy, continuously engaging supplies and collaborators and talking to their teams. This discipline will enable the entrepreneurs to lead their miro enterprise firm through processes of change in a measured response to all that is happening around them. With this in mind, it has been confirmed through the submissions of the respondents in this research that business model adaptation is a strategic function in the business therefore it can be defined as, the process by which the firm's leader (management) actively aligns the firm's business model to a changing environment (Foss & Saebi, 2018; Saebi et al., 2017).

The behaviours and mindsets of these leaders of these micro-enterprise firms are of particular interest when considering how they make decisions as well as decision making processes of micro enterprise firms when faced with the day-to-day challenges of their environment. The strategist also plays a pivotal role in risk management. Managing risk particularly in volatile market conditions is an essential attribute. Not all challenges are from the macro-economic environment (government policy level disruption), some risk stems from business operations, customer dissatisfaction, poor customer service and other micro-economic level issues, some of which the firm can control and some which it cannot.

Another respondent reflected as follows; "[in our firm] we look at what could go wrong and build our models in a way that mitigates our risks of loss as much as possible and makes profitability probable. This has taken the form of minimising costs without sacrificing quality & relationships, leveraging technology to improve the manageable workload by employees" and in so doing mitigate any known or foreseeable risk that the micro enterprise may be exposed to.

The Bricoleur

“The bricoleur is someone who is engaged in the practice of bricolage which includes the possession of a set of "odds and ends," which may be physical artifacts, skills, or ideas that are accumulated" based on the principle that 'they may always come in handy” (Baker & Nelson, 2005a), broadly these are the resources the bricoleur is expected to rely upon when practicing bricolage. Bricolage is typically regarded as a behavioural trait or skill (Witell et al., 2017b) that allows entrepreneurs (firms) to be agile in their business operations and therefore able to pivot in the face of challenging resource-poor environments easily. Essentially 'making something out of nothing, in many instances in order to survive is what the firm leader, the bricoleur is required to do’ (Witell et al., 2017b). This state of ‘hustling,’ to make good, is very closely associated with the bricolage capability of ‘making do’ with what is available, Witell et al (2005), which implies a bias toward action and active engagement with problems or opportunities rather than lingering over questions of whether or not the decided action will achieve the desired outcome or not (Baker & Nelson, 2005b).

Action and in some instances, acting quickly in and of itself does not necessarily suggest an entrepreneur that is unfocused and, in a hurry, to move without a strategy, or clear plan. On the contrary, in this context, the bricoleur activates business strategy and makes a move based on a calculated decision. The movement made to take a chance and access an opportunity or protect a market position for the businesses where resource is scarce is very brave. This course of action suggests an entrepreneur is in control of their enterprise and willing to pull up their sleeves and work hard to get through a development process and overcome challenges that are holding them back from achieving productivity and pushing through.

The temptation to ‘just act’ without clarity of where the complete resources will come from and without consultation with the client (market) particularly where the micro-enterprise firm is operating in resource-constrained environments is high and the risk that they fail to deliver value to their clients is high , This however is where the firm being part of or participating in an business hub environment becomes essential as in this context a group of micro enterprise firms working well together (partnership) to support and protect the entrepreneur (the firm) and the customer (client) .

In Zimbabwe's resource-scare economy, a bricoleur mindset is essential for micro enterprise firms to survive. On a daily basis they are required to, 'make a plan' or *kukiya kiya* which means, to make something out of next to nothing (J. L. Jones, 2010). This is a quality that has been attributed to Zimbabweans as a nation, speaking to their ability to pivot and adapt quickly to every change the government introduces, restricting the operating environment further and further. It is a quality that if coupled with innovativeness, strategy and effective communication can be applied to adapt the firm's business model to achieve productivity and provide value to the firm's customers.

Significance of the Firm Leader Attributes

A strong relationship between the attributes of a micro enterprise firm leader (entrepreneur) and the positive development (evolution) of the enterprise's business model has been reported in the literature. The attributes and skills identified here provide a good foundation for any micro enterprise firm leader (entrepreneur / founder) that is operating in the Zimbabwean economy. These are also the attributes required for an influential member of a business hub and co-creation partner. A firm needs to have strong leadership to enable it to navigate the contextual barriers highlighted above that occur in Zimbabwe's volatile operating environment. Ultimately, the most important attribute that the entrepreneur / firm leader can have been a belief in their self-worth and the relevance of their micro-enterprise firm at all times but most importantly, during turbulent times particularly in the knowledge economy, a sector that is regenerating after suffering a decline, also due to Zimbabwe's recent socio-economic and political history.

One respondent reflected, "So I think one of the things that the chaos in this market has allowed us to do is take some time to think and ask ourselves, what is the true value that we bring to the table?" In understanding and articulating the firm's value, the firm leader is able to effectively participate and create value in a business hub / partnership. The conceptual model presented at the end of this chapter requires the participation in an enterprising community of firm leaders that exhibit these attributes and skills as identified through the research participants.

5.3 Business Model Adaptive and Innovative Practices

It is interesting to note that in both focus group discussions, in this study, it was identified that the process of navigating the contextual barriers affecting knowledge-based micro enterprise firms operating in Zimbabwe, requires an agile approach to the firm's business model's evolution. The firm, driven by leaders who display the attributes, behaviours and mindsets highlighted in the previous section, are able to develop progressive and responsive decision-making processes for the micro enterprise firm. These decision-making processes are essential to enable the firm to adapt when faced with the day-to-day challenges of their environment. Where the operating environment changes regularly in Zimbabwe, it is essential to not only access information but to actively look for information that can guide the decision-making process on what and how the firm will respond to the prevailing environment.

5.3.1 Adaptive Practices

Traditionally, business models were developed to ensure the execution of a set of structured and interdependent operational activities and to support critical relationships within and between an established firm and its external stakeholders (clients / consumers and collaborators) (Miller et al., 2014; Saebi et al., 2017). Typically, changes in the business model in response to a volatile operating environment are not usually dramatically transformative where the business is concerned. This is most true when a business model is proven to be sound or when adaptation is a minor shift, even when the context continues to exhibit signs of instability. The business culture, consumer dynamics, effects of competition and the regulatory environment in a country all play key roles in a firm adapting its business model processes, service, or product. Where the business culture which according to literature is typically stability focused and change-averse, the consumer perspective, on the other hand, concentrates on relationship and value, whilst the effects of competition creating pressure on the firm to accelerate their business performance, often prematurely, and the regulatory environment that is out of the firms control all have an effect on the firm's response.

The most prominent finding to emerge from the analysis, however, is that contrary to the traditional understanding and use of business model adaptation as found in western oriented

literature, continuous adaptation is commonplace in Zimbabwe. Firms in this context need to have a strategy for change management embedded in their day-to-day activities which incorporates activities that specifically look for and mitigate threats to the firm. The active search for information that could impact the firm's ability to operate, understand how that information affects the enterprise, and make the necessary adjustments (adaptations) to ensure they can continue to work. Firms in this context cannot always respond appropriately to the macro-level threats to their enterprise as often these threats are beyond their control and the resulting action required could mean completely remodelling their enterprise. This was the case for one respondent who is in the financial services sector, supporting families to access international universities by providing finance for tuition payments. A monetary policy directive that was introduced into the economy in September 2018 completely eroded its clients' funds, which could no longer cover the tuition fees, and they were not in a position to fund the difference (shortfall) caused by the government directive. The micro enterprise firm had to completely change its business model from financing and guaranteeing fees to providing an advisory service on how their clients could get the fees payments made particularly for South African Universities.

This level of threat that has the capacity to completely destroy your business model and forces you to re-invent yourself as you go, has happened more than once in Zimbabwe and as a result, the average Zimbabwean micro-enterprise firm operates with the 'trauma' of such past policy changes and therefore also in constant anticipation of a similar event retaking place. This fear alone motivates firms to be vigilant, (alert and aware) of what policy is being implemented and seek understanding as to what the impact will be for their firms. Therefore, unlike their western counterparts whose instabilities are often short-lived, Zimbabwean firms are in the constant throws of shock as the economy goes through various iterations of volatility particularly when the Reserve Bank of Zimbabwe is striving to bring stability to the exchange rate. In the Zimbabwean context therefore, there is an equal chance of opportunity or threat, or for both to interchange consistently in any given operating period of a micro enterprise firm.

Much like bricolage, when the adaptation is forced or hurried (not considered) due to the constraints in the business environment, the impact can be very detrimental to quality and service delivery particularly when a firm feels like they don't have any control of the situation. Adapting the business model incrementally over time is an appropriate action for a firm seeking

to weather the storms of consistent instability whilst continuing to deliver a quality service to their customers and even grow their customer base.

Whilst research has found that a firm leader is more likely to adapt (take risks) to pursue an opportunity than they would to protect the firm from a threat, those firms operating in Zimbabwe by default of context tend to take risks more readily, generally, and this is to ensure survival in the face of a threat or to try and secure the future when considering an opportunity for growth.

5.4 Knowledge Exchange and Learning

5.4.1 Learning Culture

Knowledge acquisition for the purposes of learning is a central theme of the National Innovation Systems theory (NIS). The understanding gained through literature of the value that knowledge acquisition and diffusion brings to a firm or business hub for firms is substantial. In order to successfully foster innovation, learning must be a fundamental practice carried out with the goal of fostering innovation at firm level. (Schumpeter et al., n.d.; Vlasenko, 2017b). The process of clustering, that is, the development of 'knowledge exchange hubs' that bring micro enterprise firms together with the shared purpose of seeking information and knowledge, sharing the knowledge they had generated or sourced and collectively dissecting the information with a view to gain understanding. These firms have the opportunity to leverage 'collaborative bricolage', and this ultimately results in the firm either innovating or adapting its business model in response to the environment and its new positioning in the market as part of that business hub (Schumpeter et al., 2017).

Collaboration plays a vital role in channelling new knowledge and critical information into the adaptation process of the business model (processes), products or services of a firm. Within an innovation system, collaboration creates value for all participants, enabling them to 'work-around' the bottlenecks that hinder their productivity. Where the firms agree that their primary goal is to achieve productivity, the commitment of the micro-enterprise firms to focus their energies and resources is significant. In these scenarios, micro enterprises actively participate in shared learning whereby knowledge and information are sought out specifically to solve the problem that has sparked the collaboration. This is by no means formal learning but rather a

version of the traditional research and development (R&D) at a more micro, far less resourced scale. Research and Development is a key NIS exercise carried out primarily by institutions and large corporate companies under the innovation banner when they are trying to develop new products for the market. In this case, the purpose of the micro enterprise firm's investigations is to gain sufficient information on how they can pivot or re-position their product or services 'enough' to regain traction in the market and make sales. This process tends to result in an adaptation of the product or services, and through cross pollination with other micro enterprises, the core business model could shift (adapt) in the process as described by a number of the focus group participants. This is often a natural process particularly in the Zimbabwean context were responding to the volatile operating environment requires a firm to make incremental and regular changes to their business strategy. These changes often result in the type of connections experienced by the participants in the study who spoke of how they find themselves 'self-organising' into collaborative teams to work on solving a particular challenge they have in common with other firms or that they are supporting the resolution of because of their previous experiences which have given them insight into the issue (knowledge exchange).

5.4.2 Knowledge Management

It is important to note here that whilst the learning culture in the Zimbabwean context for micro enterprise firms is more organic and situational than structured and pre-determined, there are some firms who have taken the opposite approach and have either established or joined a structured collaborative learning collaborative specifically to practice knowledge exchange. Access to such 'collaborative learning hubs' in the context of Zimbabwe could be the difference between survival and closure for many micro enterprise firms. It would be a mistake to underestimate the powerful impact of (1) knowledge exchange (generation and diffusion) (2) networking events where firms meet and share their experiences, (3) formal research in the sector and various sub-sectors these firms operate in.

Information acquisition and management requires a strategic approach to digital transformation which demands a radical shift in strategy both in business strategy and in information systems management strategy (Makiwa & Steyn, 2019; Mungofa, 2018) and 'collaborative learning hubs' require a high level of organisation and process to ensure that the knowledge/information shared is current, relevant, and accurate. Such a management system would need a digital

repository to make the information accessible to multiple micro enterprise firms working from various locations across the business ecosystem. This also creates a platform where the same firms can share the knowledge they generate as they practice and learn, which creates a meaningful knowledge exchange process.

5.5 Enterprising Communities

5.5.1 Innovation Systems

Micro enterprise firms seeking to collaborate and come together for the purposes of knowledge sharing or to take up an economic opportunity often do so informally through personal networks outside a formal structure in Zimbabwe. The reasons for this informality have been linked to a lack of credible or suitable business hubs to join formally that are properly structured or simply no access to those that are. The majority of associations and business hubs available in the country including the Zimbabwe National Chamber of Commerce do not cater to the knowledge economy. The support they provide is limited in that, for example, they provide information and industry specific knowledge, but they do not specifically foster innovation or have a system of knowledge exchange (generation analysis and diffusion of new knowledge and information). This limitation of the available associations presents a gap that can be filled with what NIS calls bridging or 'intermediary' institutions. Bridging (intermediary) institutions are organisations that facilitate information exchange through collaboration and connecting enterprises through processes that are designed to develop new value, driven through business hubs. These institutions also provide technical or consultancy services to support the enterprise firms within their ecosystem. NIS also considers in these business ecosystems, customers as key actors with a part to play in a localised systems of innovation as the consumer or the innovations developed (Schumpeter et al. 2017).

In an innovation pipeline, the micro enterprise firm, the bridging institution (business hubs) and customers (market) are linked in a 'production chain' which goes beyond networking to adding value through the creation of new products, whilst enabling all forms of knowledge sharing and exchange throughout the pipeline (Schumpeter, 2017.) The overarching aim of such a pipeline is to create new products and services and increase productivity. These actors together drive innovation and promote knowledge exchange amongst themselves. A number of

these clusters of pipelines together forms an ecosystem. Business ecosystems are designed to be interactive, co-creative and value creating. Most modern technological products, technological services and other knowledge-based services are typically co-created through collaborative relationships of firms in business ecosystems, who are linked through the sharing of resources that enable them to create value (Fransman, 2018).

The business ecosystem concept is a viable categorisation of the collaborative working potential for Zimbabwe's knowledge services micro enterprise firms. These firms are organised in business hubs (be it informal or formal through bridging institutions) and their customers and partners seeking to co-create to achieve economic value (services/products) and viability (increased business performance). Where the national system of innovation in Zimbabwe is underdeveloped, therefore, inefficient, business ecosystems are developed at the micro level of the economy providing innovation pipelines that enable knowledge exchange, learning and co-creation of new products and services. These ecosystems have the ability to engage academia and research institutions and bring them into the pipeline of knowledge generation and exchange. These ecosystems need to be properly constituted, with structure and clarity of process, whereby each actor is clear about their role in the system.

5.5.2 Co-Creative Partnerships

Trust was utilised by a number of firms as a unit of measurement in determining if a potential collaborator should be given access to their firm's business and customers. Knowledge services-based enterprises are built on the reputations of their founders and key professional consultants that lead the company and projects of the organisation. When partnering with another micro enterprise firm, there is a considerable risk to both personal (firm leader) and business reputational risk. It is essential for the micro enterprise firm and its leader to mitigate that risk as much as possible by carrying out due diligence checks of their own (that is, speaking to other existing collaborators, partners, and clients of the subject to ascertain work ethic and reputation).

When considering partnering in the knowledge services sector, some of the micro enterprise firms interviewed during this research shared their processes of deciding "who" to partner with. Some indicated that reputation was a significant factor for them, whilst others pointed out that

they tended to gravitate towards those who they have worked with before or who have been referred to them by a trusted source. Others highlighted that this was sufficient if they met the other firm in a meeting of a group of collaborators (business hubs) which was an adequate reference. Meanwhile others selected people that they had known previously in a personal capacity and who had the competence to do the work / collaborate on the project. The consistent theme across all their responses was in fact 'trust'.

During the data analysis process, it was noted that participant #3 from the focus group interviews shared this approach to safeguard their firm from the higher level of exposure that partnership brings as follows, "*I think it's very important to be able to have a process for identifying partnerships, and then a process template for contracting and actually delivering.*" This sheds new light on the challenges firms face when trying to collaborate and connect with other firms. It also shows the clear need for firms to not just network (socially), but for them to have access to intermediary organisations like business hubs that enable business to happen and transactions to take place safely to reduce reputation risk of failure. There also needs to be a variety of engagement points that meet the needs of different types of firms from those who want to connect multiple different firms to gain leads and opportunities to those that can want to connect to specific types of firms looking for a more focused community of practice and co-creative working environment (relationship).

The current knowledge on the success factors for service innovation collaborations, such as formalised new service development processes, have not been viewed from the partnership perspective of resource-constraints (Witell et al., 2017). This presents the case for a bricolage perspective to be utilised to explain how service innovation success can be achieved in resource-constrained environments thereby positively influencing service innovation outcomes. Improvision in service industries has been found to require significant innovativeness. Service innovation is a process of 'accessing the necessary resources, (re)combining them, and converting them into new services.' (Witell et al., 2017). Firms have to be creative with the issue of resourcing service innovation and this sometimes requires them to leverage collaboratives and pool resources. In so doing they can support the service innovation project at hand in a bid to utilise the knowledge gained through the partnerships (external partners including bridging institutions and customers) for development. To improvise and recombine with the goal of creating new services/products that the market can afford and are willing to pay for (competitiveness) firms need to strategically gather and

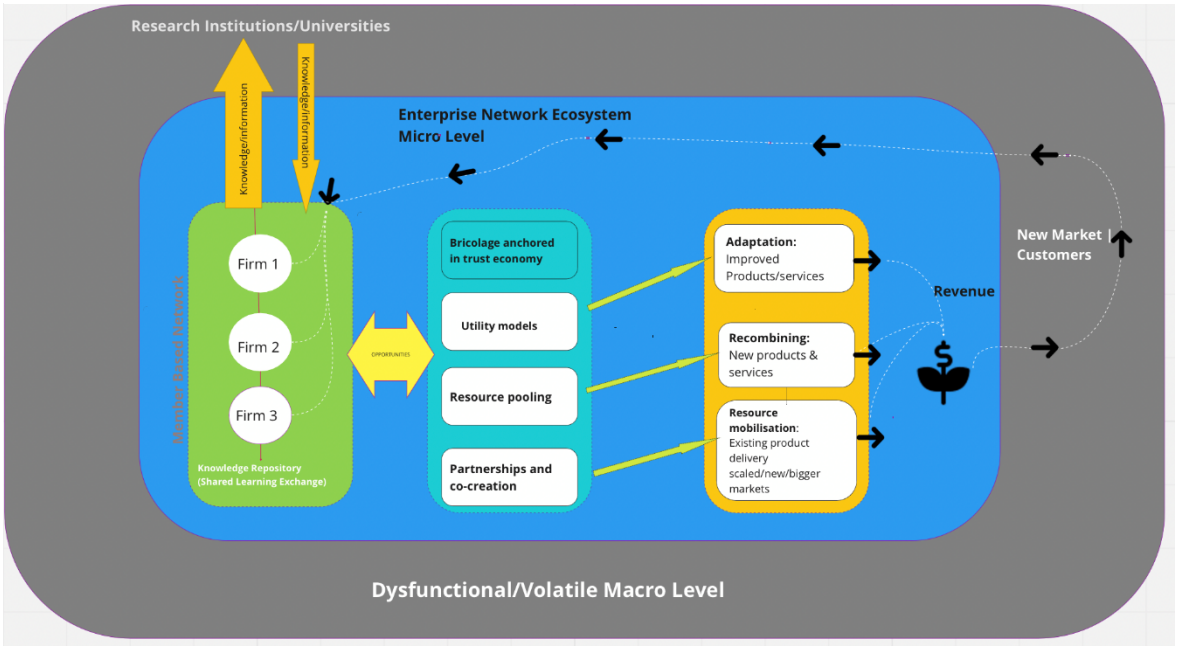
allocate resources at the right time in the innovation process (Salunke et al., 2013; Senyard et al., 2014; Witell et al., 2017). Recombining resources sometimes serves as a mechanism for driving new innovations in the form of co-created new "services" from existing resources" (Baker & Nelson, 2005).

In Zimbabwe, micro enterprise firms find it challenging to access funding for their enterprises to develop new services and products and partnering with other highly skilled micro enterprises that have some resources, combining their skills and financial resources (pooling) to bypass the difficulty in accessing loans to develop new products whilst reducing the cost of development through partnership models that ensure a percentage share of the profits where the new service or product is successfully launched into the market. Knowledge-based micro enterprise firms in Zimbabwe can benefit significantly from this type of partnership model giving them the ability to move quickly securing the resources they need to advance a service or product to market.

A concern has been raised in the literature that whilst bricolage can go a long way to address the resourcing issue, it also can result in inferior quality products, services and service delivery going to the market. The pooling of resources described here can increase the overall resource base accessed from the partners in the ecosystem to enable recombining and co-creation of new value in their service offering. Firms have to be creative with the issue of resourcing by leveraging their partnerships in the business ecosystem in a bid to utilise the knowledge they have gained to improvise and recombine with the goal of creating new services/products for the market (competitiveness) (Salunke et al., 2013; Senyard et al., 2014; Witell et al., 2017). In addition to combining their resources, a business ecosystem collaboration means there is a structure and process to how the micro enterprise firms come together and co-create. This structure can provide the firms with the necessary guidance and strategies that enables them to ensure quality (quality control).

5.6 Proposed Conceptual Model

Figure 7: Collaborative Enterprise Ecosystem Model



5.6.1 General Overview

The *collaborative enterprise ecosystem model* depicted in figure 6 is a proposed approach to start to develop some structure around the more informal methods witnessed in the research to co-creation. This model has been adapted and expanded from the bottom half of the Betz et al., 2016 NIS model (figure 1). The primary focus areas for the model are:
(1) knowledge repository (bank),
(2) Opportunities channel
(3) Innovation Pipeline and
(4) new markets.

(1) Knowledge Repository

The knowledge repository represented in light green in the model, is the primary section in the model which is representative of the "bridging institution: or: intermediary institutions" as described in NIS theory and bricolage. These business ecosystems are the gatekeepers that hold the rule book and ensure that they adhere to and that all relevant and agreed processes are followed by all members of business hubs.

Membership: This business hub is formally structured and is membership-based with a vetting process, prior to admission. This vetting process will establish a baseline for all members and will result in an electronic record for each business hub member. These records can then be relied upon by all other members as they consider connecting with collaboration partners. Member profiles of this business hub would typically be high-impact micro enterprise firms that are less than ten years in operation, willing to work in co-creative commercial projects and collaborate with other enterprise. The goal behind this vetting process is to document the skills and resource base of the membership, establish trust among the members, a unit of analysis that was highlighted as necessary during the focus group interviews and in the digital survey findings.

Function of the Business Hub: Members must be willing to work in co-creative commercial projects following a pre-determined format designed to ensure that innovation is practiced through collaboration with the goal of achieving commercially viable new products, improving existing products. Working collaboratively with other enterprises in the same business ecosystem with some financial resources turn would not only participate in acquiring information, but they will also be invited to generate new knowledge as part of the research teams they are assigned to, as well as work collaboratively in projects.

Knowledge interchange - It is essential to note the yellow arrows at the top of the repository are bringing in and sending out information. These were placed there in recognition that this ecosystem cannot create all the information that is needed to innovate internally and there continues to be a need to engage and learn from actors outside the ecosystem (universities, research institutions etc). Likewise, the knowledge generated inside the ecosystem has value beyond the collective and should be shared widely as this business ecosystem's contribution to the national innovation system.

(2) Opportunities Channel

The knowledge repository is connected to the *Opportunities Channel* which filters all of the relevant opportunities. In this channel the entrepreneurs either express interest in or bid for opportunities (commercial projects that bring a financial return to each participating firm). Typically, Members in the business hub would post a chance they have observed in the market

but are not in a position to capitalise on it by themselves and see the benefit of sharing the opportunity as there is a ready market for the product or service.

(3) Innovation Pipeline

The next stage is the innovation pipeline inspired by the Bricolage capabilities of recombining as well as collaborative partnering. This pipeline is where any new utility models, products or services are developed. The micro enterprise firms in the business hub each play a role in the development process based on their skill set and interest in the project at hand.

Utility Models – These are new designs (adaptations or novel inventions) inspired by knowledge hubs and / or the work of the firm(s) and interactions with the market (clients/customers).

Resource Pooling –The members of the business hub bring their personal resources together to build capacity and use their collective resources to invest in new ideas and accelerate them to market.

Partnerships through Co-Creation – This speaks to the micro-enterprise firm's skills and what they bring to the table to complement those of the other members as the collaborative projects are developed and tested.

(4) New markets

Once the new or improved (revised) products or services are ready for market, the segment is then able to deploy the same into the open market and attract new customers in the process.

Adaptation: Improvement of an existing product or service
Recombining – Taking existing resources and applying them to a new product or service.
Resource Mobilisation to finance the production of existing theories in co-creation (these resources are sourced from the actors in the ecosystem be it the firms themselves, the intermediary institutions that have the resources or even from customers who are invested in seeing the product/service developed as it will benefit their business ventures.) This is important in the model as it seeks to solve the challenge faced in the global South whereby there is no structured Angel or Venture Capital investment financing for early-stage businesses

and the banking sector's funding is either unavailable (firms don't meet the criteria) or too expensive (Zimbabwe's current interest rate on bank loans is 180% Per Anum). Creating funding pipelines for themselves is the only way some firms will be able to breakthrough and start to grow, automate, and improve quality of their service / product.

The completed products or services are put into the open market (on sale to consumers). In some instances, the consumers are part of the innovation processes whereby they participate in testing the product or service as it is being developed and providing valuable insight into the final service or product, they are willing to pay for. In circumstances like these the initial consumers can either pre-order the product or service or receive the first batch or round of services complimentary, as a reward, for their participation in developing the product or service.

Ecosystem – All the activity described above is taking place in a defined ecosystem which has been naturally constituted by the need in the economy for innovation and development which requires nurturing to become a meaningful and substantive system that can enable sustainable development and economic growth.

5.6.1 Response to Gap in Literature

This chapter overall aimed to contribute to the growing body of scholarly literature examining collaboration through business ecosystems and knowledge exchange as drivers of innovation in enterprise development. Through knowledge sharing, innovating, and co-creating to achieve commercial viability in a conducive business ecosystem that addresses some of the primary bottlenecks faced by microenterprises including access to finance, knowledge, and operating space. This study explored the relationship between individual micro-enterprise firms in Zimbabwe's knowledge economy, the bridging institutions (Anggraeni et al., 2007), they naturally form or join for the purposes of survival, and the market they service (customers/consumers) as well as the national institutions that work even in part to foster innovation. The model proposed in this paper presents the idea of solidifying the NIS and bricolage frameworks of creating collectives for co-creation and extends that concept to the development of micro-ecosystems (business hubs) that can insulate firms from the volatile negative macro-economic conditions prevalent in Zimbabwe.

6. CONCLUSIONS AND RECOMMENDATIONS

Overview

This exploration was carried out with a view to understanding what, if any influence innovation (Chen, 2017), (knowledge exchange and collaboration) has on the business process, product/service development and performance of micro-enterprise firms in the knowledge economy. This line of inquiry was sparked by observations made of the micro-enterprise firms as they navigate the barriers to growth presented by the Zimbabwean context. An understanding of the role of collaboration in the form of sharing of resources, knowledge, opportunities and skills played in the overall productivity and sustainability of these enterprises was sought. How all of these factors influence the overall viability of these knowledge service based micro-enterprise firms given their socioeconomic conditions and limitations was explored (G. Kanyenze et al., 2017a; Mlambo, 2017). The resulting model was put forward as an idea of how a process could be put into place to create a conducive micro-ecosystem that enables growth and viability for these firms even in the harshest socio-economic and political context.

6.1 Limitations

This study had general imitations inbuilt in terms of timeline to complete it, the budget or lack of funding to carry out the research and the complexity of exploring an emerging sector that is still yet to re-establish itself.

A limitation which impacted on the generalisability, validity and potential bias of the research study was presented here in that whilst micro-enterprise firms participated, the majority were from Harare even though efforts were made to reach knowledge services based micro enterprise firms in other cities in Zimbabwe. It may be interesting to further extend this survey to those living and working in a neighbouring country to gain a comparative analysis of the experiences faced by the two groups.

What could have added more rigour to the results of this study is if the data collected was extended to bridging institutions. The reason for this is that none of the institutions that are currently in Zimbabwe meet this study's definition of a bridging (intermediary) institution. An interesting perspective that could have been achieved is how micro-enterprise firms really act when part of a structured business ecosystem compared to how they behave in their informal collectives.

Additionally, a more extensive exploration of these knowledge services micro-enterprise firms, grouping them and delving deeper into the variation of their experiences based on their sub-sectors could bring some interesting insights that could make this area of study richer.

6.2 Recommendations

The literature from the bricolage concept and NIS theory do present an approach to business ecosystems or co-creative collectives where sharing knowledge and resources as part of a partnership relationship, these relationships are not forged and developed in the western hemisphere in the same way they are in Africa. The differences between the two contexts begin but do not end with the two contexts being at different developmental stages and being at very different stages of NIS development. Considering innovation systems from the perspective of developing a framework around a structured '*collaborative learning* to be established and be promoted highlighting the value they add to the firm members in resource constrained environments. These networks being established in business ecosystems which bring all the key actors together, may be able to by-pass the differences and utilise the concepts and theories presented in literature, adapted to the African context, with Zimbabwe being the most difficult to establish and grow a business in.

6.2 Opportunities for Future Research

This study has identified opportunities for further research, including the following areas:

• Identification of bridging institutions and carrying out case studies to understand how they are constituted, what services it provides, whom its primary audience / membership are and to what extend they fit into the model proposed here.

• Identifying and bringing into the model, other institutions recognised under NIS theory, namely universities and research institutions to see if they are able to effectively work independently as part of the extended business ecosystems model in an environment that has an underdeveloped national innovation system.

• Identification of micro-enterprise firms in a different sector may also demonstrate differences in terms of experience of NIS and or access to information (e.g., Agriculture sector for example which is a priority sector in Zimbabwe).

6.3 Conclusion

An initial objective of this research project was to make a concerted effort to gain a deeper understanding of how knowledge services based micro-enterprise firms can maintain or increase their productivity and achieve viability (Awotoye & Singh, n.d.), whilst navigating a plethora of contextual barriers in a resource constrained environment. As these firms are operating in the knowledge economy, the specific interest and focus for this study was in understanding if and how innovation systems can be leveraged to enable sustainable growth for these firms on an individual (firm) and collective level.

This study explored the relationship between individual micro-enterprise firms in Zimbabwe's knowledge economy and their ecosystems (Anggraeni et al., 2007) to understand what, if any influence innovation (Chen, 2017), (knowledge exchange and collaboration) has on their business process, product/service development and performance. An understanding of the role of collaboration in the form of sharing of resources, knowledge, opportunities and skills played in the overall productivity and sustainability of these enterprises was sought. How all of these factors influence the overall viability of these knowledge service based micro-enterprise firms given their socioeconomic conditions and limitations was explored (G. Kanyenze et al., 2017a; Mlambo, 2017).

The theories employed in this research are not new and in fact have been well documented in literature for decades, however their application to the Zimbabwean context presents an exciting space where a clear gap can be observed between the spirit of the theories and concepts and the practical application of the same in Zimbabwe. The influence of this blend of theories and concepts in the Zimbabwean context was explored with national innovation systems theory

leading the charge supported by the concepts of bricolage and business model innovation, all considered from the perspective of these firms overcoming their contextual barriers and national innovations systems inadequacies by exploring the development of dynamic business ecosystems connecting all the key actors in the micro level of the economy to enable them to achieve viability in spite of the macro level dynamics of hyperinflation, monetary policy inconsistencies, weak government institutions and a lack of political will to create a conducive environment for growth. The proposed model on how these theories and concepts can be leveraged together to create a new framework for the use of innovation to create a mechanism for growth of micro-enterprise firms facing similar constraints in this and other sectors.

7. References, Figures, Graphs and Tables

Figures

Graphs

Tables

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