Understanding the organisational capabilities required for MSMEs to adopt circular economy business models

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ABSTRACT

Waste management is increasingly becoming a global challenge due to the increase in population leading to an increased demand for food, water, energy and other resources. MSMEs are argued to be responsible for a bulk of environmental problems such as pollution and waste. Transitioning to a circular economy is argued to be important approach that move businesses away from the "take-make-use-dispose" linear business model to one that slows or closes the resource loop allowing resources to circulate in a system for as long as they reasonably can, while maintaining high levels of utility. The circular economy concept however is still developing and therefore there is still limited research on the transition of SMEs in developing countries. This research therefore aimed to provide insights into the organisational capabilities of MSMEs transform to a circular economy, highlighting the barriers they face.

The study followed a qualitative research approach, gathering primary data through 12 semi-structured online and telephonic interviews with individuals representing MSMEs, environmental experts and policy experts. The three groups were interviewed to establish how SMEs in Eswatini were incorporating circular economy into their business models using dynamic capabilities as a framework. The research further aimed to understand the organisational barriers for the adoption of circular economy approaches.

The study found that the MSMEs were not implementing circular economy practices or approaches due to inadequate information on how to derive value from circularity. The study further found that circular economy did not form part of decision making for MSMEs when pursuing new business interests due to the lack of a green mindset as well as financial, technical, cultural, policy and capacity barriers.

The insights from this study contribute towards understanding the enablers for a sustainable circular economy, with a focus on MSMEs. Future research in this field could focus on the socio-environmental and socio-economic impacts of implementing circular economy approaches in MSMEs.

KEYWORDS

DECLARATION

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

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1.1 Introduction

The urban population in low- and middle-income cities is expected to continue to rise, resulting in the increased demand for food, energy and water (Ddiba et al., 2020). This increase in consumption patterns is expected to increase the amount of waste generated (Rizos et al., 2016). Sustainable development is important for economic growth in order to satisfy present needs while making sure mankind's ability to meet its needs in future is not compromised (Murray et al., 2017). The linear economy has historically been the conventional business model which focuses on the extraction of raw material, processing it to make finished goods, which are then disposed once they reach the end of their useful lives (Ghisellini & Ulgiati, 2020). The linear economy does not take sustainability into consideration and causes serious environmental challenges due to waste disposal. As a result, waste landfills are filling up with different material that causes environmental hazards (Ghisellini & Ulgiati, 2020). It is therefore important to reconsider the approach to development and redefine how businesses define and attain sustainability, to extend beyond profits, by factoring in social and environmental considerations (Murray et al., 2017).

Several concepts have since emerged from the sustainable development and climate change debate, such as green growth, the green economy and the circular economy (Kirchherr et al., 2017). The circular economy has been argued to have gained the most attention amongst policymakers, the business community, in literature and in practice through its approach of sustainable integration of environmental protection into economic activity (Murray et al., 2017 Sohal, 2022). Collective action is important in order to reduce the effects of climate change and environmental degradation which will require a society-wide approach towards adaptation and mitigation of climate change (Malhi et al., 2020). A paradigm shift at all levels of society is therefore necessary to transition from the linear business model approach to circular business models using innovation as a driver for more sustainable use of resources (Geissdoerfer et al., 2018). This study therefore focused on the circular economy, in particular the capabilities of small to medium enterprises in Eswatini to implement innovative circular economy business models.

1.2 Problem statement

The circular economy is an improved business strategy for the business community to move away from the "take-make-use-dispose" linear business model to one that slows or closes the resource

loop (Hysa et al., 2020). This allows resources to circulate in a system for as long as they reasonably can, while maintaining high levels of utility (cradle-to-cradle principle) (Mangers et al., 2021). In a linear supply chain, natural resources are extracted to develop products which are then disposed of along with their packaging and other related material, once they reach their end of life (EoL) (Farooque et al., 2019). A closed loop supply chain aims to reduce the amount of waste that reaches landfills through recovering value from products and their packaging (Rizos et al., 2016). The design phase of product development should therefore take into account end of life cycles (Ellen MacArthur Foundation, 2012).

The challenge however is that original supply chains are not designed with a closed loop in mind and therefore still generate a considerable amount of waste (Farooque et al., 2019). The circular economy approach therefore puts emphasis on collaboration between stakeholders within a particular value chain and associated value chains to create circular supply chains that do not generate waste (Farooque et al., 2019). It is for this reason that private sector participation is a priority for realising a circular economy. Large businesses, multinational companies, as well as small to medium enterprises (SMEs) are gradually becoming enlightened on the potential benefits they could derive from adopting circular economy approaches through circular economy business models (Lewandowski, 2016).

The adoption of circular economy business models hindered by demographic challenges such as urbanisation and population growth which leads to increased consumption and waste. The costs of material, technology and other inputs are on the rise and further the regulatory environment is constantly evolving (Schroeder et al., 2019). New generations have differently behaviour patterns, mindsets and approaches to problem solving and the associated technology being developed is also changing rapidly. Rizos et al. (2016) suggested the need to develop a "green" mindset as part of the company's culture; leveraging on the power of networks for sharing of information and best practices with other SMEs and stakeholders in the value chain; creating communities of practice to enhance skill and knowledge and cultivating a culture of innovation. This calls for agility within business and upgrades to their business models (Piispanen et al., 2019).

It is for this reason that special attention is being paid to SMEs which constitute a significant portion of the business community (Ormazabal et al., 2018). SMEs are therefore by extension responsible for a bulk of environmental problems which include pollution, water and energy usage as well waste production since they were established and still operate on the linear

economy (Ormazabal et al., 2018). Biondi et al. (2002) argued that SMEs are largely concerned with economic considerations and have no understanding of the linkage between environmental practices and the bottom line. SMEs in developing countries also still have challenges in mainstreaming social and environmental considerations into economic activities to ensure they are sustainable (Sohal, 2022). These interlinkages have also not been comprehensively studied in the context of the circular economy, in developing counties (Sohal, 2022). Several policy measures and instruments have been developed to mainstream these interlinkages to support the green transition of SMEs; however, research still shows that several financial, regulatory, technological, organisational and behavioural barriers still exist (Ormazabal et al., 2018).

Eco-innovation has recently emerged as an important concept which contributes towards the complex transition from linear to circular business models (Whicher et al., 2018). Innovation however requires companies to adopt and implement several practices, routines, change company culture through developing dynamic capabilities (Sehnem et al., 2021). Dynamic capabilities are therefore pivotal in ensuring that businesses thrive in a rapidly changing and complex business environment (Teece, 2018).

1.3 Purpose statement

This research sought to understand the organisational capabilities required for MSMEs to adopt circular economy business models in the context of Eswatini. It aimed to understand the level of awareness of the circular economy by MSMEs in Eswatini and how this translates into circular economy activities. This study further intended to gain insight into how MSMEs in Eswatini identify new opportunities and how new circular economy innovations or practices are factored into their decision making using dynamic capabilities as the anchoring framework. It further aimed to contribute towards a better understanding of the barriers to circular economy implementation by MSMEs in Eswatini. The research findings aimed to contribute towards recommendations on enablers for a sustainable circular economy.

1.4 Research setting

Eswatini is a developing country and one of the members states who have ratified the Paris Agreement under the United Nations Framework Convention on Climate Change (Government of Eswatini, 2021). The Government of Eswatini has further developed and published its Nationally Determined Contributions, which is the country's commitment to take

action on climate change adaptation and mitigation (Government of Eswatini, 2021b). Eswatini's commitment to addressing climate change has resulted in the development of several policies and legislation such as the National Climate Change Policy (Government of Eswatini, 2016), Solid waste regulations (Government of Eswatini, 2000) and recently enacted law banning singly use plastic bags (Government of Eswatini, 2021a). These frameworks and legal tools contribute towards the attainment of a circular economy although their effectiveness has not been assessed.

Solid waste management continues to be a global environmental challenge which countries need to deal with. In the Sub-Saharan Africa context, it is largely driven by growing economic activity and rapid urbanisation (Shi et al., 2021). The COVID-19 pandemic introduced further complications to waste management, through increased volumes of waste, in particular plastic and food waste which co-mingled with virus-laden biomedical waste (Sharma et al., 2020). This not only poses threats to the environment but also human health, in particular municipal workers and informal waste pickers (Sharma et al., 2020).

The United Nations in Eswatini (2020) estimated that approximately 65,800 more people will be pushed into poverty because of the pandemic, the bulk of which are youth, erasing any significant gains that had been realised in the pre-COVID era (United Nations Eswatini, 2020). The high levels of unemployment coupled with the lack of adequate waste management systems create an opportunity for the development adoption of circular economy approach through creation of waste value chains in Eswatini, to minimize pollution while also improving livelihoods (Eswatini Environment Authority, 2020). MSMEs were as a result prioritised in Eswatini's private sector led COVID19 recovery plan which was developed by Government to create jobs in the manufacturing, industry, agriculture, tourism & environment sectors (Government of Eswatini, 2020). MSME involvement environmental sustainability initiatives, in particular the circular economy is still very limited in Eswatini (Eswatini Environment Authority, 2020). There is therefore scope to explore how SMEs in Eswatini can actively participate in waste management, using the circular economy approach.

1.5 Contributions of the proposed research

The circular economy model is constantly evolving in terms of how it is defined, its boundaries as well as its core principles and practices (Merli et al., 2018). Several theoretical lenses such as environmental economics, ecological economics and industrial psychology, have been used to study the circular economy, which lends it to being associated with a wide range of

concepts (Ghisellini, 2016). Parajuly et al. (2020) however argued that the root of most environmental challenges is human behaviour therefore the shift towards attaining a circular economy requires a better understanding of the intrinsic and extrinsic attributes to human behaviour (Parajuly et al., 2020). Intrinsic attributes are psychological in nature and include variables such as beliefs, values, attitudes, motivations, intentions, habits and knowledge. Extrinsic attributes on the other hand include norms (social and cultural), financial implications and constraints (infrastructural and institutional constraints) (Muranko et al., 2018).

The development of sustainable business models is considered to be pivotal to circular economy research and has gained recognition as an important business construct, however the principle has not been adequately debated academically, in business and sustainability literature (Merli, 2018). Merli (2018) also found that academic research has not adequately covered the social impacts of circular economy, which is important in the achievement of sustainability. Furthermore Bocken et al. (2017) argued that the private sector is interested in the circular economy, however this has not translated into practice because of the difficulty in business models addressing socioenvironmental issues while also achieving scale. This was attributed to barriers which include the limited awareness and understanding of the drivers for a successful circular economy business model (Bocken et al., 2022).

A further research gap exists on the transition of organisations from linear business models to circular business models (Sehnem et al., 2020). Existing literature has debated the topic with a focus on recycling and eco-innovation however Sehnem et al. (2020) argued that there is still a need to expand this body of knowledge through managerial and strategic lenses. There is a potential for circular economy business models to fail due to the costs associated in implementing circular economy strategies, which has a negative impact on profitability (Ghisellini, 2016). This calls for the development of well thought out enabling policies and frameworks to bring about positive externalities (Ghisellini, 2016).

Piispanen et al. (2019) therefore recommended the need to build up on existing literature on environmental practices and behaviour, which has been centred largely on individuals and large businesses. The authors highlighted research on the impacts of implementing circular economy approaches in small- to- medium sized enterprises (SMEs) as well as the adoption of circular economy business models through developing SME circular economy organisational capabilities and corporate culture as potential areas for future research. Teece (2018) argued that there are strong interlinkages between business models, a firm's dynamic capabilities as well as its strategy. Dynamic capabilities are therefore pivotal in shaping a firm's business model to align with emerging changes in the business environment (Teece, 2018).

The authors argue that these inter-relationships have been studied extensively from a theoretical perspective however there is still a need for a better understanding from an empirical perspective.

This research therefore sought to contribute towards enhancing existing studies on the circular economy in the developing country context through understanding awareness, the dynamic capabilities, technical, social, environmental and policy considerations for the transition towards a circular economy by micro small and medium enterprises (MSMEs) in Eswatini. The terms SMEs and MSMEs will be used interchangeably throughout this research.

1.6 Definition of key constructs

The key constructs of this study were circular economy, circular economy business models, circular business model innovation and dynamic capabilities. Dynamical capabilities were the theory anchoring this research and the key constructs used were sensing, seizing and transforming. The circular economy construct was analysed through establishing the level of awareness about the circular economy, its benefits through the adoption as part of the business's strategy and the barriers towards the adoption of the circular economy approach in MSMEs.

The circular economy business models construct was used to understand what the status of transition from a linear economy to a circular economy, including the strategies the MSMEs in Eswatini employ, if any. Innovation was argued to be crucial to the success of achieving a circular economy (Sehnem et al., 2020). The authors conducted an integrative analysis of research on circular economy and innovation which culminated in the conceptual framework which is made up of six propositions based on the influence of the following sub-constructs: relational capabilities, dynamic capabilities, absorptive capabilities, innovation practices, eco-innovation and business models on the transition towards a circular economy. Dynamic capabilities were found to have a positive influence on the adoption of circular economy practices.

1.7 Outline of document

Chapter 1 introduces the topic of the circular economy and the need for the business community to take action. The research problem and purpose were defined, including how this study aimed to contribute towards advancing research from an academic and business

perspective. It concluded with the definition of the key concepts which were explored in this study.

Chapter 2 constitutes the literature reviewed on dynamic capabilities and its linkages to the circular economy, circular economy business models, circular economy business model innovation. The literature review framed the research questions outlined in Chapter 3. Chapter 4 details the research approach and methodology which were used in undertaking the research. Chapter 5 presents the research findings which were then discussed in detail in Chapter 6. The study then concluded in Chapter 7 where recommendations for future research were made.

Chapter 2: Literature review

2.1 Introduction

This chapter provides an overview of the literature which formed the foundation of this research. Senhem et al. (2020) found that dynamic capabilities positively influenced the transition to a circular economy. Dynamic capabilities were therefore chosen as the most relevant theoretical framework to use in this study linking them to the circular economy concept. The circular economy was then defined, and circular economy business models discussed. The chapter further provided a review of literature on the drivers and barriers to the transition to a circular economy, with a focus on the key enablers for the adoption of circular economy business models by MSMEs.

2.2 Theoretical Anchor: Dynamic Capabilities

According to the resource base view, a firm must possess certain tangible and intangible resources and core competencies, for it to perform and gain competitive advantage (Barney, 1991; Teece, 2018). These resources and core competencies therefore need to be unique, have significant value to the firm should and also be rare and non-substitutable (Teece, 2018). The resource-based view however was criticised for its lack of guidance on how management should develop these core competencies (Teece, 2007). Furthermore, it did not take into account the fact that firms operate in a complex, volatile and everchanging environment (Barney et al., 2011). Further to the shortcomings of the resource-based view is the argument that resources can erode, certain capabilities can diminish, and competitors can get ahead and develop competitive advantages (Wang & Ahmed, 2007). It is for this reason that Teece (2007) argued that a firm's resources and competencies need to be continuously renewed to create competitive advantage and there is a need to constantly search for new competitive advantages in order to stay ahead (Teece & Pisano, 1994).

The dynamic capabilities concept developed by Teece & Pisano (1994) builds up on the resource-based view by putting emphasis on the importance of a firm in consistently integrating, building and reconfiguring its competencies, faster than its competitors, in response to the environment which changes rapidly. The authors defined dynamic capabilities as a firm's unique internal and external capabilities which enable a firm to innovate, adapt and reconfigure its resources to align with or shape the changes in the environment, thus gaining competitive advantage (Teece, 2018). Dynamic capabilities therefore constitute the various routines and skills the firm uses to strengthen, align and adjust its internal competences to respond to and impose change to the business environment in which it operated (Teece,

2018). They are therefore an essential input into the design and implementation of a firm's strategy and business model, including its level of dynamism, to adjust its business model in line with the emerging trends while retaining its competitive edge (Teece, 2018).

Teece (2014) defines three core categories of capabilities as follows: i) processes, ii) position and paths. Processes refer to the manner in which a firm translates its strategy and business model into the daily functions of each employee. Position refers to the status of the firm, from the perspective of not only its finances, but also its human capital as well as its intellectual capital. Paths refer to the strategy, detailing the portfolio of products, target customers segments, deployment or resources and timing for taking action to maintain competitive advantage (Teece, 2014).
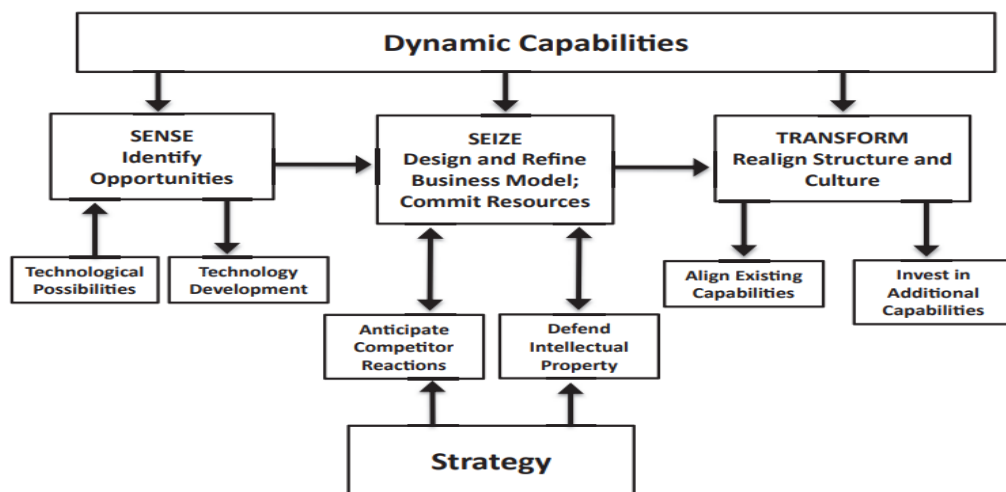
Figure 1: The relationship between dynamic capabilities, business models, and strategy. (Teece, 2018).

Dynamic capabilities can also be simplified according to the higher order dynamic capabilities which describe the ability of an organisation to sense opportunities and threats, seize them and transforming using its tangible and intangible assets (Teece, 2007). Figure 1 depicts a model of the dynamic capabilities' framework, showing the interrelationship between the organisation's dynamic capabilities and strategy, which influence the development of a sustainable business model (Teece, 2018).

The sensing capability refers to the act of scanning the business environment for opportunities and threats, analysing and interpreting the findings of the research based on the existing and new information emerging (Teece, 2007; Yeow et al., 2018). Sensing skills need to be part of the firm's skill set. Seizing capabilities refers to using the firm's strategy to act on the identified

opportunities which calls for investing in the firm's core competencies to ensure that they are maintained and enhanced (Yeow et al., 2018). Lastly, transforming refers to the revision and updating of the firm's processes as well as assets to ensure the firm is equipped to sense and seize new opportunities as they arise (Teece, 2007; Yeow et al., 2018).

Senhem et al. (2020) found that dynamic capabilities had the highest level of interest based on these skills being important to a business which requires agility to respond to a complex and changing business environment. Sehnem et al. (2020) therefore proposed that dynamic capabilities positively influence the transition to a circular economy. Dynamic capabilities were therefore chosen as the most relevant theoretical framework to use in this study.

2.3 The Circular Economy

The circular economy is defined as a business model which seeks to reduce the amount of waste produced by adding value to waste streams, through what is commonly known as the 'reduce, reuse, recycle, and replace' (4R) approach (Kalmykova et al., 2018; Murray et al., 2017; Piispanen et al., 2020). Kalmykova et al. (2018) depicts this approach in Figure 2 showing the cyclical flow of resources through a value chain in a circular economy, linking recycling and recovery back to material sourcing as shown. Mura et al. (2020) further qualifies this definition by arguing that circular economy goods are those that can be upgraded to increase their value and have the ability to be disassembled and converted into raw material for a new production process, with very minimal use of energy. Mostaghel & Chirumalla (2021) describe five stages through which a circular economy can be achieved, and these are: take, make, distribute, use and recover. A large emphasis is now being put on the recover stage which prompted the improvement from the reduce, reuse and recycling (3R) approach to 4R by including redesign (Mostaghel & Chirumalla, 2021).
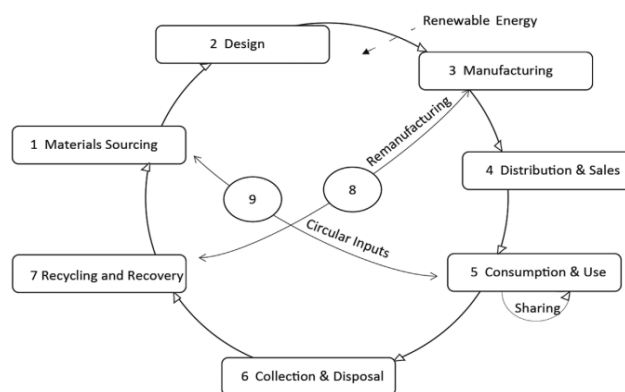
Figure 2: Resource flows through a value chain in a circular economy. Sourced from Kalmykova et al. (2018).

The circular economy is an improvement of the cradle-to-grave strategy in that it seeks to ensure that entire supply chains are ecologically effective and have long term sustainability (Piispanen et al., 2019). The cradle-to-grave strategy is also referred to as the linear economy, or the take, make and dispose model, which is defined as an economy focused on extracting raw material to convert it into goods through a production process which then results in waste once the product and its by-products reach the end of their useful life (Ghisellini, 2016). The entire linear process results in environmental degradation from the resource extraction stage, production (waste and emissions), consumption and ultimately disposal (Ghisellini, 2016).

The boundaries of circular economy have been questioned, including its interface with other pro-environmental concepts such as the bioeconomy as well as the green economy, which also seek to integrate environmental issues into economic and social issues (Murray et al., 2017). The authors build up on this definition by putting emphasis on the circular economy being a business model which maximises the functionality of ecosystems and considers the wellbeing of human beings through business process of planning, procurement of resources, manufacturing, processing and reprocessing. The circular economy therefore is an improvement on the extended producer responsibility (EPR) principle, forcing producers to take responsibility for the waste they produce not only through recycling but also through innovative design processes which deliberately factor in end-of-life considerations (Atasu, 2018).

2.3.1 Circular Economy Concepts

Two interconnected concepts which are unique to the circular economy are the closed-loop economy (recycling to eliminate waste) and the 'design to re-design' concept (designing with the intention for a product to be reusable). Another concept referred to in literature is that of slowing down, which is the process of extending a products utility period (Batista et al., 2019). The logic behind these concepts is that of deriving maximum value from products by extending their life cycles (recycling or reusing) as well as introducing efficiency from the reduced the need to extract new raw materials and reduce use of water and energy in the production process (Centobelli et al., 2020). Aligned to these concepts is the proposition by Mura et al. (2020) that in order to extend lifecycles of products, value of products while being used can be increased through designing them to be easily maintained and repaired.

2.3.2 Characteristics of the Circular Economy

Ormazabal et al. (2018) suggested that circular economy can be understood through four lenses. These are a cyclical lens, a multi-layered lens, as a vehicle for achieving sustainable development goals and as an enabler for society to innovate.

2.3.2.1   Cyclical

Resources and energy recirculate in a system, reducing the number of resources required and thus reducing the amount of waste produced as waste is also recovered. This introduces the need to be intentional in the design process ensuring that it is regenerative and reduces or eliminates waste streams (Parajuly at al., 2020). This entails the recirculation of resources where they go through a process of being transformed, used and returned back to be re-transformed into new products or components for new products in other value chains (Ormazabal et al., 2018). While such practices are meant to result in the reduction of end-of-life costs, it is argued that there are limited cases of such practices being implemented as there is very little incentive to promote resource recovery (Parajuly & Wenzel, 2017).

2.3.2.2   Multi – layered

The implementation of circular economy principles can be at the micro, meso and macro levels. Consumers and enterprises comprise the micro level. Economic agents comprise the meso level and institutions such as cities, regions and government comprise the macro level Parajuly (2020). The authors however argued that there is a lack of coordination between the layers, which hinders the attainment of a sustainable circular economy system. Circular economy models also need to focus on satisfying customer needs, which calls for coordination between institutions, the markets as well as policy makers (Parajuly, 2020).

2.3.2.3   As a crucial vehicle for the attainment of sustainable development goals (SDGs)

The circular economy can be argued to contribute (directly or indirectly) to the attainment of all SDGs through an approach that seeks to maintain balance between achievement of economic goals, protection of the environment, the innovative use of technology as well as social considerations (Merli et al., 2018; Schroeder et al., 2019). Authors Ghisellini et at. (2016) and Merli et al. (2018) argued that circular economy practices focus largely on the nexus between environmental and economic sustainability and strong and positive linkages with social considerations. The circular economy further has an intergenerational lens of protecting and preserving natural resources today, for generations to come (Merli et al., 2018).

The importance of the social construct is therefore worth considering for further research to look into issues such as social equity, moral and ethics (Merli et al., 2018).

2.3.2.4   Its influence on the ability of society to innovate

The implementation of circular economy practices and principles calls for innovative improvements in the design and implementation stages of business models with the aim of extending the life of a product, ensuring that once a product reaches its end of life, it can be reused and the material can be recovered as efficiently as possible (Ghisellini et al., 2016). Improving production processes to make them cleaner and more optimized is a core strategy for the attainment of circular economy (Parajuly at al., 2020). It is for this reason that authors Merli et al. (2018) strongly advocate for the urgent need to rethink the manner in which goods and services are designed and produced, as well as how they can continue to sustainably meet the daily needs of society. Such views on the need to adapt business models to include circular economy approaches have also been emphasised by authors De Jesus et al. (2018), Ghisellini et al. (2016) and Parajuly at al. (2020) who further highlighted the role of innovation in attainment of a circular economy.

2.4 Circular Economy business models

There are greater benefits that are associated with innovation and enhancing an organisation's business model rather than innovating at products or processes level (Geissdoerfer et al., 2018). Business models are enhanced through mainstreaming sustainability, to make them more resilient while creating additional opportunities for co-creating value (Geissdoerfer et al., 2018). This underpins the importance of developing creating the organisational agility through strengthening its capabilities to develop circular economy business models.

The circular business model is a framework that guides the introduction of circular economy principles in organisations to inform how resources are acquired and how processes are implemented, including all associated costs (Lewandowski, 2016). It differs from a basic business model which consists of the value proposition (product or service), a system for creating value and delivering it to customers as well as a system which defines how the business makes money and creates value for its shareholders (Zott et al., 2011). This is known as the linear business model which suggests that value is created from converting raw materials into new products. These products are then sold (value delivery) and value is captured from these sales as income (Foss & Saebi, 2017).

In order to be sustainable, a business model should go beyond economic value to integrate

natural capital and social capital (Schaltegger et al., 2016). The business model and mindset should therefore adapt to one where profits are continually being created from embedded value through closed resource loops (Rizos et al., 2016). Slowing resource loops and closing of resource loops can be achieved through altering the design of product and services, making it possible for customers to have them recycled, upgraded, repaired or remanufactured in future to extend their life (Rizos et al., 2016). In addition, the use of renewable energy and recyclable material in product development enhances the environmental benefits which can be derived from products or services (Rizos et al., 2016).

Rizos et al. (2016) built up on the existing linear business model to factor in slowing loop and closing loop strategies for extending the value proposition through introducing the concepts of value recreation, redelivery, value recapture. Value recreation refers to circular processes such as reusing, repairing, and remanufacturing of products of recycling them to produce new products. Value redelivery takes place when these products are either offered back to the market using ordinary sales channels while recapturing of value emanates at the point where these sales generate a profit from repairing, upgrading and remanufacturing processes (Rizos et al., 2016).

2.5 Capabilities for Circular Business Model Innovation

The paradigm shift necessary to move from the linear business model to a circular business model requires a different type of innovation to inform a more sustainable use of resources (Geissdoerfer et al., 2018). The authors argue that this innovative thinking process required a shift in the traditional way of thinking about value creation which is inherent in most businesses. Innovation therefore allows an organisation to introduce new processes, procedures and practices to enable the transition to a circular economy (Sehnem et al.,2020). Circular business model innovation also includes engaging non-traditional stakeholders and exploring co-development opportunities with the current and new partners in the businesses' value chain (Geissdoerfer et al., 2018).

Through their analysis, Senhem et al. (2020) identified the capacity of organisations to innovate as one of the important themes which were immerging in literature. The authors developed a conceptual framework which is premised on the following six propositions which are all influenced by innovation.
i.   Dynamic capabilities: the organisation transitioning to a circular economy will need to gain or retain competitive advantage and therefore requires dynamism in its processes and capabilities (Senhem et al., 2020).

ii. Relation capabilities: Relational capabilities refer to an organisation's procedures which guide how it carries out its work. By extension, relational capabilities also refer to the knowledge, skills, experience, attitudes and behaviour, all of which influence the transition to a circular economy (Sehnem et al., 2020).

iii. Absorptive capabilities: Circular economy innovation requires a new set of organisational skills supported by a dynamic knowledge management system which not only captures current knowledge but exploits new and emerging information to inform the development of new and innovative products and processes (Sehnem et al., 2020).

iv. Innovative practices: It is important that organisations breed a culture of innovation where creativity, cooperation, foresight, feedback and partnerships is encouraged and supported within and amongst teams (Sehnem et al., 2020).

v. Eco-innovation: An organisation engages in eco-innovation through adopting policies and practices which reduce negative organisation's negative impact on the environment (Sehnem et al., 2020).

vi. Business models: In the design of an organisation's business model, the aspects of creating, delivering and capturing value must be centred around circular economy principles and should therefore recreate, redeliver and recapture value (Sehnem et al., 2020).

2.6 SMEs and the Circular Economy

Companies demonstrate their commitment to the environment through adopting circular economy approaches in their values, culture and strategies to improve performance financial, social and environmental performance (Centobelli, 2021). This commitment demonstrates a company's consciousness, perception and understanding of the value and benefits of a circular economy (Centobelli, 2021). Lessons from countries such as China, India and South Africa demonstrate that beyond the environmental benefit of implementing circular economy approaches, organisations achieve improved efficiency through reduced consumption of energy, water and other resources as well as enhancing their competitive advantages (Sohal, 2021). Literature reviews by Kalmykova et al. (2018) found that the circular economy was adopted through the support of policy and legislation in China dating as far back as 2002 as part of its development strategy. It aimed to slow the rural urban migration. A further benefit is the increased overall wellbeing of the communities in which they operate (Sohal, 2021). China enactment of several pieces of legislation promoting economic growth, formalising waste channels while also promoting cleaner production (Kalmykova et al., 2018).

In the case of SMEs however, green initiatives are embarked on to generate an income and save costs rather than for environmental protection (Centobelli, 2021). Biondi et al. (2002) supported this view and argued that SMEs are largely concerned with economic considerations and therefore have no understanding of the linkage between environmental practices and the bottom line. They therefore are responsible for a significant share of environmental problems such as pollution, water and energy usage as well waste production since they were established and still operate on the linear economy (Ormazabal et al., 2018). This challenge is worse for SMEs in developing countries also have challenges in mainstreaming social and environmental considerations into economic activities to ensure they are sustainable (Sohal, 2022).

Sustainable adoption of circular economy approaches would require SMEs to develop capabilities to apply and implement recycle, reduction, reuse principles in all its processes such as procurement, manufacturing, transportation, storage, sales as well as end-of-life operations (Sohal, 2021). This therefore calls for the adoption of a green mindset and joint effort with suppliers, distributors as well as customers. Despite the benefits, circular economy adoption varies depending on the country, the business culture and the consumer culture (Sohal, 2021). India for an example, with its social and economic challenges, is argued to have a business culture and tradition which supports circular economy approaches due to limited affordability of new products and a high demand for repaired, recycled and reused products (Sohal, 2021). It therefore also means that the target group for such products would be mostly those found in living in rural areas (Sohal 2021).

2.7 Barriers to the transition to a Circular Economy

The adoption of circular economy business models by businesses is challenging at different levels (Schroeder et al., 2019). Demographic challenges such as increasing populations and urbanisation result in increased consumption and waste. Material and other input costs are increasing. The regulatory environment is also constantly evolving with changes in legislation and associated taxes (Schroeder et al., 2019). Technology on the other hand is changing rapidly and so are the ways in which new generations think and behave, prompting the constant upgrades to business models (Piispanen et al., 2019).

Piispanen et al. (2019) categorised the barriers to circular economy into economic, structural, cultural and contextual barriers, with economic barriers being most prominent. Economic

barriers include high costs associated with implementation of circular economy strategies coupled with long lead times for new product development. Changes in process design could also result in increased usage of certain raw materials (Schroeder et al., 2019). Structural barriers include the need for refurbishment or replacement of equipment or infrastructure. Cultural barriers refer to attitudes towards circular economy, misalignment of existing business cultures and processes with circular economy principles and networks which are not yet well established to accept new products and by-products (Schroeder et al., 2019). Unclear or stringent legislation also constitute contextual barriers.

Businesses also face organisational barriers to circular economy business models which include the insufficient of lack of capacity on the circular economy by employees, management, suppliers, consumers and the market (Schroeder et al., 2019). These changing dynamics call for the business community to be agile and constantly enhance their capabilities in order to remain competitive and relevant (Schroeder et al., 2019). Research by Ormazabal (2018) shows that SMEs still have not grasped circular economy principles and engage in basic environmental management activities for the sake of honouring legal requirements and saving costs. Circular economy is still not considered a priority to most SMEs which fail to perceive its value, especially where there are significant human-based, policy, financial and technological barriers. Employees are also not adequately skilled and experienced to adopt circular economy practices. Management also needs to support circular economy business innovation, to allocate resources for technology upgrades and to motivate staff (Sharma et al., 2021).

There are however opportunities for SMEs in adopting circular economy approaches. These include prestige and improved customer relationship as well as increased market share (Ormazabal, 2018). The efficient use of material and resources coupled with the additional revenue from value recreation can lead to reduced costs and enhanced profitability. Most importantly, it will ensure that the company is sustainable into the future through ensuring that resources that the company will need in the future, will be available, allowing it to grow and venture into new markets (Ormazabal, 2018).

2.8 Enablers to a Circular Economy

This section describes the enablers for the transition to a circular economy. Recycling, reuse and recover interventions should be implemented taking into account their appropriateness for a particular context, to prevent solutions being prohibitive from a cost perspective (Ghisellini et al., 2016). A comprehensive consideration of a process' life cycle, including an

analysis of its interaction with the environment, in the context of the economy in which it operates is therefore necessary (Ghisellini et al., 2016).

Further enablers include a conducive policy and legislative framework with supporting economic instruments such as taxes and incentives, stakeholder cooperation, supporting infrastructure and related services as well as knowledge creation programmes (Parajuly, 2020). Environmental legislation can play a significant role in driving social pressure and increasing awareness and commitment towards environmental sustainability (Centobelli, 2021). SMEs in developed countries are largely incentivised and capacitated where policy makes provisions for different types of financial assistance. Such incentives include grants, loans, discounts and tax breaks for demonstration of the implementation of circular economy approaches (Centobelli, 2021). Ddiba et al. (2020) studied the transition to a circular economy in low- and middle-income countries and emphasised that public sector leaders have the convening power to facilitate collaboration across different sectors and therefore need to need to take the lead in the co-development of strategies to attain circularity.

Mura et al. (2020) argued for the need of intentional facilitation and adoption of a new consumer culture which includes a change in consumer purchasing habits to create a conducive environment for a circular economy. Being intentional and proactivity are therefore important enablers for producers and consumers to adopt the culture of recycling and reusing products (Ghisellini et al., 2016). A circular economy further requires society to move away from the norm of buying goods to own them but rather consider sharing the utility of a product with other customers, making it a service (Annarelli et al., 2016). The Product Service System is a business model which is increasingly being adopted in several sectors for services such as carpooling by BlaBlarCar and short-term homestays such as Airbnb as examples (Annarelli et al., 2016). As a result, Product Service System strategies are increasingly gaining interest in sustainability and innovation research (Annarelli et al., 2016).

Lastly, Centobelli et al. (2021) posited that a company's behaviour can changed through applying three types of pressures: normative, coercive, and mimetic pressures. Normative pressure influences social compliance by different actors such as customers, suppliers, the media as well as trade unions and to ensure aligned views and buy in (Latif et al., 2020). Coercive pressure come from external stakeholders such as government, regulators as well as non-governmental organisations, which force companies to comply with and implement environmental policies, regulations and standards. Mimetic pressure on the other hand emanates from competition based on quality of performance (Latif et al., 2020). Latif et al.

(2020) further argued that in developing countries, mimetic is most influential in driving environmental behaviour. Ddiba et al. (2020) emphasised the need for low- and middle-income countries to translate the theoretical circular economy concepts into practical and implementable initiatives in local communities.

2.9 Conclusion

In conclusion, the benefits of the circular economy can be seen beyond the efficient use of resources to include increase profits and savings through efficient use of resources and introducing new products. The process of reusing, repairing and remanufacturing increases the economic value of goods and further creates new market for these goods and their associated components. There is still a need however to build capacity of businesses, particularly MSMEs in low- and middle-income countries to realise the value in transitioning to a circular economy. Countries that have made significant progress include India and China, however they relied largely on population as well as legislation and policy to promote practices such as recycling.

It can further be concluded that while MSMEs may have an appreciation of the need to protect the environment, their structure, culture and skills serve as a barrier to their transition to a circular economy. Further barriers include lack of financial incentives, weak policy support, changing technology and lack of new skills. The research questions in chapter 3 therefore sought to establish level or awareness on the circular economy as well status of implementation of circular economy principles and practices by MSMEs in Eswatini. The further aimed to understand the barriers to a circular economy.

Chapter 3: Research Questions

3.1 Introduction

Chapter 2 reviewed literature on the circular economy, circular economy business models, circular economy business model innovation as well as dynamic capabilities. This literature formed the basis for the development of the identifying of the problem and purpose statements which culminated in the development of the research questions for this study. This chapter therefore articulates the three research questions which were developed for this study.

3.2 Research Question 1

How are MSMEs in Eswatini incorporating circular economy into their business models?

There are limited studies that investigate the adoption of circular economy principles by SMEs in developing countries (Sohal, 2021). Authors Biondi et al. (2002) and Centobelli (2021) argued that SMEs undertake green initiatives for the purposes of generating an income and saving costs rather than for their environmental benefits. They therefore contribute a significant share of environmental challenges due to their linear economy business models and lack of understanding the concept of sustainability (Ormazabal et al., 2018). Lewandowski (2016) however argued that private sector players are increasingly becoming aware of the rewards from participating in the circular economy through strategies that close or slow resource loops (Schaltegger et al., 2016). The first research question therefore sought to understand how MSMEs in Eswatini are adopting circular economy approaches through the use of circular economy business models.

3.3 Research Question 2

How do MSMEs in Eswatini use dynamic capabilities to transform to innovative circular economy business models?

In order for an organisation to develop agility in a complex and dynamic business environment, is has to i) be able to scan the environment for opportunities and threats, ii) seize the opportunities and iii) develop, enhance, appropriately deploy and organise the organisation's internal and external tangible assets Teece (2007). This requires a paradigm shift to innovative processes, procedures and practices which allow for the recreation of value through circular economy approaches (Sehnem et al., 2020). The authors argued that dynamic capabilities were important skills which enables a business to develop the agility necessary to transition

to a circular economy. Question 2 therefore sought to explore the organisational capabilities of the MSME through understanding how they sense, seize and transform their processes to adopt circular economy approaches.

3.4 Research Question 3

What are the organisational barriers for the adoption of circular economy approaches by MSMEs in Eswatini?

Piispanen et al. (2019) categorised barriers to circular economy into economic, structural, cultural and contextual barriers, with economic barriers being most prominent. Organisational barriers to circular economy business models are also important to study, to develop insight into the challenges associated with employees, management, suppliers, consumers and the market (Schroeder et al., 2019). Some of the reasons for organisational barriers are inadequately skilled employees, limited managerial support and an environment that does not motivate of support innovation (Sharma et al., 2021). Questions 3 therefore sought to understand the organisational barriers that MSMEs in Eswatini face when transitioning towards a circular economy.

Chapter 4: Methodology

4.1 Introduction

This chapter provides an outline of the research methodology and the research design which were followed in addressing the research questions detailed in Chapter 3. The research approach was qualitative, with the aim of obtaining the implementation of circular economy business models in MSMEs in Eswatini, with a focus on the SMEs dynamic capabilities in driving circular business model innovation. The chapter therefore details the data collection process using semi-structured interviews, the unit of analysis, the sampling method used, how data was analysed as well as the quality control measures which were put in place.

4.2 Research Methodology and Design

This research used an exploratory approach which according to Saunders & Lewis (2018) is best used in studies that seek to obtain a new or better understanding of a phenomenon using existing or new emerging theories. This research approach was suited to this study because it has been argued that although the circular economy is increasingly gaining recognition as a business contract, its academic debate is still limited and its social impacts are still not well understood (Besio & Pronzini, 2014; Merli, 2018). Furthermore, there are still scientific gaps in the study of the concept of circular economy innovation (Suchek, et al., 2021).

This study was anchored on the important role that the business community plays in achieving a circular economy using dynamic capabilities (Lewandowski, 2016). SMEs constitute a significant share of the business ecosystem and therefore contribute towards environmental degradation (Ormazabal et al., 2018). In particular, this study sought to understand how MSMEs in Eswatini use dynamic capabilities to adopt circular economy innovation in their business models. The most appropriate approach for this research therefore was a combination of deductive and inductive. It is common practice to use both inductive and deductive approaches (Thomas, 2006). The deductive approach entailed the testing of theory to explain relationships between variables (Saunders & Lewis, 2018) while also allowing for tests on whether the data collected is consistent with theory as well as the research questions (Thomas, 2006). Induction on the other hand allowed for theory to be built from the dominant themes which emerged from the raw data collected in the study (Saunders & Lewis, 2018; Thomas, 2006). The study explored the research findings against the concepts of the circular economy innovation and dynamic capabilities theory, while also gaining insights from the key emerging themes from the respondents.

The literature gaps, the newness of the circular economy field and its complexity justified the qualitative approach to the study (Saunders & Townsend, 2016). There is no agreed definition of the circular economy and as a result previous research on the circular economy has been conducted through qualitative studies, case studies as week as detailed literature reviews in an attempt to establish a common understanding of the emerging concept (Ghisellini et al., 2018). This study therefore took a mono-method qualitative approach due to its exploratory nature, which according to Saunders & Lewis (2018) is applicable in research that seeks to obtain new insights. In this case, the research sought to understand the extent to which MSMEs in Eswatini were implementing circular economy approaches. The use of a qualitative research methodology through semi structured interviews is also beneficial where the researcher aims to understand several complex realities (Vaismoradi et al., 2013). The instrument chosen and used for data was collection was therefore a semi-structured interview, which allowed flexibility in the structuring of questions as well as creating a platform for detailed responses from the respondents (Saunders & Lewis, 2018). A further approach used was interviewing three different groups of participants to obtain different perspectives.

Semi structured interview therefore took place with MSMEs, policy experts and independent experts in the field of environment and climate change in order to gather primary data. Interviews took place from the 25th August 2022 to the 29th September 2022 which was a fixed timeframe. Due to the limited amount of time available for this research, the study was cross-sectional in nature, capturing insights at a particular moment in time (Saunders & Lewis, 2018). The full list of participants interviewed is found in Appendix F.

4.2.1   Scope of the Research

The research initially aimed to target legally registered SMEs in Eswatini. During the course of the research, the researcher made a decision to include Micro Enterprises which were found relevant for the study due to their economic activity in Eswatini. The research findings and discussions therefore made reference to Micro, Small & Medium Enterprise (MSME). The Government of Eswatini (2018) through its Revised Micro, Small & Medium Enterprise (MSME) Policy for Eswatini crafted Eswatini's definitions of MSMEs in line with the country context and economic circumstances and based it on the number of salaried employees, the value of assets as well as turn-over. MSMEs classification was therefore conducted using a continuum ranging from informal micro-enterprises to formal medium-sized enterprises as detailed in

Table 1: Classification of MSMEs in Eswatini (Government of Eswatini, 2018)

Enterprise Category	Sub-category	Employees	Value of Assets	Turn-over Cap
Micro	Informal	0	Not Formally Registered	
Micro	Formal	0 - 10	E50,000 or less	E60,000
Small	Formal	11 - 20	E50,000 to E2 million	E3 million
Medium	Formal	21 - 60	E2 million to E5 million	E8 million

*E = Emalangeni (1Emalangeni equivalent to 1 Rand)

4.3 Population

According to Wegner (2016) the population of a study is all data values that possibly exist for variables being studied. These could include individuals, objects, places, or organisations which serve as the main focus for a study (Saunders & Lewis, 2018). In the case of this research, the population was made up of three different groups of people. The three groups of participants consisted of Micro, Small and Medium Sized Enterprises (MSMEs), Experts and Policy Makers. The use of three groups of respondents was advantageous in that is allowed for triangulation of the emerging themes to take place.

The first groups of research participants constituted of Micro, Small and Medium Sized Enterprises (MSMEs) operating in Eswatini and located in the Manzini, Matsapha and Mbabane which were areas that were easy for the researcher to access. The researcher accessed the MSMEs through the researcher's work networks as well as convenience sampling. The second group of research participants consisted of independent experts in environment, the green economy and climate change field. The researcher accessed the experts through the researcher's work database of environmental and sustainability consultants. The third group consisted of policy experts working for government departments, regulatory authorities and municipalities which implement circular economy related policies and legislation.

4.4 Unit of analysis

The unit of analysis is a unit or object which is being measured under the study (Wegner, 2016). The unit of analysis applicable to this research was representatives from MSMEs,

independent experts in environment, green economy or sustainability experts and circular economy policy experts. In the case of the MSME group, the unit of analysis was founders or executive managers who needed to have knowledge of the company's business model and understanding of how investment decisions were made. Senior or executive managers were targeted for the policy group to ensure that the research participant could articulate the relevant policy directions and strategic focus in relation to the circular economy.

The choice of high levels of seniority and experienced experts as research participants was supported by Zahra et al. (2006) who emphasised the key role played by decision-makers in organisations in enacting and deploying capabilities effectively. Furthermore, in line with the proposition by DiCicco-Bloom & Crabtree (2006), it is advantageous for the research participants to have sufficient knowledge about the company's business model and have sufficient authority and willingness to provide the required information. In the case of the expert group, the experts were the unit of analysis as they carried the knowledge and insights in their personal capacity based on their years of experience in the field.

4.5 Sampling method and size

The purposive sampling method refers to sampling according to stipulated criteria or the selection of participants for the research who are required to have information or characteristics which are relevant to the on the subject matter being researched (Wegner, 2016). Purposive sampling was the most appropriate for this research which according to Saunders and Lewis (2018) is appropriate where individuals to be targeted have an understanding and experience with interacting with the environment. The key informants from each participating group were executives or experienced in their field. This research also followed the non-probability sampling approach as a sampling frame for the study was difficult to develop (Zikmund et al., 2010). The researcher therefore had to use judgement based on the accessibility of the identified research participants. There was also limited time available to conduct the research therefore the ideal approach was convenience sampling where the researcher used a sample which was accessible (Saunders & Lewis, 2018).

Researchers in this field argued that the data collection processes must be sufficient to the extent that the most prominent concepts of the research purpose are covered adequately in terms of scope and depth from the responses received (Saunders & Townsend, 2016).

Following a review of various approaches, the authors concluded that a sample size ranging from 15 to 60 participants was used as a guide, although the number was ultimately influenced by the purpose and scope of the study. The research however had reached saturation by the twelfth participant, when there were no new data or insights being provided from additional respondents which were of value to the research (Saunders & Townsend, 2016; Saunders et al., 2018). The list of research participants is listed in Appendix F.

4.6 Measurement Instrument

Data was gathered through virtual semi-structured interviews using the interview guide in Annex A which contains open-ended questions which were administered by the researcher. One interview guide was used and adapted for the three groups of participants. The interview questions were derived from theory and were an elaboration of the research questions. Semi-structured interviews are a commonly used measurement approach for qualitative research and can be administer to individuals or during a group discussion (DiCicco-Bloom & Crabtree, 2006). Semi-structured interviews are ideal where the data gathering process requires respondents to provide elaborate responses about the subject matter and therefore suitable to this research (Saunders et al., 2016). In addition, it was anticipated that further follow-up questions would emerge during the interview therefore this approach provided the necessary flexibility. Follow-up questions were limited however to ensure the time allocated for the interview was not exceeded.

The questions used in the semi-structured interview guide were aligned to the research question. Research question 1 aimed to understand how MSMEs in Eswatini were incorporating circular economy into their business models. The first interview question therefore aimed to ease the research participant into the interview by asking what their understanding of the circular economy was and what were its benefits. This was an important question to set the tone for the following questions as the interviewer could gauge from the answer whether the participant had knowledge of the concept and therefore informed the researcher on how to pose follow up questions. This was then followed by a question on how the research participant applied circular economy principles in their processes, products and/or services. The second research question sought to understand how MSMEs in Eswatini uses dynamic capabilities to transform to innovative circular economy business models. The associated set of questions enabled the research participant to talk about their business models (in the case of MSMEs) or their understanding of how MSMEs identifies, targeted and

allocated resources to new emerging opportunities (in the case of the policy and independent experts). The last set of questions, aligned to research question 3 which aimed to understand the organisational barriers for the adoption of circular economy approaches by MSMEs in Eswatini. The questions posed served as a way of wrapping up the interview where the research participant was encouraged to elaborate on the barriers to the adoption of circular approaches, the gaps that need to be addressed and any opportunities that they were aware of.

The semi structured interview along with the interview technique were piloted with one person from the MSME group, to test whether the questions were clear and structured in a way that the responses provided the data required for the research. It also provided the interviewer with an estimation of the amount of time required to complete the interview (Saunders & Lewis, 2018). The pilot enabled the researcher to adjust the interview guide, particularly the framing of the questions which were initially too technical resulting in the research participant asking the researcher to either repeat of rephrase the question. The pilot also helped in reordering the sequencing of some of the sub questions and reducing the total number of questions as research participants, particularly the MSMEs and policy experts had very limited time for interview due to other commitments.

4.7 Data gathering process

Requests for interviews were made using email, WhatsApp and telephonically to 21 individuals out of which only 12 were interviewed successfully which was a response rate of 57%. The participants in this research were business executives and therefore preferred privacy on some matters due to the competitive space they are operating in. The in-depth interviews therefore took place on an individual basis to allow the respondent to provide detailed insights on what they think, believe and feel about circular economy business models and some details were confidential or sensitive (DeJonckheere & Vaughn, 2019). The initial intention was to conduct the interview in a face-to-face manner. It was however difficult to maintain originally agreed interview times with the participants, due to conflicting business commitments, resulting in five cancellations and a further three which had to be rescheduled at the last minute. The remaining were nonresponsive. In view of the limited time and resources at the researcher's disposal, a decision was then taken to conduct all the interviews virtually and telephonically, which enabled provided both the researcher and the research participant the

flexibility to conduct the interview with short notice, as and when the participant's schedule became open.

The letter of consent was sent to research participants to sign which gave them the assurance of the authenticity of the research as well as assured them that their identities would not be revealed to maintain confidentiality. All interviews took place in English although some siSwati words were often used by the participants due to the bilingual nature of the country and its citizens. A further observation made was that the research topic was slightly technical in nature, with circular economy and its concepts being a fairly new concept which required the researcher to rephrase the questions in some cases.

The interviews which were conducted on Microsoft Teams were recorded and auto transcribed by Microsoft Teams while the telephonic interviews were recorded using Otter, with a second recoding made using a cell phone to serve as a backup. The researcher transcribed all the audio recordings and conducted quality checks by listening to the audio recordings and cross checking them with the transcripts. All audio files and notes were backed up and stored on the researcher's electronic drive.

The researcher conducted all interviews and did not outsource the data collection in order to obtain rich insight into the data. Prior to collection of the data, a deductive thematic analysis was conducted using the theoretical frameworks of this research which are circular economy and dynamic capabilities, to provide a lens through which the data was collected. This therefore assisted the researcher in identifying key themes and codes to look out for when conducting the interviews using the interview guide in Annex A. The codebook in Annex F was also useful in developing probing or follow-up questions. The names of all research participants were changed to pseudonyms as presented in Tables 2, 3 and 4 in order to protect the identities of the research participants as promised during the interview requests.

4.8 Analysis approach

The data analysis approach followed was the general inductive approach where the transcripts from the interviews were analysed to identify key emerging themes and categories in relation to the research objectives (Thomas, 2006). This entailed listening to each recording at least twice to ensure that no key points were omitted. Data was analysed from each interview

transcript to identify dominant themes which emerged deductively, aligned to the literature review on circular economy and inductively, emerging from the insights and perspectives of the respondents (DiCicco-Bloom & Crabtree, 2006; Hsieh & Shannon, 2005; Saunders & Lewis, 2018). These themes were coded and organised into code categories and analysed using Atlas Ti software, which is a robust software for qualitative data analysis.

Microsoft Teams and Otter were used for recording and transcription purposes. In order to maintain uniformity, all transcripts and voice recordings were downloaded from Microsoft Teams and voice recordings uploaded onto Otter and re-transcribed. Otter further provided more user-friendly functionality for editing purposes. Finalised transcripts were then uploaded onto Atlas.ti for analysis. Since this research followed both an inductive and deductive approach, a codebook was developed based on key concepts from the circular economy innovation and dynamic capabilities theory and is contained in Annex G. These codes were loaded onto Atlas.ti and helped with ensuring that the codes themes developed deductively from insights from each respondent transcript were aligned to the research questions.

A total of 377 codes were initially derived from the data analysis process. These were sorted, merged and narrowed down to 17 codes and 5 broad themes which were presented and analysed in chapters 5 and 6 respectively. The full list of codes developed from the interviews is contained in Annex G. The researcher combined, realigned and merged several codes into groups of codes which fed into the themes.

4.9 Quality control

Data was assessed for validity, establishing the accuracy of the test in measuring what was desired to be measured in the research objectives. It was also be assessed for reliability, to test whether data was collected consistently in all interviews and lastly for bias in the process of collecting or interpreting the data (Saunders & Lewis, 2018). In order to ensure that the data collection instrument (semi structured interview guide) was credible and effective, pilot interviews were conducted with at least at least one participant in each participant group. The pilot was then used to test the flow of the interview, comprehension by the participants and ambiguity which could have led to undesired responses.

Triangulation is a commonly used strategy to ensure the validity and reliability of the research and the research findings (Golafshani, 2003). It was an important tool for mitigating the introduction of bias and ensuring that valid propositions are established while also adding depth of the data collected during the research (Fusch et al., 2018; Golafshani, 2003). Triangulation for the purposes of obtaining diverse, reliable and valid data was achieved through using multiple strategies (Golafshani, 2003). Furthermore, a consistency matrix was presented in Appendix E which ensured alignment of the research questions to the theory as well as the interview questions. In this research, quality control was achieved through two triangulation strategies as follows:

i)   <u>Respondent triangulation</u>

The respondent triangulation approach was used where data was collected from SMEs in three different towns: Manzini which is the commercial hub of Eswatini, Matsapha which is the industrial hub and Mbabane which is the administrative capital city of Eswatini.

ii)   <u>Triangulation using different groups</u>

Data was also collected from respondents from two other groups: independent experts and policy experts.

4.10   Ethical Conduct

The researcher obtained approval for ethical clearance (Appendix E) from the Gordon Institute of Business Science (GIBS) Ethics Committee prior to the commencement of any data collection using the semi structured interview guide in Appendix A. Consent was obtained from all participants using the Consent Form in Appendix H after the purpose of the interview had been explained. The consent form assured the participant of confidentiality. In addition, anonymity was maintained in reporting of the research findings through removing identifiers when presenting the data and reporting the findings.

4.11   Limitations

Some limitation of the study included influences beyond the control of the individual for example economic status, societal influences and availability of alternative actions can influence the respondent's attitude towards circular economy approaches (Kaiser et al, 1999). Snowball and convenience sampling with a small sample size may have led to the sample not meeting the criteria of the chosen population for the research and the findings could have

become statistically biased (Wegner, 2016). This may have affected the transferability of the research to other category and sizes of MSMEs.

One of the limitations of exploratory research was that it was subjective and therefore the perspectives of the researcher could have influenced the research. Potential biases therefore needed to be identified and acknowledged as they could have influenced the collection of data and interpretation of the research findings (Saunders & Lewis, 2018). The researcher in this case has experience working in the environment and climate change sector from a policy perspective and therefore has knowledge of the circular economy. This may have biased the manner in which questions were asked and the level of emphasis afforded certain questions.

The research scope and unit of analysis were Eswatini based MSMEs, policy experts and independent experts which limited the research. The research could be further enhanced through increasing its scope to other developing countries within Africa, particularly because the researcher struggled to obtain peer reviewed journal articles on circular economy within the African context.

Chapter 5: Results

5.1 Introduction

This chapter first summarises the interview process, detailing who was interviewed and the method followed. It further outlines the key findings of the interviews in line with the research questions found in chapter 3 and methodology followed in chapter 4.

5.2 Recap of Data collection Methodology

Data in the form of semi structured interviews was collected over a period of two months, between August 2022 and September 2022. The population for this research was made up of research participants from three different groups of people as follows:

i.   Group 1: Micro, Small and Medium Sized Enterprises (MSMEs) operating in Eswatini and located in the Manzini, Matsapha and Mbabane which are areas which were easy for the researcher to access;

ii.   Group 2: Independent experts in environment, the green economy or sustainability

iii. Group 3: Policy experts working for government departments, regulatory authorities and municipalities which implement circular economy related policies and legislation.

The researcher conducted all interviews and did not outsource the data collection in order to obtain rich insight into the data. Prior to collection of the data, a deductive thematic analysis was conducted using the theoretical frameworks of this research which are circular economy and dynamic capabilities, to provide a lens through which the data was collected. This therefore assisted the researcher in identifying key themes and codes to look out for when conducting the interviews using the interview guide in Annex A. The codebook in Annex F was also useful in developing probing or follow-up questions.

5.3 Summary of Interviews

The three groups of participants consisted of Micro, Small and Medium Sized Enterprises (MSMEs), Experts and Policy Makers. The research however had reached saturation by the twelfth participant. The names of all research participants were changed to pseudonyms as presented in Tables 2, 3 and 4 in order to protect the identities of the research participants as promised during the interview requests.

5.3.1 MSME informants

While the research aimed to target SMEs, during the course of the research, the researcher made a decision to include Micro Enterprises which were found relevant for the study due to their economic activity in Eswatini. The research findings and discussions will therefore make reference to Micro, Small & Medium Enterprise (MSME). As highlighted in 4.2.1 the guidance followed the Eswatini Government (2018) Revised Micro, Small & Medium Enterprise (MSME) Policy for Eswatini which defined MSMEs in line with the country context and economic circumstances and based it on the number of salaried employees, the value of assets as well as turn-over. MSMEs classification was therefore conducted using a continuum ranging from informal micro-enterprises to formal medium-sized enterprises as detailed in Table 1. MSMEs from Manzini (business hub), Ezulwini (entertainment hub), Matsapha (industrial hub) and Mbabane (capital city) were selected for this research in an attempt to create a heterogeneous sample with diversity of participants from across the country. These are listed in Table 2.

Table 2: List of MSME Research Participants

Participant	Location	Sector	Type
M1	Mbabane	Energy and Waste	MSME
M2	Mbabane	Composting	MSME
M3	Matsapha	Construction, Cleaning Chemicals, Bakery	MSME
M4	Countrywide	Informal trading	MSME
M5	Mbabane	Agriculture	MSME
M6	Mbabane	Entrepreneur training	MSME
M7	Manzini	Block yard	MSME
M8	Matsapha	Recyclers	MSME

Interviews conducted on Microsoft Teams were recorded and auto transcribed by Microsoft Teams while the telephonic interviews were recorded using Otter, with a second recoding made using a cell phone to serve as a backup. All interviews took place in English although some siSwati words were often used by the participants due to the bilingual nature of the country and its citizens. A further observation made was that the research topic was slightly technical in nature, with circular economy and its concepts being a fairly new concept which required the researcher to rephrase the questions in some cases.

5.3.2 Subject Matter Experts

Two subject matter experts were interviewed as part of the research. Research participant 9, by virtue of employment appears in Table 4 under policy experts however is also included as a subject matter expert in Table 3 by virtue of being trained in the field of circular economy. The second subject matter expert was chosen from academia, with a background and experience in climate change related research and consultancy work.

Table 3: Subject Matter Expert Research Participants

Participant	Sector	Type
E1	Environment	Expert
E2	Environment Research	Expert

Both experts were interviewed in English, virtually using Microsoft Teams which was also used for transcription purposes. The questions were well understood by the research participants and did not need reformulation.

5.3.3 Policy Makers

Three policy experts were interviewed as part of the research. Two had experience in working with Municipalities, which govern and implement waste management policies. They therefore brought in their experience and perspectives in regulating businesses operating in their towns from an environment perspective.

Table 4: Policy Expert Research Participants

Participant	Sector	Type
P1	Municipality	Policy
P2	Government Parastatal	Policy
E1	Municipality background/ Public Procurement	Policy

All three policy experts were interviewed in English, virtually using Microsoft Teams which was also used for transcription purposes. The questions were well understood by the research participants and did not need reformulation.

5.4 Transcription and coding

In line the data analysis method outlined in section 4.8, Atlas.ti was used as the data analysis tool. Microsoft Teams and Otter were used for recording and transcription purposes. In order to maintain uniformity, all transcripts and voice recordings were downloaded from Microsoft Teams and voice recordings uploaded onto Otter and re-transcribed. Otter further provided more user-friendly functionality for editing purposes. Finalised transcripts were then uploaded onto Atlas.ti for analysis.

Since this research followed both an inductive and deductive approach, the codebook in Table 5 was developed based on key concepts from the circular economy innovation and dynamic capabilities theory and is contained in Annex G. These codes were loaded onto Atlas.ti. Thereafter further codes were developed deductively from emerging themes and insights from each respondent transcript. A total of 377 codes were developed initially which were narrowed down to 17. The full list of codes developed from the interviews is contained in Annex G.

Table 5: Codes used for application for circular business models

Themes	Codes
Circular Economy Business Model	Closed Loop Economy, Reduce, reuse, recycle, 'Design to re-design', Waste as a resource, Slowing Loop, Ease of maintenance, ease of repairs
Green Transition	No waste, green mindset, economic considerations, innovation,
Misconceptions	Emerging, gradual enlightenment, new, awareness: none, awareness: limited, aware, value, not applicable, context
Dynamic Capabilities	Sensing, seizing, transform
Barriers to a CE	Policy, legislation, financial, capacity

5.5 Results: Research Question 1

How are MSMEs in Eswatini incorporating circular economy into their business models?

Research question 1 aimed to understand how MSMEs in Eswatini factor in circular economy processes and practices into their business models. The circular economy is a context that is still developing, particularly in the context of developing countries. It was gathered from the literature that there are therefore several definitions and concepts associated with the circular

economy. It was therefore important to first establish whether MSMEs understand the circular economy through their own interpretation of the concepts. Further the intention was to establish whether MSMEs were aware of or understood circular economy benefits and the applications of circular economy business models in their context. The research question was then further unpacked to understand the circular economy practices and principles which were employed by the participants in their organisations or in other organisations which they were aware of. The literature on circular economy and circular economy business models was used to develop the following themes and codes which were incorporated into the codebook for research question 1. These themes and codes in Table 6 were derived from the interviews in.

Table 6: Codes used for application for circular economy awareness

Theme	Document Group	Number of Codes
Circular Economy Awareness	Lack of Awareness	45
	CE Misconceptions	10

5.5.1 Lack of Awareness of the Circular Economy

The overarching theme under research question 1 was circular economy awareness. The researcher combined, realigned and merged several codes into four groups of codes which fed into the theme on circular economy awareness, and these were awareness, definition, perception and benefits. A total of fifty-five codes were grouped under awareness which were linked to quotes which either partially defined the circular economy or did not relate to the circular economy at all. These are listed in Table 6.

Only three research participants from the MSME group demonstrated an understanding of the circular economy concept and were able to articulate their understanding of what it means. It was evident from the responses that that awareness on the circular economy is still very limited among MSMEs in Eswatini. M2 demonstrated the understanding that a circular economy is a closed loop economy where no waste reaches the landfill. The responses from the participants that demonstrated understanding of the reduce, reuse, reuse and recycle (4R) approach.

"So, my understanding in with the circular economy is that nothing goes to waste. So, everything is used, you will have an output of one process or in one industry, which can be used as an input for another product or industry" M2

The majority of participants in the MSME group had very limited to no understanding of the circular economy concept. This was evident through responses from M4 and M6 who gave definitions that are not aligned to the circular economy. The lack of awareness was largely attributed to the limited availability of information on the circular economy.

"What I understand is that the circular economy is that this kind of economy is an economy that benefits one person on the other depending on how the person has positioned himself or herself in that particular business? And also, how is he or she's able to run his or her business depending on the nature of the business that he or she is doing? Or is doing vis a vie, the kind of expectations from the, I would say, the laws of the land." M4

The researcher had to probe further through follow up questions to establish whether these responses were a case of confusing the term circular economy with other concepts or a general lack of understanding of what the circular economy is. The findings revealed that there was awareness of some of the environmentally sustainable practices which contribute towards a circular economy for example recycling, and resource efficiency. However, the was no full comprehension of how these practices could be factored into their business models in an economically sustainable manner, to transition away from the linear business model to a circular one.

The MSMEs further highlighted that information on environmental sustainability is generally available and Eswatini citizens are aware of the need to protect the environment. The MSME group mentioned that a lot of awareness has taken been created on initiatives such as eliminating reusable plastics. Furthermore, M5 highlighted that people are well aware of what is right and wrong when it comes to protection of the environment however they choose not to behave in an environmentally sustainable manner such as littering.

"So, this is what I'm saying who doesn't know or who hasn't seen a sign of a stickman throwing thing into the bin? and yet here we are we still toss out a can of coke, you know and hence I'm saying" M5

The MSME group expressed that that the culture of consumers and business still needs to change and through the adoption of a green mindset or commitment towards environmental protection. The circular economy concept has not fully been contextualised and therefore MSMEs are not taking action to change their business models and strategies to factors in circular economy approaches. An important point raised by M7 suggested that the topic may be gaining popularity however the reality is that there is no comprehension of what it means

to MSMEs in Eswatini and how they can take advantage of this emerging approach to conducting business.

"Now then you ask yourself to really understand what we are talking about, or we are just singing because everybody's screaming about it." M7

5.5.2 Circular Economy Misconceptions

These observations further led the researcher to note the misconceptions of the circular economy which could be influenced by the amount of information available on the topic as well as level of understanding. Misconceptions was then added as a group code. In support of the point by M7, P2 was of the view that the circular economy, while important, attracted a niche market, meaning circular economy products and services were reserved for the minority who realised its value and were therefore prepared to pay for them.

"Okay, the issue of circular economy is, in my opinion, a niche market in business." P2

All three groups discussed the importance of understanding the drivers behind the promotion of circular economy approaches and whether they are aligned to the different contexts, for example the developed world versus the developing world and whether this could be influencing the misconceptions. A further dimension that was introduced by the MSME group was whether the circular economy is practical and possible to implement in Eswatini, being a developing country that has challenges with issue such as poverty and employment. The MSME group argued that the priorities and commitments for the developed countries on the circular economy should be different from developing countries.

"We're not at a level where the western world is, you know? For us it's still about money. The sooner, we get the money, the better" M7

The expert and policy group participants on the other hand demonstrated being conversant with the circular economy. In line with that was argued by M2 and M5 above, P2 highlighted that the concept itself is not new, although the terminology and applications could have changed. The policy group stated that some companies are well aware of how their by-products and waste can serve as inputs into the production processes of other companies, as such closing the loop.

"I'm saying the circular economy aspect is not so new. And some companies know that

somebody's by-products is probably, my inputs in my production" P2

E1 from the expert group highlighted the several definitions of the circular economy which are in use. In particular, emphasis was made on the challenge of not having a commonly agreed on definition for the circular economy which could possibly be one of the reasons why there is little or a lack of understanding of what the circular economy is and how it different from recycling as an example.

" We were talking about the definition of, of circular economy. That's why I was saying they still not yet accurate definition. Maybe if you can just note down that you for the definition of circular economy, you've got the United Nations Environment Program definition. For 2018. You've got an Ellen MacArthur Foundation definition for 2015. You've got the European Environment Agency definition for 2016. You've got an A European Commission definition for 2015... So, the argument in the in the in the write up that I was reading is the module I was reading is that they still not one agreed definition of circular economy" E1

The expert and policy groups concurred with the findings by the MSME group that there is a lack of understanding of the value and opportunities that exist within a circular economy. The policy group further stressed that the impact of poor waste management and unsustainable consumption does not differentiate between developed and developing countries. Furthermore, laziness was also cited as one of the challenges preventing the transition to a circular economy motivated to take care of the environment.

A key insight raised by E1 was the misconception of recycling being the same as the circular economy because waste streams are being used. An important point made by the participant was that in the circular economy, emphasis is put on the product coming out of one value chain and entering another at the same quality of higher and not lower. This was important to mention because although it may not be the focus of this study, the quality associated with recycled goods may contribute towards the perception of recycling and linkages thereof to the circular economy.

"Most of the time, if you go down to the basics of it all, usually people have been have been putting a circular economy synonymous to recycling in actual fact, recycling may not even may not even because be considered when you talk about circular economy, because in the recycling that is where you find that the quality of the product that you are bringing back into the chain is of lesser quality or even not going to be fitting as a raw material coming in." E1

The expert group further stated that that there is a lack of motivation to adopt circular economy approaches at consumer and at business level. Aligning to the views of the MSME group, the expert group stated that that people generally know the difference between good and bad environmental behaviour however there was nothing incentivising them to change their strategies stated that for circular economy approached.

"I feel that there is that gap, there's no motivation for people to do this... It's not that they're just doing it to clean the environment" E2

5.5.3   Summary of Findings

There was consensus across all three groups that awareness on the circular economy and how business can derive benefit from it was very lacking. Awareness has been created on the need to protect the environment however environmentally friendly behaviour has not been widely adopted. Several misconceptions have been created about the circular economy, including it being equated to recycling. Furthermore, it is perceived as an approach more suited to niche or developed country markets. In the case of Eswatini, MSMEs adopt environmentally friendly practices as a means to generate income rather than to protect the environment. It was evident that MSMEs felt they have more pressing needs such as poverty and unemployment ranking the circular economy low in their priorities.

5.6 Results: Research Question 2

How do SMEs in Eswatini use dynamic capabilities to transform to innovative circular economy business models?

This section explores the three themes sensing, seizing and transforming, which are the three constructs of the dynamic capabilities' framework. The constructs were identified as key themes and coded in the codebook and were also used to organise the different codes which emanated from the interviews into sensing, seizing and transforming.

5.6.1   Sensing

A total of 143 codes were narrowed down by the researcher to the four groups of codes in Table 7 which related to how MSMEs in Eswatini scan for business opportunities and the thought process behind their decision making. The researcher sought to understand what motivated the research participants to go into business by trying to establish the criteria used

when making a business decision to explore a particular business opportunity. The researcher further aimed to determine whether the circular economy forms part of the criteria used to scan the environment for business opportunities.

Table 7: Codes used for application for Sensing

Theme	Document Group	Codes
Sensing	Priority: profit	37
	Readiness for CE	52
	Realising Value from CE	41
	Motive	13

5.6.1.1 Prioritising profit

A dominant response from the participants was that MSMEs are continuously scanning the market for opportunities to do business and make money. What the researcher gathered was that they have a 'hassle' mentality meaning they try out several ideas or opportunities to see which works and which does not. When one opportunity does not work out, they move to the next one.

"We find ourselves doubling in any everything that we can find our hands on." M7

At the heart of the responses by all three groups was the importance of making money in any opportunity MSMEs venture into. Through further interrogation into their sensing capabilities, the researcher interrogated the motivation behind the business decisions they make. The research findings from the MSME group showed that they scan the market for opportunities that will make a profit. Generating consistent revenue (volumes) and making money is key for MSMEs to be able to put food on the table. These views were supported by the policy and expert groups who emphasised that the priority for MSMEs in Eswatini is currently making money to support their families and grow their businesses.

"So, what is currently happening is that the focus mainly for SMEs is currently putting food on the table and they focus more on the profits. They're focusing on the profit and the issue of the people, and the planet is a little bit lagging behind" E1

The situation has been further compounded by the COVID-19 pandemic where businesses lost income, and some had to shut down. This therefore demonstrated that protection of the environment through the use of circular economy approaches was not perceived as a matter

of importance or a priority or MSMEs in Eswatini. This also revealed that MSMEs in Eswatini lack the agility to adapt to the complex and dynamic business environment and therefore are vulnerable to shocks.

"Again, same thing, even if I were to do that, it's, it all comes back to cost because you're running a business and unfortunately at this point in time, all businesses have gone under with COVID. You're trying to come back from COVID and at this point" M5

An insight worth highlighting was that participant M2 was of the opinion that while some forms of waste have a business case, doing composting, which contributes in part towards achieving a circular economy, generates income and is not being exploited to save the environment. This view was further supported by M7. The production of compost relies manure from subsistence farmers which rare cattle and produce chickens on a commercial scale. Manure from chicken production is produces consistently in bulk and can be easily secured as raw material. Cow dung on the other hand cannot, due to the manner in which cattle are kept and allowed to roam free. To ensure a sustainable supply of manure would require a mindset and culture shift in subsistence farmers and how they keep their cattle, which would be a difficult to achieve. Furthermore, those farmers are not concerned about the circular economy.

"To be honest, I think most of businesses will not be concerned about the circular economy, something that's very new, I think we're more concerned about money more than the circular economy" M7

A further consideration emanating from the MSME group was that of not wanting to try anything new nor venture outside their comfort zone as there is no urgency to develop a green mindset. This view was supported by the policy and expert group who associated these comfort zones to weak enforcement of policy and legislation. It was gathered that there are no penalties for not adopting circular economy approaches and further no incentives for those who choose to do so. There is therefore nothing compelling MSMEs to transition to a circular economy and therefore no motivation to change. The motive behind going green was further questioned by the MSME group, particularly the question of common but differentiated responsibilities and how circular economy is being perceived a measure to correct damage by the more developed countries.

"Why are the western countries now talking of energy, climate change, sustainability, when they've ripped off so much. And when we are only opening our eyes, the goalposts are changing, the game is changing, we now need to consider all these environmental things that

have never really benefited us. But when we now want to sit on the same table, there is climate change that we need to consider, and their economies are very sustainable, and we can't even sustain our own communities. So now we're quickly trying to do damage control, not to say it's something that we really felt it was important from the beginning." M7

5.6.1.2 Realising Value from the Circular Economy

In the quest to understand why the need to move towards a circular economy does not form part of MSME decision-making processes when scanning the market for business opportunities, two more themes were developed: realizing value from the circular economy and readiness to adopt circular economy approaches. The awareness and capacity gaps are evident and further emphasised through responses to research question 2 where the researcher established that business opportunities through adopting circular economy approaches are still not evident or obvious to MSMEs in Eswatini. It was evident from discussions with MSMEs that they have not yet realized the economic benefit and value of circular economy approaches in their business and therefore are not yet able or ready to adapt their business models or innovate in that regard.

"We don't see the value in, in sustainability." M2

This was linked to the lack of capacity to understand how circular economy business models are developed and implemented and how the market is structured to access new products or services. It was gathered from the discussion with MSMEs that waste recovery was associated with activities carried out by waste pickers and without understanding the full value chain and how value is realised from the waste further up in the waste value chain. Waste has therefore not been seen as a potential to diversify or completely change the business models of MSMEs in Eswatini.

"The capacity in understanding of this kind of economy and how, what are the benefits? Or what is it that they might access from the markets?" M4

It emerged from the discussions with the policy and expert groups that there is a gap in environmental policies and legislation on the circular economy and its value to businesses and society at large. The absence of such policy and legislative frameworks hinders efforts to create awareness on the circular economy and a market for green products. This therefore leaves organisations such as MSMEs to adopt circular economy practices on a more voluntary basis which waters down efforts. The policy and exert groups emphasized the need to assist

MSMEs to realise the value in circular economy approaches through educating them on how they can infuse circular economy approaches into their business models.

5.6.1.3 Readiness

A further point raised was that a circular economy can only be achieved as a collective, rather than individual companies through a value chain approach. This point was supported by the expert group who stressed the importance of having the same level of effort from all players in a particular value chain. Larger industries that serve as suppliers, competitors or customers were not the focus of this research however further research could possibly expand to include their insights.

"And lastly, the problem with a circular economy is that it cannot exist for a single company, or a single community is something that needs to be done on a wider larger scale for it to be effective" E1

The researcher further gathered from the respondents that Eswatini has established business support and networking platforms such as Business Eswatini, however, there are no conversations taking place in in these fora and networks on the circular economy therefore the market and appetite for such approaches, products and processes is not being created and neither are these industry players being prepared to transition. The market in Eswatini was gathered not to be ready for the circular economy as it was emphasised that there is no demand from consumers for products that are green and sustainable.

"Forced by their market or their customers." M3

Customers in Eswatini, like the MSMEs are still largely concerned with price. The discussions with all three groups acknowledged the prince increases associated with changing technology and business process to transition to a circular economy business model. This cost translates into the price of goods and services. The MSME group raised the concern that the current market is not ready to access good and services at a premium, particularly when there was still an option to get them at a cheaper price, from unstainable processes. The market forces therefore play a key role in establishing readiness to transition to a circular economy.

5.6.2 Seizing

This research question aimed to understand how MSMEs design, redefine and commit

resources to take circular economy principles and practices into account. The question therefore sought to expand on research question 1 to confirm the level of awareness through understanding how the MSMEs were transforming the processes or approaches of their current business models towards circular economy business models. Relating to their answer to research question 1, none of the respondents reported having changed or adapted their business models and processes to achieve circularity. The reasons for not adapting relate to the findings under 5.5 above and are directly related to the barriers to a circular economy which will be outlined in more detail in 5.6. and further discussed in 6.4.

5.6.2.1 Circular Economy Practices employed by MSMEs in Eswatini

The research findings showed that none of the MSMEs were implementing circular economy business models but were still implementing linear business models with some environmentally friendly approaches such as metal recycling, composting, renewable energy and water efficiency. The expert and policy groups also stated that their organisations were not adopting any circular economy approaches. This was an important finding, particularly for the policy group, who are the custodians of the policies and legislation which should be promoting the circular economy. It was gathered that there are efforts taking within the country which contribute towards achieving a circular economy. Due unclear policies and legislation, the implementation of circular approaches or green initiatives was highlighted as being informal and disorganised. MSMEs are not planning nor strategizing in a with long-term vision.

Two MSMEs who recycle metals and one doing composting stated that these opportunities were pursued as an opportunity to make money because there is a market for these products. The market for compost was stated to be households who us it in their gardens and farmers who produce crops. The group however expressed concern that the Eswatini market is small therefore the demand for green products is low. What was also noted was that the customers of recycled metals and compost are buying these products to meet a need and not to protect the environment.

"It's not that they're just doing it to clean the environment. They're doing it because they can gain something out of it." E2

The MSME group stated that the recycled metals have a sizeable market, particularly outside of Eswatini. They are valuable for other industries which repurpose them and reuse them. Local recyclers collect, clean and sort the scrap metal which is then exported to countries like South Africa where value addition takes place. The policy group highlighted that majority of

this value addition tends to take place outside of Eswatini therefore the full benefit of circularity does is not realised by the local economy.

" You see [I go around collecting] metal. I am taking it out of the country [whereas they are processing it there and then bring it back to the country to companies like Steel and Wire or Swazi Wire. So, it can reduce the cost of [buying it as Swazis] so that we do not ship it out of the country because now we are losing the product, we are losing our minerals, we are losing [everything since we don't have the machinery and it then limits our growth." M8

The MSME group discussed that renewable energy initiatives such as solar and biodiesel that are increasingly being explored by businesses and individuals as a means to reduce their energy expenditure. The same motive is applicable with the installation of water efficiency solutions. Utility prices are on the rise, particularly electricity and the business community as well as individuals actively seeks solutions to save on these costs. The environmental benefits that arise as a result of the use of these practices then tends to be a secondary benefit.

5.6.3 Transforming

The different themes that emerged from the conversations with respondents in all groups were around the need to develop capacity at different levels, within the organisation as well as at industry level. They are listed in Table 8.

Table 8: Codes used for Transforming

Theme	Document Group	Codes
Transforming	Building Organisational Capacity	34
	Corporate Governance and the CE	2
	Networks	17

5.6.3.1 Building Organisational Capacity

In assessing the capacity to transform the organisations there was consensus across all research participants on the pressing need to strengthen organisational capacity in the understanding of environmental issues in general and further a focus on understanding the circular economy and how it can be of value to MSMEs in their business. The participants demonstrated the linkage between awareness and changing the business mindset.

"So, if we are educated on also taking care of our environment, then we start looking at things differently." M7

5.6.3.1.1 Formal Education

Various platforms were raised as opportunities to create capacity of MSMEs to facilitate the transition to a circular economy. Formal education was mentioned, with a focus on the role of institutions of higher learning in upgrading environment and business-related courses to include teachings on the circular economy and how it interfaces with the business. Institutions of higher learning were identified a e channel through which awareness can be created on the circular economy and further develop skills for a future which incorporates circular economy approaches and practices.

"The university's role beyond teaching is to generate knowledge and disseminate that knowledge." E2

The role of government in funding research into innovative solutions was further emphasised, to address key and emerging development issues affecting Eswatini. It was gathered from the expert group that government is not channelling funding into research or education on circular economy which is why awareness and uptake at business and industry level is still very limited. This was a view further supported by the and MSME group which acknowledged that scientific research in the field of circular economy is still very limited. Research by institutions of higher learning and other organisations was identified as an important channel through which the world's problems can be solved. It therefore needs to be funded and strengthened.

" South Africa puts money to institutions of higher learning to solve problems." E2

5.6.3.1.2 On the job training

The research findings revealed that on-the-job training was a priority, in particular enrolling employees on short course or assisting them to access learning opportunities on open online platforms for personal development. This was found to be a more practical option considering that not all employees would have the opportunity to leave employment to pursue formal education. The creation of a culture of learning was emphasised as a priority and the benefit of learning while working is the opportunity to apply the lessons in a practical manner in the workplace as opposed to the more longer-term programmes which tend to focus a lot on theory.

"It's also nice to also learn from other people, practically speaking because theory and practical sometimes are two different things" M3

5.6.3.2 Corporate Governance and the Circular Economy

A further insight obtained from the policy group on the importance of creating linkages between the circular economy and corporate governance as means of enshrining circular economy principles into a company's strategy and obtaining buy-in at all levels, including the board. This speaks to the role of ensuring that MSMEs are subscribing and complying with corporate governance frameworks, which is what environment and social governance aims to achieve.

5.6.3.3 Networks

The importance of networks was emphasised, in particular the creation of a platform for deliberate conversations around the circular economy at industry level. Participants highlighted the important role that networking could have in bringing industry players together to enhance cooperation and partnership amongst businesses on circular economy opportunities, learning from each other, sharing of best practices as well as a platform to obtain referral on learning opportunities.

"So, some of the things you get to learn as you interact with people that know when you're doing a business" M3

5.6.4   Summary of Findings

It was evident from the research findings that MSMEs in Eswatini have not yet developed the dynamic capacities that are required to transition towards a circular economy. The sensing capabilities of MSMEs is largely centred around an opportunity that will bring income and profitability and not one that will increase operational costs in order to protect the environment. There was consensus that the benefits of a circular economy are not well understood and therefore circular economy does not form part of their decision-making criteria when venturing into a new business opportunity and is therefore not a priority. Resultantly, business processes do not follow circular economy business models even though some MSMEs are engaged in activities such as recycling, composting, biodiesel and renewable energy. MSMEs in Eswatini are therefore not planning nor strategizing with a long-term vision.

5.6 Results: Research Question 3

What are the organisational barriers for the adoption of circular economy approaches by SMEs in Eswatini?

Several policy measures and instruments have been developed to support the green transition of SMEs; however, research still shows that several barriers financial, regulatory, technological, organisational and behavioural barriers still exist (Ormazabal et al., 2018). These barriers were therefore used as codes for research questions three and further used as probing questions to during the interview.

Table 9: Codes for Barriers to a Circular Economy

Theme	Document Group	Codes
Barriers to a CE	Barriers: Financial	25
	Barriers: Culture	7
	Barriers: Technical	21
	Barriers: Capacity	16
	Barriers: Policy and Regulation	39

5.6.1   Financial Barriers

In terms of financial barriers, there was consensus across all research groups on the high cost of employing green technologies and solutions which could help businesses in Eswatini transition towards a circular economy. Building on the cost, the concern of Eswatini being a small country making it challenging to achieve economies of scale. The MSME group emphasised the need for a large enough demand to support large scale production of green products, in order for them to be competitively priced.

Financial literacy was also raised by the MSME group, particularly the inability to develop circular business models as well as access to finance as banks also don't fully understand the concept. There was a strong emphasis from all three groups on the need for incentives to support the transition to a circular economy, in particular tax incentives to ensure initiatives are sustainable beyond any grant and government support. These incentives need not only be in the form of cash but could also be in kind. An example made by P2 referred to the introduction of exemptions from having to apply for certain licences once the business has demonstrated some level of circularity.

"The incentives can come from government, or they can be soft, I don't mean that the incentive, you know, has to be money and stuff, but the incentive can be soft. Like, if you are conserving the environment, then you probably for an example, you can be exempted in getting your license." P2

5.6.2 Cultural Barriers

The cultural barriers mentioned by the MSME group concerned the manner in which MSMEs were socialised and introduced to business which contributes to the manner in which they sense for new opportunities and resultantly difficulties in trying out new opportunities (mindset shift). The current business culture was found to be centred around opportunities that will have minimal costs and maximise profit and could be difficult to change without targeted interventions. It was stressed by the three groups that the sustainability culture and how it aligns with the sustainability of a business into the future needs to be cultivated as well as innovation.

"It's hard to change the culture" M2

The three groups were further in consensus on the need for a mindset shift to take place across values chains, within organisations as well as with the consumers, to create demand. The policy and expert groups identified the role of government in developing clear policy and legislation which will catalyse the culture and mindset changes.

5.6.3 Technical Barriers

The technical barriers mentioned include the limited availability of equipment locally to improve products and efficiency of production processes to meet the appropriate standards as well as to produce high volumes. Higher levels of production often require the introduction of machinery and mechanising some processes. The difficulty in transitioning from using labourers to more efficient machinery was also raised, in particular from a socio-economic perspective, where the introduction of machinery is commonly associated with job losses.

"And then when it comes to our succession planning, we're moving from the mould making scenario to machinery, but at the same time, with the machinery, the negatives effects, we might have to downscale in terms of staff" M7

The circular economy concept seeks to ensure that the quality of products coming out of one

value chain and moving into the other should not drop. On the contrary, while recycling does take place locally, respondent E1 noted the concern that the quality of the recycled product tends to be lower, reducing its value. What was further noted from research participant M8, who is involved in recycling of metal, was the lack of sufficient machinery or technology for value addition of recycled material to take place locally. The waste metal is merely sorted and exported to neighbouring countries for further processing. These refurbished goods then make their way back into the Eswatini and therefore the full economic benefit of recycling is not accrued to Eswatini. This further limit their growth and competitiveness.

"We are losing our minerals, we are losing [everything since we don't have the machinery and it then limits our growth." M8

5.6.4 Capacity Barriers

Capacity barriers were elaborated in section 5.6.3 which relate to lack of adequate capacity building opportunities for enhancing capacity of MSMEs on circular economy approaches and these include formal and informal capacity building opportunities such as trainings, short courses, seminars, conferences and on the job learning.

5.6.5 Policy and Regulatory Barriers

With regards policy and regulatory barriers, all research groups, particularly the policy group, acknowledged the need for a clear policy directive on the circular economy, clear targets for the business community and an assessment of the implications thereof. Participants also felt there is a lack of political will on aspects of circular economy and therefore no clear position from government which is why there is no enabling environment, no action plans and very weak legislation. It was evident that there are no policy statements in environment related government policies which speak specifically to the circular economy, and neither are their targets on when the country intents to archive a circular economy. Even with the existing environmental legislations and policies there is poor or no enforcement which therefore means there is nothing forcing MSMEs in Eswatini to adopt circular economy approaches. A further insight was that the lack of enforcement of existing related legislation hinders innovation as businesses are not compelled to find new and better ways of carrying out their business.

"Enforcement is also quite poor, which then promotes people to continually not be looking at innovative ways of doing things," M3

The research further found that the lack of political will was demonstrated by the very slow pace in which chief executives of environment-oriented state-owned entities are appointed and replaced. A discussion by the expert group highlighted how these entities have operated for years without substantive heads which made it difficult to get clear decisions on policy direction due to the lack of accountability, with the acting appointees hesitant to make decisions. A recommendation was made for strengthening the role of the relevant environment related regulators and further to improve coordination amongst Government entities. This will enable better enforcement and improved support towards MSMEs.

5.6.6   Summary of Findings

There are several barriers identified by the research participants to the transition of MSMEs in Eswatini to a circular economy. These included financial barriers, technical, policy and legal, capacity and cultural barriers. Financial barriers related to the lack of incentives and the cost of new technology. Technical barriers were skills and availability of technology. Policy and legal barriers referred to the lack of adequate policy and legislation to create an enabling environment for MSMEs to transition to circular economy business models. Capacity barriers referred to skills and knowledge due to the lack of formal and informal training targeted at business, particularly MSMEs on circular economy approaches. Cultural barriers refer to referred to the opened to innovate and adopt new way of doing business.

5.7 Conclusion

In conclusion, the research findings showed that MSMEs in Eswatini lack easily accessible information on how MSMEs can derive value and sustainably transition towards a circular economy. This lack of awareness and training on circular economy has led to misconceptions on the circular economy as well as different that the circular economy approach may not be relevant and important to Eswatini, which is a developing country where the priorities for small business include staying afloat and growing.

As a result, MSMEs in Eswatini have not yet developed the dynamic capacities to sense the environment for threat and opportunities which come with circular economy approaches. The circular economy therefore was found not form part of decision making or screening criteria for MSMEs in Eswatini when pursuing new business interests. Seizing capabilities were also found to be very limited in term of the adoption of circular economy business models and strategies. While some businesses were found to be involved in environmentally friendly practises, these practices were not sufficient to be deemed to be circular economy approaches

and were being carried out for other reasons which included making money.

MSMEs in Eswatini were found not to be transforming through changing their structure to align to circular business models. There was still a need to reskill and upskill employees. To be able to achieve a circular economy in Eswatini, several barriers need to be overcome. The research participants identified five types of barriers which were financial, technical, cultural, policy and legal and capacity barriers.

Chapter 6: Discussion

6.1 Introduction

Chapter 6 presents an in-depth discussion of the research findings which were presented in Chapter 5 relating to the adoption of circular economy practices by MSMEs in Eswatini. The analysis of the research findings was substantiated using literature reviewed on the circular economy and dynamic capabilities which was presented in Chapter 2. The structure of this Chapter is presented in a way that aligns to each research question.

6.2 Research Question 1

How are SMEs in Eswatini incorporating circular economy into their business models?

The aim of this research was to understand the organisational capabilities required for MSMEs to adopt circular economy business models. It was gathered from literature that although recognition of the circular economy has been increasing as a business contract, its academic debate and the understanding of its social impacts has been very limited (Merli, 2018; Murray at al., 2017). The circular economy is therefore a context that is still developing, with limitations in the understanding of its relevance and value particularly in the context of developing countries (Lewandowski, 2016). In answering research question 1 therefore, it was important to establish the understanding of the circular economy by MSMEs in Eswatini. In addition, the research question sought to establish which circular economy practices and principles were being employed by MSMEs in Eswatini.

6.2.1   Lack of Awareness of the Circular Economy

The research findings revealed a very limited understanding of the circular economy with only three research participants from the MSME group demonstrating an understanding of the concept of circular economy and being able to provide a definition. Two research participants portrayed a complete lack of knowledge of the circular economy by providing definitions that were not aligned to the circular economy. It could therefore be gathered that there is generally a lack of understanding of the circular economy by MSMEs in Eswatini.

This limited understanding was attributed to the absence of social pressure from government and consumers. Social pressure was argued to have significant influence on the transition towards a circular economy (Soha, 2021). This finding further also aligned with Singh & Singh (2018) who argued that the level of awareness and understanding of the circular economy is

largely dependent on the individual's level of education. This is despite findings by Lewandowski (2016) that large businesses, in particular multinational companies as well as SMEs are gradually becoming enlightened on the potential benefits, they could derive from adopting circular economy approaches through circular economy business models. P2 also noted that some companies are starting to appreciate the interdependence of companies, where one's by-products become inputs into another's production process.

Participants in the expert and policy group were cognisant of the several definitions of the circular economy which are in use. In particular the challenge of not having a commonly agreed on definition for the circular economy was highlighted as one of the reasons for the lack of understanding of what the circular economy is and how it differs from recycling. It was further alluded that the while most stakeholders may be becoming aware of the circular economy term, the concept itself is not new. Several definitions and concepts associated with the circular economy were also established in the literature reviewed in chapter 2.

The circular economy was defined by authors Kalmykova et al. (2018), Murray et al. (2017) and Piispanen et al. (2020) as a business model which reduces the production of waste through value addition to its waste streams, through the 'reduce, reuse, reduce and recycle' (4R) approach. The policy experts demonstrated the understanding that the circular economy is an improvement from the cradle-to-grave approach which is currently being used where the focus is on extracting raw for producing goods which are ultimately disposed of in the landfill. This aligns with Ghisellini (2016) who described this as the linear approach, where production processes result in waste once a product and its by-products have reached the end of their useful life. A further qualification to this definition was mas by Mura et al. (2020) who argued that circular economy goods have the ability to increase their value, while the process of converting them into raw material utilises very minimal energy. This was a point also raised by the expert group which put emphasis on the product coming out of one value chain and entering another at the same quality of higher and not lower. The quality associated with recycled goods may contribute towards the perception of recycling and linkages thereof to the circular economy.

Kurchherr (2017) refers to these many definitions as "blurriness" which is one of the criticisms of the green economy and the circular economy. The literature aligns with the findings of this research which suggest that the lack of a clear and commonly accepted definition could be one of the reasons for the misconception of the circular economy, particular with it being equated to of recycling.

The research found that despite the limited or lack of awareness on the circular economy as

a concept, there is a general awareness of the importance of environment protection, including what can be classified as good or bad environmental behaviour. As a result, this knowledge was not translating into behaviour change and changes of business strategies to align with the circular economy. Centobelli et al. (2021) posited that behaviour change requires the application of normative from stakeholders such as customers and suppliers, coercive pressure from government and non-governmental organisations as well as mimetic pressure from business competition (Latif et al., 2020). The authors argued that further argued that mimetic is most influential in driving environmental behaviour in developing countries.

The expert group suggested the use of educational programmes such as degrees and short courses to create awareness on the circular economy. The policy group highlighted the role of policy as an avenue to create awareness. Awareness on the circular economy can be created through structures programmes, for different target audiences, to educate different groupings of society (Hao et al., 2020). All three groups recognised the role of networks in creating awareness and sharing of best practices on the circular economy. Hao et al. (2020) further suggested the use of information campaigns as a useful platform to promote a positive image of the circular economy along with its benefits.

6.2.2 Circular Economy Misconceptions

Several misconceptions were raised by the participants about the circular economy. One being that recycling is the same as the circular economy due to the fact that the waste stream from one process becomes raw material for another. This perception ignores an important aspect of the definition of the circular economy which is that of the product exiting one value chain and entering another at the same quality of higher and not lower. Mura et al. (2020) argued that in order to extend the lifecycle of products, their value could be increased while they are in use through ensuring ease of maintenance and repairs. The decrease in quality of recycled goods could therefore be contributing towards the negative perception of the linear economy, based on it being confused with the circular economy (Soha, 2021).

A further insight gained from the interviews was on the increasing popularity of the circular economy term without in-depth undemanding of what it is and how it is applicable in local contexts. Kirchherr et al. (2017) aligns which this concern and posits that the circular economy concept has become very topical with no supporting action which waters down its importance and distorts its meaning. Ormazabal et al.(2018) further argues that the circular economy is not perceived as a priority, and this is due to having short-term visions.

The context as well was raised an important factor where participants questioned the

appropriateness of circular economy approaches to the Eswatini context from a social and economic perspective. It was highlighted by majority or participants that priorities for MSMEs currently are dealing with poverty and unemployment making the circular economy the least of the priorities. The findings therefore show a lack of motivation or social pressure towards environmental commitments by all players in the business value chain. The importance of social pressure on promoting the circular economy has been argued by scholars such as (Centobelli et al., 2021).

The findings revealed that there is a belief that a circular economy is for a niche market or developed countries and not developing countries like Eswatini. Literature reviews by Kalmykova et al. (2018) found that the circular economy has been adopted through the support of policy and legislation in China dating as far back as 2002. India has a business culture and tradition which supports circular economy approaches and therefore there is a high demand for repaired, recycled and reused products (Sohal, 2021). SMEs in developed countries such as Europe have incentivised and capacitated through the provisions of incentives such as grants and tax breaks (Centobelli, 2021). In developed countries, other than government, the circular economy agenda is being driven by global organisations, non-governmental organisations such as the Ellen MacArthur Foundation, consulting firms such as Accenture as well as highly recognised and influential legislative bodies and platforms such as European Commission, the Institute for the Environmental, the World Economic Forum and the Club of Rome (Kalmykova et al., 2018).

6.2.3 Summary of Discussions

There was a general consensus from all participants that MSMEs in Eswatini are not incorporating circular economy principles into their business models. Furthermore, it was established that information on the circular economy and MSMEs, which is easy to understand and relevant to the local context, particularly in the Eswatini context is lacking. The information that is available, in its current form could be leading to misconceptions on what the circular economy is as well as different misconceptions, particularly on why its relevant and important to Eswatini as a developing country with more pressing needs such as poverty and unemployment.

6.3 Research Question 2

> How do SMEs in Eswatini use dynamic capabilities to transform to innovative circular economy business models?

The business environment is becoming complex, requiring companies to develop agility to enable them to adapt and survive the highly dynamic business environment (Senhem et al., 2020; Vu, 2020). The authors found that dynamic capabilities along with its strategic resources were highly relevant skills business to respond and adapt to the rapidly changing business environment and therefore influence its level of agility and ability to sense, adapt and thrive. Senhem et al. (2020) therefore proposed that dynamic capabilities positively influenced the transition to a circular economy.

This section discusses the research findings on the three constructs of the dynamic capabilities framework as depicted in Figure 3 which are sensing, seizing and transforming.
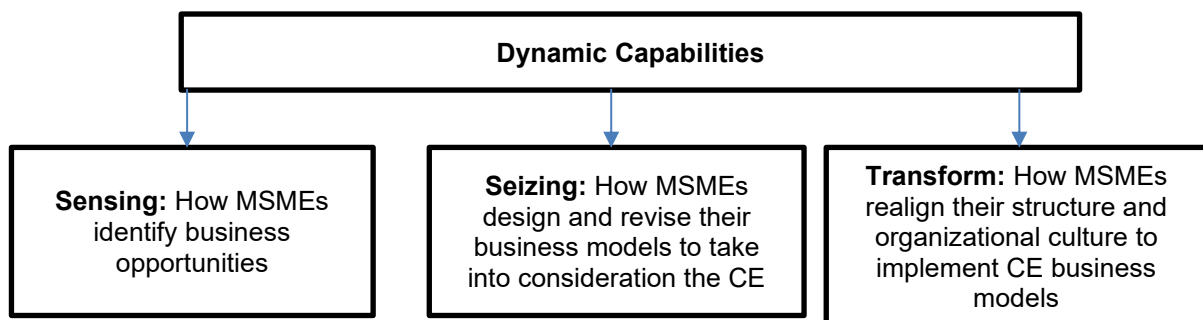
Figure 3: Adapted Dynamic Capabilities Framework

6.3.1 Sensing

Sensing is an important skill which is required by businesses for scanning the business environment for opportunities and threats, as well as analysing what these opportunities and threats mean for the business (Teece, 2007). This research question explored the business motivation for MSMEs in Eswatini, particularly the criteria used for decisions when exploring new business opportunities.

6.3.1.1 Priority being profit

The respondent data showed that in the context of Eswatini, MSMEs are still at a growth stage where they are trying to generate sustainable income and grow and therefore are continuously scanning the market for opportunities to do business. A view that was strongly expressed by the research participants was that generating consistent revenue (volumes) and making

money is key for MSMEs in Eswatini to be able to put food on the table. These findings align with the argument by Biondi et al. (2002) that SMEs are largely concerned with economic considerations and have no understanding of the linkage between environmental practices and the bottom line. Yeow et al. (2018) argued the importance having sensing skills in an organisation to enable it to effectively scan the environment for new opportunities and adequality position itself for emerging opportunities, as well as threats. This research found that MSMEs scan the market for lucrative opportunities and therefore are willing to explore several initiatives until they find the one that makes economic sense. The research further established that MSMEs are quick to move on to new ventures when one does not work out.

It was established from literature that the circular economy has not been considered as an opportunity to most SMEs due to their failure fail to perceive its value (Ormazabal, 2018). This finding was confirmed by the research participants who highlighted that the circular economy was not to be a priority and further did not form part of the criteria for MSMEs when scanning the environment for new opportunities. This was further confirmed from insights from MSMEs operating in the waste sectors who attested to being in the waste business to make money and not to save the environment. This finding is further supported by Centobelli et al. (2021) who argued that there is low consciousness of sustainability among SMEs as their motive for pursuing green initiatives is based on their need to secure their continuous existence. These were views which were supported by respondent in the expert and policy citing that the circular economy falls outside of the comfort zone of MSMEs due to awareness and capacity limitations resulting in their failure to perceive its value. The failure for SMEs to realise value in the circular economy a result of human-based, policy, financial and technological barriers (Sharma et al., 2021). The situation has been further compounded by the COVID-19 pandemic where businesses lost income, and some had to shut down. In building back from the pandemic, MSMEs are unlikely to initiative new opportunities that they are not well versed with.

6.3.1.2 Realising value from the Circular Economy

The research findings revealed that the value and business opportunity that a circular economy approach provides were still not evident or obvious to MSMEs in Eswatini. This was found to be due to MSMEs not being adequately capacitated nor motivated to adapt their business models or innovate in that regard. Further compounding this resistance to change was the lack of an enabling environment for a circular economy to thrive in Eswatini due to the barriers to transitioning towards a circular economy which were discussed in 6.4.

What emerged from the policy and expert groups was emphasis on the need to assist MSMEs to realise the value in circular economy approaches. This entails developing circular economy business models which mainstream sustainability the existing business models, making them more resilient while also using sustainability to co-create value (Geissdoerfer et al., 2018). In doing so, MSMEs in Eswatini would need to build capacity to be able to redefine their value propositions, be it a product or service, with clarity on how they will be creating value and delivering it to customers as well as how the business will make money while also creating value for its shareholders (Zott et al., 2011). To ensure sustainability, MSMEs in Eswatini would need to clearly demonstrate how the business model goes beyond economic value to integrate natural capital and social capital through closed resource loops (Rizos et al., 2016; Schaltegger et al., 2016).

A further point raised by the respondents is the need for a circular economy to be achieved as a collective, rather than individual companies. Geissdoerfer et al. (2018) proposed the engagement of non-traditional stakeholders as well to identify new opportunities for co-development partnership. The research insights however revealed an absence of circular economy conversations at industry level, which could foster discussions on how organisations can work together to create the market appetite for such green products. Centobelli et al. (2021) who supports the notion and further suggests that incentives can play a pivotal role in shifting the mindset at an industry level, bringing about transition across supply chains supported by relationships between the different players.

6.3.1.3 Motive for adopting a circular economy

The motive behind the transition to a circular economy was also questioned by the MSME and expert groups. The discussion highlighted the role played by developed nations towards environmental degradation which affect all countries, particularly those in developing countries. The motive behind the urgency for developing countries like Eswatini to take action to address environmental challenges was therefore questioned. On the contrary, SMEs are largely concerned with economic considerations and therefore take no action towards aligning environmental protection with profit making to ensure long term sustainability. (Biondi et al., 2002). A such, they were found to be responsible for a significant share of environmental problems such as pollution and waste production since they were established and still operate on the linear economy (Ormazabal et al., 2018).

The pressure to transition towards a circular economy could result in value chain wide mindset shift if exerted not only by government but also by the different players in a value chain

(Centobelli et al, 2021). While the motive behind the need to transition to a circular economy may not be clear in the case of Eswatini, (Centobelli et al, 2021) posited that behaviour at company level could change through applying normative, coercive, and mimetic pressures. Normative pressure influences social compliant behaviour and actions would therefore need to be applied by different actors such as customers, suppliers, trade unions and the media to ensure aligned views and buy in (Latif et al., 2020). Normative pressure is an important driving force behind the creation of norms and the sense of responsibility in developing countries (Latif et al., 2020). Normative pressure would need to be coupled with coercive pressure from government, regulators and civil society to enforce compliance to policy and legislation (Latif et al., 2020). This presupposes however that appropriate policies and legislation promoting circular economy approaches are in place. When companies reach a point where they are competing on performance for the provision of circular economy goods and services, mimetic pressure will arise arises (Latif et al., 2020). All three pressures would be relevant to the case of Eswatini to create a sense of urgency for the transition to a circular economy. This approach is further supported by Parajuly (2020) who argued that the implementation of circular economy requires action at the micro, meso and macro levels of the economy and therefore coordination between the layers and between institutions, the markets as well as policy makers is crucial. The increased cost raised by the respondents could be justified through an industry-wide adoption of circular economy approaches enabling MSMEs to recover their costs.

6.3.1.4 Readiness

Research participants felt that MSMEs in an economy like Eswatini are not ready to transition to a circular economy. The MSME group highlighted the role of the consumer in driving the realisation of a circular economy. The lack of a demand for green products was sighted as a signal that the economy is not ready to transition to a circular economy and therefore it would not make business sense for MSMEs in Eswatini to venture into green business opportunities at this stage. This point links to the findings raised in 6.2 on the lack of awareness and understanding of the circular economy which was not only an issue for MSMEs but for consumers as well.

It is also important that readiness to transition to a circular economy is achieved at the micro, meso and macro levels and importantly that coordination is achieved between these layers to satisfy customer needs (Parajuly, 2020). The research found that the drive towards achieving a circular economy is deemed to be taking place in an ad-hoc manner and on an individual basis by companies that are able to transform their business process and have identified niche

markets for their green products. Research participants from all three participant groups emphasised the need for the transition to a circular economy to be a concerted and industry wide effort. Further emphasis was made on the need for business communities which bring together different players in the business value chain to actively embrace and discuss the circular economy. Such platforms not only bring business together but also have the advantage of being able to influence policy (Schroeder et al., 2019).

6.3.2 Seizing
6.3.2.1 Circular Economy Practices Employed by MSMEs in Eswatini

Seizing capabilities refer to a firm's core competencies and strategy to act on identified opportunities (Teece, 2007). Organisations need to invest in seizing capabilities and ensure that they are maintained and enhanced regularly (Yeow et al., 2018). The main theme that was considered in the interviews was circular economy practices employed by MSMEs in Eswatini.

None of the respondents were found to be purposefully and actively developing and implementing circular economy business models. What this study found however was the implementation of green initiative such as recycling, composting, renewable energy and water efficiency from an economic perspective. In order for these initiatives to be viewed as circular business models, the value creation, value delivery and value capturing would need to be achieved with circular economy principles as the driver and therefore demonstrating how they are recreating, redelivering and recapturing value (Sehnem et al., 2020). MSMEs need to develop innovative ways of using resources sustainably for attaining a circular economy. Innovation was argued by Geissdoerfer et al. (2018) to be pivotal in realising a paradigm shift towards circular business models. Product innovation in SMEs further empowers organisations to develop new products, explore new ways of implementing their business models sustainably or change them entirely to adopt new processes, practices and procedures which are aligned to the circular economy (Sehnem et al.,2020). In addition, this eco-innovation builds the capacity to be agile to respond to market forces as they arise and also provides opportunities for co-development with new stakeholders and partners in the value chain (Klewitz & Hansen, 2011; Geissdoerfer et al., 2018).

Responses from the interviews demonstrated the broad understanding of environmental sustainability and the need to conserve the environment through initiatives such as reducing plastic pollution. This however has not translated into a green culture within their own businesses and a change of company strategy to adopt circular economy approaches. Centobelli (2021) argued that commitment towards the circular economy requires a company

to be conscious of the circular economy, understand its value as well as its benefits. As highlighted in chapter 5, environmentally friendly practices are being implemented out in an ad-hoc manner in that they are being conducted for their economic benefits as opposed to their environment benefits. While these efforts could contribute towards achieving a circular economy, they are not being implemented as part of a long-term strategy to achieve a circular economy.

The motive behind activities such as recycling of metals and composting were perceived as an opportunity to make money rather than being part of a circular economy business model. Furthermore, resource efficiency approaches were being pursued in an effort to reduce cost on utilities such as electricity and water. Sohal (2021) supports this thinking and argued that that in developing countries, the adoption of circular economy practices is possible, particularly recycling initiatives on condition that they demonstrate financially sustainable. It is different from developed countries where circular economy ecosystems are significantly supported through enabling legislation and further incentivized (Sohal, 2021).

The research found that value chains in Eswatini are not currently organised to support the circular economy. Waste is largely exported where value addition takes place outside of the country. Klewitz & Hansen (2011) argued that downstream supply chains could play a significant role in forcing SMEs to innovate their products in a green manner to enhance their environmental performance. This could be done through the transitions to circular economy approaches being made prerequisites for qualifying as subcontractors or as suppliers (Klewitz & Hansen, 2011). Circular business model innovation also requires engagement non-traditional stakeholders and exploring co-development opportunities with the current and new partners in the businesses' value chain (Geissdoerfer et al., 2018).

In the case of MSMEs in Eswatini, access to appropriate technology was also found to be a challenge. Green technology has also improved significantly in efficiency and functionality in the last decades (Sohal, 2021). MSMEs in Eswatini therefore would need to upgrade their production processes through the introduction of new equipment to enhance effectiveness. This however will come at a cost, hence the need for financial incentives such as grants which could assist with the meeting the upfront costs.

6.3.3 Transforming

The third construct of the dynamic capabilities' framework is transforming, which refers to the revision and updating of the firm's processes as well as assets to ensure the firm is equipped

to sense and seize new opportunities as they arise and remain competitive (Klewitz & Hansen, 2011; Teece, 2007; Yeow et al., 2018).

Due to the strong emphasis from all participating groups on the inadequate capacity of MSMEs in Eswatini to adopt circular economy approaches, none of the respondents were found to be realigning their structure and organizational culture to implement circular economy business models. Instead, the need to strengthen organisational capacity of MSMEs on the understanding of environmental issues, how they affect business and how they can enhance a business model was strongly emphasised as a starting point. In their study on SMEs, Sharma et al. (2021) found that there is an absence of adequate skills and experience to adopt circular economy practices by modifying of technology and motivating staff. The appreciation of the circular economy by the business sector appreciates can result in a chain effect towards influencing changes in business models and resultantly transformation of organisations to position themselves accordingly(Rizos et al. 2016). Two main themes emerged from the study relating to the need to build organisational capacity at different levels, within the organisation as well as at industry level.

6.3.3.1 Building Organisational Capacity
6.3.3.1.1   Formal Education

Participants from all groups highlighted the need for increased awareness and capacity building on environmental sustainability. The research participants discussed the absence of environmental sustainability modules in business related course. Developing capacity on the circular economy is crucial, to enable organisations to understand its value and sense for business opportunities to help the business remain competitive in an ever-changing environment (Geissdoerfer et al., 2018). This was discussed as a missed opportunity for Eswatini where Institutions of higher learning such as the University of Eswatini have an important role they play in the circular economy narrative for developing appropriate skills for the ever-changing business context as well as supporting research.

The importance of research, to support the theory, was also raised as a priority to transition towards a circular economy. Ddiba et al. (2020) emphasised the need for low- and middle-income countries to translate the theoretical circular economy concepts into practical and implementable initiatives in local communities. Van Langen et al. (2021) further emphasised the importance of government support towards circular economy research which will assist countries to develop align circular economy with all the three pillars of sustainable development

6.3.3.1.2   On the job training

The findings highlighted the importance of developing a culture of learning in MSMEs and continuously searching for easily available and accessible learning opportunities for ongoing developing organisational capacity. The paradigm shift necessary to move from the linear business model to a circular business model requires a different type of innovation to inform a more sustainable use of resources (Geissdoerfer et al., 2018). The importance of building capacity is aligned with findings by Sehnem et al. (2020) who suggest the need to build relational capabilities, which are its knowledge and skills as well experience on circular economy. This will ultimately shape the organisations attitudes and behaviour and resultantly its culture, all of which as essential for the transition to a circular economy (Sehnem et al., 2020).

E1 particular highlighted how he has accessed a course on circular economy offered by the United Nations and has since benefitted from referrals. The other participants however had not considered such learning opportunities as an option or alternative to more formal education at university level. In a context where unemployment is a challenge, it may not be practical for an employee to leave work and return to school. The organisation however needs to develop its adaptive capacity through establishing a knowledge management system which would be a more structured way of capturing current knowledge but also identifying and tapping into new emerging information to strengthen its skill set on a continuous to enable innovation of its products and processes (Sehnem et al., 2020).

6.3.3.2 Governance and the Circular Economy

The findings highlight the importance of creating linkages between the circular economy and corporate governance as means of enshrining circular economy principles into a company's strategy and obtaining buy-in at all levels, including the board. Involving management and the board in important to be able to obtain support for circular economy business innovation, through the allocation of resources for technology upgrades and to build the capacity of staff (Sharma et al., 2021).

6.3.3.3 Networks and referrals

The importance of networks was emphasised, through the creation platforms to bring together different types and sizes of industry players to have conversations around the circular economy and business. The research findings further put emphasis on the important role of

in enhancing cooperation and partnership amongst businesses on circular economy opportunities. Rizos et al. (2016) further argued that for a circular economy to be achieved, communities of practice must be created for the enhancement of skills and knowledge. In addition, these communities of practice are important to cultivate and innovation culture within MSMEs. The MSME group further emphasised that businesses need to learn the practical applications of the circular economy from each other through sharing of best practices. This view aligned to findings by Ghisellini et al. (2016) who argued that successful transition to a circular economy have been possible where there is broad involvement of different stakeholders within society. The authors further highlighted the need to leverage on the capacity to establish linkages within business networks and the creation of platforms suitable platforms for collaboration as well as exchange (Ghisellini et al., 2016). These exchanges would therefore better prepare MSMEs in Eswatini to realign their structures and develop organisational cultures with a green mindset.

6.3.4   Summary of Discussions

The research findings reveal that there is still a need to develop organisational capabilities in MSMEs in Eswatini to adopt circular economy principles and practices. The current priority for MSMEs was found to be on opportunities which will bring in income and lead to profitability. The circular economy was therefore not deemed to be a priory for various reasons. Primarily the study found that there is a lack of awareness on circular economy, its benefits, the role of MSMEs and how they can derive value our transitioning to a circular economy. This aligned with theory where previous research identified the awareness and capacity gap in developing countries which hinders efforts to transition to a circular economy.

A further challenge was the deemed cost associated with changing of business processes and the company strategy to align with the circular economy which was further compounded by the absence of a demand for green products in Eswatini. The study found that awareness and capacity building within MSMEs and across business value chains and society as a whole was lacking. This deprived MSMEs and other industry players from the opportunity of engaging on the topic at industry level and learning from each other. Key priorities raised by the research participants and supported by literature were the role of government as a convenor to ensure a sector-wide approach to the circular economy as well as the need to translate research into best practices.

6.4 Research Question 3

> What are the organisational barriers for the adoption of circular economy approaches by SMEs in Eswatini?

It has been established through the research findings in 6.2 and 6.3 that MSMEs in Eswatini are not implementing circular economy business models for various reasons which include the lack of or limited awareness, other competing priorities and not realising the value in doing so. This section therefore unpacks the barriers for the adoption of circular economy approaches by SMEs in Eswatini that have been identified through this research.

According to despite the existence of several policy measures and instruments to support the green transition of SMEs there are still economic, regulatory, technological, organisational, structural, cultural and contextual barriers and behavioural barriers that need to be addressed with economic barriers being most prominent (Ormazabal et al. (2018); Piispanen et al., 2019)

6.4.1   Capacity Barriers

Capacity barriers were elaborated in section 6.3.3.1. These include the absence of adequate business-related training opportunities in local institutions of higher learning and which train on environmental sustainability issues within. Furthermore, the limited or lack of local research opportunities was presented as a barrier to enhancing capacity of MSMEs and other stakeholders on circular economy approaches.

Sharma et al. (2021) found that employees are still not capacitated and lack experience on the circular economy and circular economy practices. As a result, management support and allocation of resources towards circular economy business innovation, training and upgrades of technology is still very minimal and as there is no motivation for staff to innovate.

In order for MSMEs in Eswatini to transition towards a circular economy, they will need to invest in enhancing the capabilities of their employees on 4R processes (Sohal et al., 2021). Capacity barriers extend beyond employees to include management, competitors, suppliers, and consumers (Schroeder et al., 2019). A market approach to building organisational capabilities is therefore important.

6.4.2   Financial Barriers
6.4.2.1 High Costs

There was consensus across all research groups on the perceived high cost of employing green technologies and solutions by MSMEs in Eswatini which was found to be a barrier to their transition towards a circular economy. These costs were associated with changing processes and equipment to introduce efficiency and change product design. This view aligns with Ghisellini (2016) and Piispanen et al. (2019) who argued that there are several barriers to the circular economy, the most significant being economic barriers due to high costs for implementation which is exacerbated by the long lead times for development of new products. Changes in process design could also result in increased usage of certain raw materials (Schroeder et al., 2019). Other structural barriers include the need for refurbishment or replacement of equipment or infrastructure. Financial literacy was also raised, particularly the inability to develop circular business models as well as access to finance as banks also don't fully understand the concept as discussed in 6.2 and 6.3. The Implementation of a circular economy was argued to be costly for companies as well as consumers (Van Langen et al., 2021). To mitigate this cost, the authors proposed that political intervention is crucial in initial stages, along with positive messaging on the circular economy concept and business model.

6.4.2.2 Economies of Scale

Participants also mentioned attaining economies of scale in the Eswatini context as a barrier. Large production volumes would therefore require MSMEs to consider external markets as well where the demand for green products could be higher. According to Sohal et al. (2021) countries like India benefit from having a high population meaning that high volumes of waste are produced although a small portion of the waste is formally treated to capture its full value.

6.4.2.3 Financial incentives

All three groups put emphasis on the importance of financial incentives such as tax incentives or exemptions from certain taxes to support the transition and to ensure that initiatives are sustainable beyond any grant or other government support. This is aligned with Centobelli et al. (2021) who posited that green economic incentives such as tax reductions, grants, discounts or subsidies from governmental and non-governmental agencies for the adoption environmental initiatives have a positive impact on promoting environmental commitment and sustainable supply chains. The policy group suggested that such incentives could also extend to include financial rewards for companies which design or adopt techniques and solutions towards the transition to a circular economy. Recycle, reuse and recover need to be supported

through financial incentives to prevent solutions being prohibitive from a cost perspective (Ghisellini et al., 2016).

Although the respondents' argument towards profit over circular economy was premised on the high costs of the additional investments required to modify their business model, with improved financial literacy on the implementing green solutions and proper technical designs, Rizos et al. (2015) argued that MSMEs could receive better returns from circular economy business models coupled with green incentives. This could further enhance their organisational capabilities and decision-making abilities.

6.4.3 Cultural Barriers

The process of transition towards a circular economy was argued to be complex and calls for a corporate cultural shift not just in the economic system but in all subsystems of society (Van Langen et al., 2021). The MSME group highlighted that MSMEs in Eswatini still need to adopt a green mindset as part of their organisational culture. This was aligned with the findings from the policy and expert groups through which the researcher found that there is an absence of a green mindset in MSMEs in Eswatini therefore the corporate culture did not consider circular economy principles.

In countries such as India where recycling has been taking place for decades, in large scales, society still found recycled or remanufactured products to be inferior by the society (Sohal et al., 2021). This showed that changing mindsets and resultantly cultures is not easy and therefore needs to be structured and deliberate. A sustainability culture therefore needs to be cultivated. India's culture on recycling has been in place for decades, which supports the development of a circular economy. This was found to be attributed to the country's economic context and affordability challenges when it comes to new products (Sohal et al., 2021). The demand for repaired and reused products was high resulting in a large number of small scale or informal home-based repair shops emerging (Sohal et al., 2021). The country started to see rise in start-ups which sell second hand products on platforms such as Amazon and Flipkart (Sohal et al., 2021).

The participation of citizens is influenced the country's social context, the willingness of its citizens to pay more for the environmental protection and the perceived potential benefits of the circular economy (Hao et al., 2020). The research findings on the cultural barriers in the context of Eswatini were further supported by the views of Salvioni & Almici (2021) who suggested that a change in corporate culture is key to the transition to a circular economy.

The authors emphasised the importance of stakeholder engagement in transforming corporate culture for advancing from linear business models to circular economy business models. Cultivating stakeholder relationships and stakeholder engagement creates opportunities for raising awareness on environmental sustainability issues and the necessary action which needs to be taken by different stakeholders (Salvioni & Almici, 2021).

The discussions across within the MSME group highlighted the importance of a mindset shift in light the manner in which MSME founders have been socialised and introduced to business which further contributes to the manner in which they sense for new opportunities and resultantly difficulties in trying out new opportunities. In an effort to understand cultural barriers, Schroeder et al. (2019) related them to attitudes that people have towards the circular economy due to the lack of alignment between the business cultures currently in place and circular economy principles, business models and networks are yet to be properly established to accommodate and align with new products as well as by-products.

6.4.4 Technical Barriers

The findings of this study revealed that the limited availability of equipment locally to improve products and efficiency of production processes is one of the technical barriers for MSMEs to transition to a circular economy in Eswatini. This hinders their ability to meet the appropriate standards as well as to produce high volumes. Sohal et al. (2021) is aligned with this finding with the argument that the lack of and inability to access appropriate infrastructure to support reducing, reusing, recycling and redesigning (4R) of large quantities of waste is a barrier to the circular economy. Technology is also changing rapidly prompting the need to constantly upgrade business models (Piispanen et al., 2019).

Further difficulties for MSMEs to transition to a circular economy include the difficulty laying off labourers in favour of machinery which would be more efficient was also raised. While machinery has benefits for the business and the environment, the displacement of people has serious socio-economic consequences such as increased unemployment. Academic research has not adequately covered the social impacts of circular economy and achieving scale, which are important in the achievement of sustainability (Bocken et al., 2017; Merli, 2018).

The research found that recycling does take place in Eswatini, however the quality of the recycled product tends to be lower, reducing its value. The circular economy concept on the contrary seeks to ensure that the quality of products coming out of one value chain and moving into the other should not be lowered. This therefore supports the notion of the three groups

that to transition to a circular economy, there needs to be investments made into new equipment and infrastructure. Refurbishment or replacement of equipment or infrastructure would also be required (Schroeder et al., 2019). The costs associated with new, and refurbishment of equipment and infrastructure presents a barrier for SMEs, which as a result have not prioritised the circular economy (Kumar et al., 2020).

It was also gathered from the study that local recyclers mostly clean and sort the scrap metal which is then exported to South Africa for value addition therefore the full benefit of circularity does is not realised by the local economy. In order to establish a sustainable circular economy locally, there needs to be investment locally into well-structured logistics for collecting and separating waste as well as extraction of raw materials. This will require significant support from government and buy-in from all classes of the society (Sohal et al., 2021)

6.4.5   Policy and Regulatory Barriers

With regards policy and regulatory barriers, all research groups, including the policy group acknowledged the need for a clear policy on issues such as the circular economy, how businesses can play a role and the implications thereof. Participants also felt there was a lack of political will on aspects of circular economy and therefore no clear position of government which is why there is no enabling environment, no action plans and legislation is still stringent. This could have strong linkages with the discussion on cultural barriers in 6.4.2. Findings by Ddiba et al. (2020) put emphasis on the importance of public sector leadership using their power to convene stakeholders across different sector and the co-development of strategies for circularity. Furthermore, in order to sustainably transition towards a circular economy, government policies need to be in place, with incentives, and thereafter there needs to be capacity to ensure compliance (Sohal et al., 2021).

Penalties were also suggested as another enforcement tool for compliance however it was found by the priority was placed on incentivising (Sohal et al., 2021). The MSME and Policy group suggested that penalties result in short cuts and lead to compliance for the sake of ticking boxes and were therefore not sustainable. A study by Ormazabal (2018) supports this finding which concluded that SMEs still need to be assisted to understand and adopt circular economy principles and therefore they engage in environmentally friendly initiatives for legal compliance as well as where they realise cost savings.

The research participants further stated that government involvement was limited and there was no encouragement for innovative ways of doing things. Centobelli et al. (2021) argued

that government and regulatory bodies play an important role in creating social pressure to influence green behaviour and circular economy practices through giving recognition as well as financial incentives. A recommendation was further made by the research participants for the strengthening coordination amongst Government entities in harmonising their policy approach, aligning with environmental legislation thus creating awareness on the circular economy. Circular economy approaches need to be supported by strong coordination between institutions, the markets as well as policy makers (Parajuly, 2020).

6.4.6 Summary of Discussions

This section discussed the financial, cultural, technical, capacity and policy barriers to the transition towards a circular economy by MSMEs in Eswatini. The research findings revealed that there were high costs associated with the transition. There was also a lack of adequate technology and infrastructure to support MSMEs. These findings was supported by literature which stressed the need for investment into infrastructure and equipment for development of new products as well as for refurbishment and repairs. The cost of this infrastructure however was also argued to be prohibitive.

Companies, particularly MSMEs still need to develop a green mindset and change company culture. Culture changes need to be led by management who have the role of allocating the necessary resource to support the transition and create a culture of eco-innovation. This includes allocating sufficient resource for capacity building.

The research findings further presented a case for the urgent need to strengthen environmental policies and legislation with a focus on financial and other incentives. This study found that for the case of MSMEs, circular economy mindsets were largely influenced by financially incentivised public policies. Furthermore, environmental laws play a significant role in environmental awareness and changing attitudes. This would need to be coupled with increased demand and pressure for green products from the market.

6.5 Conclusion

In conclusion, the key findings of the research were that MSMEs in Eswatini were not yet incorporating circular economy principles into their business models, due limited awareness and understanding of how they could derive value from circularity. There were several misconceptions about the circular economy which included the belief that it is more applicable in developed contexts and not relevant and important to Eswatini as a developing country,

with more pressing needs such as poverty and unemployment.

The study found that there was alignment with literature on the transition to circular economy by SMEs which showed that being a new concept, there was still limited awareness on the concept and a need for increased awareness from different sources. The study provided more insights into the enablers for the transition to a circular economy which included awareness raising, training, establishing business networks as well as through the implementation of clear and incentivised policy and legislation. The study found that increased awareness could lead to a mindset shift across value chains and in society in general. MSMEs as a result need to invest and commit resources towards developing organisational capabilities for innovation and technology to adopt circular economy principles and practices.

A further insight obtained was the need to build to develop organisational capabilities was found to be the deemed cost associated with changing of business processes and the company strategy. In the case of Eswatini, the challenge has been compounded by the size of the economy which limits demand for green products in Eswatini. The research findings, aligned with the literature, stressed the urgent need for environmental policies and legislation with clear and accessible financial and other incentives. Literature confirmed that circular economy mindsets in MSMEs were largely influenced by financially incentivises made possible by clear policies.

What came out clear was the need for financial, cultural, technical, capacity and policy support measures for the transition towards a circular economy by MSMEs in Eswatini. The research findings revealed that there were high costs associated with circularity particularly because MSMEs in Eswatini were more concerned with surviving and making money than environmental protection. MSMEs therefore did not have the means to access funds to improved technology and further have to capacity to realise the value of circular economy business models. These barriers are important were found to be relevant for decision makers at board and executive level who need to understand how their companies can derive value from the circular economy and how to allocate resources to enable the transition of their businesses to circular economy business models.

Chapter 7: Conclusion and Recommendations

7.1 Introduction

This concluding chapter sums up the justification for the research, what the researcher investigated, how the research was conducted and the key findings of this research. It outlines its importance to research as well as to business. It further describes the value the research adds to current scholarly debate and suggestions for future research.

7.2 Research purpose and scope

The circular economy is important for the achievement of sustainable development gaols by 2030 (Schroeder et al., 2019). It has been argued to be an important approach that enhances business strategy to move away from the "take-make-use-dispose" linear business model to one that slows or closes the resource loop (Hysa et al., 2020). This allows for resources to circulate in a system for as long as they reasonably can, while maintaining high levels of utility (Mangers et al., 2021). The circular economy concept is still developing and therefore there is still limited research on the circular economy and SMEs in the context of developing countries (Merli, 2018). This study therefore aimed to provide insights into how new circular economy innovations or practices are being adopted by SMEs in Eswatini, including micro enterprises. The study therefore focused on MSMEs using the dynamic capabilities framework for deeper insights into the capabilities of MSMEs in Eswatini to sense, seize and transform in order to position themselves to transform to a circular economy. The study also investigated the barriers that MSMEs in Eswatini face hindering their transition to circular economy.

It is envisaged that the findings of this study could contribute towards recommendations on enablers for a sustainable circular economy, with a focus on MSMEs which constitute a significant portion of the business community (Ormazabal et al., 2018). The participation of the business community is pivotal to realising a circular economy therefore through increased awareness, large businesses as well as MSESs are gradually becoming enlightened on the potential benefits they could derive from adopting circular economy approaches (Lewandowski, 2016). MSMEs have also been argued to be responsible for a bulk of environmental problems such as pollution, inefficient water and energy usage as well waste production therefore are important stakeholders (Ormazabal et al., 2018).

7.3 Research Context

The study was conducted in Eswatini, a developing country which has ratified the Paris Agreement under the United Nations Framework Convention on Climate Change (Government of Eswatini, 2021). Eswatini has made a commitment to address climate change and has further developed policies and strategies on climate change and solid waste management, including the recently enacted law banning singly use plastic bags (Government of Eswatini, 2021). These frameworks and legal tools contribute towards the attainment of a circular economy although their effectiveness has not been assessed.

Solid waste management, driven by growing economic activity and rapid urbanisation continues to be a global environmental challenge in the Sub-Saharan Africa context (Shi et al., 2021). The COVID-19 pandemic introduced further complications to waste management, through increased volumes of waste, in particular plastic and food waste which co-mingled with virus-laden biomedical waste (Sharma et al., 2020). This not only poses threats to the environment but also human health. Considering that MSMEs contribute significantly towards environmental problems, particularly in developing countries, the research identified them as an important stakeholder (Ormazabal et al., 2018). It was therefore important to investigate how MSMEs in Eswatini are transitioning towards attaining a circular economy.

7.4 Key Findings from Literature

The circular economy model is constantly evolving in terms of how it is defined, its boundaries as well as its core principles and practices (Merli et al., 2018). Several theoretical lenses such as environmental economics, ecological economics and industrial psychology, have been used to study the circular economy, which lends it to being associated with a wide range of concepts (Ghisellini, 2016). Parajuly et al. (2020) however argued that the root of most environmental challenges is human behaviour therefore the shift towards attaining a circular economy requires a better understanding of the intrinsic attributes to human behaviour such as beliefs, values, attitudes, motivations, intentions, habits and knowledge as well as the extrinsic attributes which include social and cultural norms, financial implications and infrastructural and institutional constraints (Muranko et al., 2018; Parajuly et al., 2020).

The development of sustainable business models is therefore considered to be pivotal to circular economy research and has gained recognition as an important business construct, however the principle has not been adequately debated academically, in business and

sustainability literature (Merli, 2018). Academic research has also not adequately covered the social impacts of circular economy, which is important in the achievement of sustainability. Furthermore, the private sector is interested in the circular economy, however this has not translated into practice because of the difficulty in business models addressing socioenvironmental issues while also achieving scale Bocken et al. (2017). This was attributed to barriers which include the limited awareness and understanding of the drivers for a successful circular economy business model (Bocken et al., 2022).

A further research gap exists on the transition of organisations from linear business models to circular business models (Sehnem et al., 2020). Existing literature has debated the topic with a focus on recycling and eco-innovation however Sehnem et al. (2020) argued that there is still a need to expand this body of knowledge through managerial and strategic lenses. There is a potential for circular economy business models to fail due to the costs associated in implementing circular economy strategies, which has a negative impact on profitability (Ghisellini, 2016). This highlights the importance of well thought out enabling policies and frameworks to bring about positive externalities.

There is therefore a need to build up on existing literature on environmental practices and behaviour, which has been centred largely on individuals and large businesses (Piispanen et al., 2019). Particularly it is important to understand the strong interlinkages between business models, a firm's dynamic capabilities as well as its strategy. Dynamic capabilities are therefore pivotal in shaping a firm's business model to align with emerging changes in the business environment (Teece, 2018). These inter-relationships have been studied extensively from a theoretical perspective however there is still a need for a better understanding from an empirical perspective.

This research therefore sought to contribute towards enhancing existing studies on the circular economy in the developing country context through understanding awareness, the dynamic capabilities, technical, social, environmental and policy considerations for the transition towards a circular economy by micro small and medium enterprises MSMEs.

7.5 Research questions and methodology

The research was anchored on three research questions. The first research question aimed to explore how MSMEs in Eswatini are incorporating circular economy into their business models. Research question 2 aimed to understand how SMEs in Eswatini use dynamic capabilities to transform to innovative circular economy business models. Lastly, research

question 3 sought to highlight the organisational barriers for the adoption of circular economy approaches which MSMEs in Eswatini face.

This research followed an exploratory approach to obtain a better understanding of a phenomena using existing or new emerging theories (Saunders & Lewis, 2018). The research followed an interpretivism research paradigm through studying the research subjects in the environment in which they exist Saunders & Lewis (2018). The outcomes of the research were therefore subjective, in that they were influenced by the context. The research population was made up of three different groups of people: i) MSMEs which operating in the Manzini, Matsapha and Mbabane areas, ii) independent experts in environment, the green economy or sustainability field and iii) policy experts working for government departments and regulatory authorities which implement circular economy related policies and legislation. The units of analysis for this research were individual representatives from MSMEs, independent experts in environment, green economy or sustainability experts and circular economy policy experts. Representatives of the three groups which were targeted were senior members of the organisation who had some knowledge or experience in sustainability or circular economy initiatives. Semi-structured interviews were conducted with 12 research participants.

The limitations of the study included influences beyond the control of the individual for example economic status, societal influences and availability of alternative actions can influence the respondent's attitude towards circular economy approaches. Snowball and convenience sampling with a small sample size may have led to the sample not meeting the criteria of the chosen population for the research and the findings could have become statistically biased and affected the transferability of the research findings. Potential biases included that the researcher has experience working in the environment and climate change sector from a policy perspective and therefore has knowledge of the circular economy. This may have biased the manner in which questions were asked and the level of emphasis afforded certain questions. Finally, the research scope and unit of analysis were Eswatini based MSMEs, policy experts and independent experts which limited the research. The research could be further enhanced through increasing its scope to other developing countries within Africa.

7.6 Research findings

The research found that the MSMEs interviewed were not implementing circular economy practices or approaches. The findings showed that MSMEs in Eswatini have inadequate information on how MSMEs can derive value from a circular economy and further are uncertain

on how they can sustainably transition towards a circular economy due limited awareness. This lack of awareness and training on circular economy has led to misconceptions on the circular economy. Participants also felt that the circular economy approach may not be applicable to Eswatini, where MSMEs are more concerned surviving and growing.

As a result, MSMEs in Eswatini have not invested in developing the dynamic capacities to sense the environment for threats and opportunities which arise from circular economy approaches. It could therefore be concluded that the circular economy does not form part of decision making for MSMEs in Eswatini when pursuing new business interests. This by extension translated into their limited or lack of capacity to seize circular economy opportunities and transition from linear to circular business models. Some businesses were found to be implementing environmentally friendly practises such as recycling, composting, renewable energy and energy efficiency. These activities however were being implemented in isolation to the circular economy and were purely carried out to save costs and make money. It was found that this resistance to change was largely due to a business culture which is not being changed towards having a green mindset. A changed mindset is also required across society including other industry players, government and customers. There is an opportunity for MSMEs to collaborate with other industry players and customers to conduct joint research into green designs, approaches as well as possible raw materials which can be used.

There are still however other barriers that need to be overcome before MSME can sustainably transition towards a circular economy. The barriers identified during the study were financial, technical, cultural, policy and legal and capacity related. The financial barriers related to the high costs associated with transitioning to a circular economy due to the need to introduce new and more efficient technology and build new capacity. Emphasis was made on the lack of financial incentives to support this new investment and ensure the business remains economically sustainable into the future. MSMEs therefore have limited resources to deploy towards sensing and seizing circular economy opportunities and therefore government support is essential.

The role of networks was a further key finding of this research which could create a platform for MSMEs and other industry players to share information on the latest environmentally friendly technologies, processes and principles that could be explored, which could be of benefits to MSMEs. Such networks could be supported by government through investment oriented incentivises.

7.7 Contributions to current scholarly debate

Parajuly et al. (2020) argued that the root of most environmental challenges is human behaviour therefore the shift towards attaining a circular economy requires a better understanding of the intrinsic and extrinsic attributes to human behaviour. Although the circular economy concept is still developing, there is still relatively little information on the role that MSMEs play towards a circular economy in the context of an emerging and developing economies. The definition of the circular economy concept is constantly evolving (Merli et al., 2018). However, the principle has not been adequately debated academically, in business and sustainability literature and therefore this study contributed towards understanding the level of awareness that MSMEs have on the circular economy and how this is translating into tangible circular economy initiatives.

Existing literature has debated on the transition of organisations from linear business models to circular business models the topic with a focus on recycling and eco-innovation. However, Sehnem et al. (2020) argued that there is still a need to expand this body of knowledge through managerial and strategic lenses. The study therefore contributed towards gaining insights into the barriers that MSMEs face given their business structure, strategy and other country-specific contextual factors and how these could assist government and the business community to develop enabling policies and frameworks to create value, stimulate demand and enhance cooperation across value chains on the circular economy.

7.8 Suggestions for future research

Research on the impacts of implementing circular economy approaches in small- to- medium sized enterprises (SMEs) is still very limited. Future research could focus on understanding the enables for the adoption of circular economy business models through developing circular economy organisational capabilities and corporate culture as potential areas for future research.

Further research could focus the adoption of circular economy as part of SME corporate culture as potential areas for future research. Academic research has also not adequately covered the social impacts of circular economy, which is important in the achievement of sustainability.

7.9 Conclusion

In conclusion, this study aimed to provide insights into how new circular economy innovations or practices are being adopted by MSMEs in Eswatini. It focused on MSMEs using the dynamic capabilities framework for deeper insights into the capabilities of MSMEs in Eswatini to sense, seize and transform in order to position themselves to transform to a circular economy. The study further investigated the barriers that MSMEs in Eswatini face hindering their transition to circular economy.

The study found a general consensus that MSMEs in Eswatini were not yet incorporating circular economy principles into their business models due to a lack of awareness and understanding of the circular economy. MSMEs in Eswatini were unaware of how they could derive value from circularity. This has led to several misconceptions about the circular economy which include the belief that it is for more developed contexts and not relevant and important to Eswatini as a developing country, with more pressing needs such as poverty and unemployment.

There was alignment with literature which showed that there was still limited awareness on the concept and a need for increased awareness from different sources through training, business networks as well as through the implementation of policy and legislation. Increased awareness could lead to a mindset shift across value chains and in society in general. The research also found that MSMEs need to invest and commit resources towards developing organisational capabilities for innovation and technology to adopt circular economy principles and practices. A further challenge aligned with the need to build to develop organisational capabilities was found to be the deemed cost associated with changing of business processes and the company strategy. In the case of Eswatini, the challenge has been compounded by the size of the economy which limits demand for green products in Eswatini. The research findings, aligned with the literature, stressed the urgent need for environmental policies and legislation with clear and accessible financial and other incentives. Literature confirmed that circular economy mindsets in MSMEs were largely influenced by financially incentivises made possible by clear policies.

The barriers faced by MSMEs to the transition to a circular economy were therefore found to be financial, cultural, technical, capacity and policy related. Key emphasis was made on the need to incentivise MSMEs, particular through financial incentives, to subsidise the high costs associated with circularity, particularly because MSMEs in Eswatini were more concerned with

surviving and making money than environmental protection. These barriers are important to business as decision makers at board and executive level need to understand how their companies can derive value from the circular economy and how to allocate resources to enable the transition of their businesses to circular economy business models. Furthermore, the role of government being a law enforcer and having the convening power was brought to the fore as a key enabler for a circular economy. The research identified the importance of government setting clear and unambiguous policies and targets on the circular economy, including support measures for the business community. Finally, the importance of government in funding research on circular economy was stress as well as taking advantage of its convening power to bring stakeholders from different sectors together to engage, share best practices and co-develop circular economy initiatives.

Reference List

Annarelli, A., Battistella, C., Nonino, F. (2016). Product service system: a conceptual framework from a systematic review. *Journal of Cleaner Production*, 139, 1011-1032. https://doi.org/10.1016/j.jclepro.2016.08.061

Atasu, A. (2019). Operational perspectives on extended producer responsibility. *Journal of Industrial Ecology*, *23*(4), 744-750. https://doi.org/10.1111/jiec.12816

Batista, L., Bourlakis, M., Liu, Y., Smart, P., & Sohal, A. (2018). Supply chain operations for a circular economy. *Production Planning & Control*, *29*(6), 419-424. https://doi.org/10.1080/09537287.2018.1449267 (ABS 3)

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, *17*(1), 99-120. https://doi.org/10.1177%2F014920639101700108 (ABS 4)

Barney, J. B., Ketchen, D. J., Wright, M., Barney, J. B., Ketchen, D. J., & Wright, M. (2011). The future of resource-based theory: Revitalization or decline? *Journal of Management*, 37(5), 1299–1315. https://doi.org/10.1177/0149206310391805

Besio, C., & Pronzini, A. (2014). Morality, ethics, and values outside and inside organizations: An example of the discourse on climate change. *Journal of Business Ethics, 119*(3), 287–300. doi:10.1007/s10551-013-1641-2. (ABS 3)

Biondi, V., Iraldo, F., & Meredith, S. (2002). Achieving sustainability through environmental innovation: the role of SMEs. *International Journal of Technology Management*, *24*(5-6), 612-626. https://doi.org/10.1504/IJTM.2002.003074

Bocken, N. M., Harsch, A., & Weissbrod, I. (2022). Circular business models for the fastmoving consumer goods industry: desirability, feasibility, and viability. *Sustainable Production and Consumption*, 30, 799-814. https://doi.org/10.1016/j.spc.2022.01.012

Bocken, N. M. P., Ritala, P., & Huotari, P. (2017). The circular economy: Exploring the introduction of the concept among S&P 500 firms. *Journal of Industrial Ecology*, 21(3), 487–490. https://doi.org/10.1111/jiec.12605 (ABS 2)

Centobelli, P., Cerchione, R., Chiaroni, D., Del Vecchio, P., & Urbinati, A. (2020). Designing business models in circular economy: A systematic literature review and research agenda. *Business Strategy and the Environment*, *29*(4), 1734 - 1749. https://doi.org/10.1002/bse.2466

De Jesus, A., & Mendonça, S. (2018). Lost in transition? Drivers and barriers in the eco-innovation road to the circular economy. *Ecological economics*, *145*, 75-89. https://doi.org/10.1016/j.ecolecon.2017.08.001 (ABS 3)

Ddiba, D., Andersson, K., Koop, SHA., Ekener, E., Finnveden, G., Dickin, S. (2020). Governing the circular economy: Assessing the capacity to implement resource-oriented sanitation and waste management systems in low-and middle-income countries. *Earth System Governance*,4, 10063. https://doi.org/10.1016/j.esg.2020.100063

DeJonckheere, M., & Vaughn, L. M. (2019). Semistructured interviewing in primary care research: a balance of relationship and rigour. *Family medicine and community health*, 7(2), e000057. https://doi.org/10.1136/fmch-2018-000057

DiCicco-Bloom, B., & Crabtree, B. F. (2006). The qualitative research interview. *Medical education*, 40(4), 314-321. https://doi.org/10.1111/j.1365-2929.2006.02418.x

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: what are they?. *Strategic management journal*, 21(10-11), 1105-1121. https://doi.org/10.1002/1097-0266(200010/11)21:10/11%3C1105::AID-SMJ133%3E3.0.CO;2-E (ABS 4)

Eswatini Environment Authority. (2020). *State of the environment report*. Eswatini Environment Authority.

Farooque, M., Zhang, A., Thürer, M., Qu, T., & Huisingh, D. (2019). Circular supply chain management: A definition and structured literature review. *Journal of Cleaner Production*, *228*, 882-900. https://doi.org/10.1016/j.jclepro.2019.04.303

Foss, N. J., & Saebi, T. (2017). Fifteen years of research on business model innovation: How far have we come, and where should we go?. *Journal of management*, *43*(1), 200-227. https://doi.org/10.1177%2F0149206316675927

Fusch, P., Fusch, G. E., & Ness, L. R. (2018). Denzin's paradigm shift: Revisiting triangulation in qualitative research. *Journal of social change*. *10*(1), 19 - 32. https://doi.org/10.5590/JOSC.2018.10.1.02

Geissdoerfer, M., Savaget, P., Bocken, N. M., & Hultink, E. J. (2017). The Circular Economy– A new sustainability paradigm?. *Journal of Cleaner Production*, *143*, 757-768. https://doi.org/10.1016/j.jclepro.2016.12.048

Ghisellini P, Cialani C, Ulgiati S. (2016). A review on circular economy: The expected transition to a balanced interplay of environmental and economic systems. *Journal of Cleaner Production*. 114, 11 – 32. https://doi.org/10.1016/j.jclepro.2015.09.007

Ghisellini, P., & Ulgiati, S. (2020). Circular economy transition in Italy. Achievements, perspectives and constraints. *Journal of Cleaner Production*, 243, 118360. https://doi.org/10.1016/j.jclepro.2019.118360

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report*, *8*(4), 597-607.

Government of Eswatini (2016). *National climate change policy*. Ministry of Tourism and Environmental Affairs, Eswatini.

Government of Eswatini. (2020). *Post COVID-19 Kingdom of Eswatini economic recovery plan*. Eswatini Government. https://www.gov.sz/images/CORONA/FINAL-POST-COVID-19-ECONOMIC-RECOVERY-PLAN-ESWATINI-14082020_compressed.pdf

Government of Eswatini. (2000) Solid waste regulations. Eswatini Environmental Authority

Government of Eswatini. (2021a). Plastic Bag Regulations Bill. Environment Department. Ministry of Tourism and Environmental Affairs.

Eswatini Government. (2018). Revised Micro, Small & Medium Enterprise (MSME) Policy for Eswatini. Ministry of Commerce Industry and Trade.

Government of Eswatini. (2021b). *Update of the nationally determined contributions. submitted to the United Nations Framework Convention on Climate Change (UNFCCC)*. Ministry of Tourism and Environmental Affairs, Eswatini.

Hsieh, H.F. & Shannon, S.E. (2005). Three approaches to qualitative content analysis.

Qualitative   Health   Research,   15,   1277   –   1288. http://dx.doi.org/10.1177/104973230527668

Hysa, E., Kruja, A., Rehman, N. U., & Laurenti, R. (2020). Circular economy innovation and environmental sustainability impact on economic growth: An integrated model for sustainable development. *Sustainability*, *12*(12), 4831. https://doi.org/10.3390/su12124831

Kalmykova, Y., Sadagopan, M., & Rosado, L. (2018). Circular economy–From review of theories and practices to development of implementation tools. *Resources, conservation   and   recycling*, *135*,   190-201. https://doi.org/10.1016/j.resconrec.2017.10.034

Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, conservation and recycling*, *127*, 221-232. https://doi.org/10.1016/j.resconrec.2017.09.005

Klewitz, Johanna & Hansen, Erik. (2011). Sustainability-Oriented Innovation in SMEs: A Systematic Literature Review of Existing Practices and Actors Involved.

Latif, B., Mahmood, Z., Tze San, O., Mohd Said, R., & Bakhsh, A. (2020). Coercive, normative and mimetic pressures as drivers of environmental management accounting adoption. *Sustainability*, *12*(11), 4506. https://doi.org/10.3390/su12114506

Lewandowski, M. (2016). Designing the business models for circular economy—Towards the conceptual framework. *Sustainability*, *8*(1), 43. https://doi.org/10.3390/su8010043

Mangers, J., Minoufekr, M., Plapper, P., & Kolla, S. (2021). An Innovative Strategy Allowing a Holistic   System   Change   towards   Circular   Economy   within   Supply-Chains. *Energies*, *14*(14), 4375. https://doi.org/10.3390/en14144375

Malhi, Y., Franklin, J., Seddon, N., Solan, M., Turner, M. G., Field, C. B., & Knowlton, N. (2020). Climate   change   and   ecosystems: Threats,   opportunities   and solutions. *Philosophical Transactions of the Royal Society B*, *375*(1794), 20190104. https://doi.org/10.1098/rstb.2019.0104

McCracken, G. (1988). *The long interview*. Newbury Park, Sage Publications.

Merli R, Preziosi M, Acampora A. (2018). How do scholars approach the circular economy? A

systematic literature review. *Journal of Cleaner Production*, 12.112. https://doi.org/10.1016/j.jclepro.2017.12.112

Mostaghel, R. & Chirumalla, K. (2021). Role of customers in circular business models. *Journal of Business Research*, *127*, 35-44. https://doi.org/10.1016/j.jbusres.2020.12.053

Mura, M., Longo, M., & Zanni, S. (2020). Circular economy in Italian SMEs: A multi-method study. *Journal of Cleaner Production*, *245*, 118821. https://doi.org/10.1016/j.jclepro.2019.118821

Muranko, Z, Andrews, D., Newton, E. J., Chaer, I., & Proudman, P. (2018). The pro-circular change model (P-CCM): proposing a framework facilitating behavioural change towards a circular economy. *Resources, Conservation and Recycling*, 135, 132-140. https://doi.org/10.1016/j.resconrec.2017.12.017

Murray, A., Skene, K. & Haynes, K. (2017). The circular economy: an interdisciplinary exploration of the concept and application in a global context. *Journal of Business Ethics*, 140 (3), 369–380. https://doi.org/10.1007/s10551-015-2693-2   (ABS 3)

Ormazabal, M., Prieto-Sandoval, V., Puga-Leal, R., Jaca, C. (2018). Circular economy in Spanish SMEs: Challenges and opportunities. *Journal of Cleaner Production*, 185, 157 – 167. https://doi.org/10.1016/j.jclepro.2018.03.031

Parajuly, K., Fitzpatrick, C., Muldoon, O., & Kuehr, R. (2020). Behavioral change for the circular economy: A review with focus on electronic waste management in the EU. *Resources, Conservation & Recycling: X*, *6*, 100035. https://doi.org/10.1016/j.rcrx.2020.100035

Parajuly, K., & Wenzel, H. (2017). Product family approach in e-waste management: a conceptual framework for circular economy. *Sustainability*, *9*(5), 768. https://doi.org/10.3390/su9050768

Piispanen, V-V., Aromaa, E. and Henttonen, K. (2019). A case study of exploring the barriers of pro-environmental behaviour. *International Journal on Entrepreneurship and Innovation Management*, 23(5), 466–478. (ABS 1)

Piispanen, V. V., Henttonen, K., & Aromaa, E. (2020). Applying the circular economy to a

business model: an illustrative case study of a pioneering energy company. *International Journal of Entrepreneurship and Innovation Management*, *24*(4-5), 236-248.

Rizos, V., Behrens, A., Van der Gaast, W., Hofman, E., Ioannou, A., Kafyeke, T., Flamos, A., Rinaldi, R., Papadelis, S., Hirschnitz-Garbers, M. & Topi, C. (2016). Implementation of circular economy business models by small and medium-sized enterprises (SMEs): Barriers and enablers. *Sustainability*, *8*(11), 1212. https://doi.org/10.3390/su8111212

Saunders, M., & Lewis, P. (2018). *Doing Research in Business and Management* (2nd ed.). Pearson.

Saunders, B., Sim, J., Kingstone, T. , Baker, S., Waterfield, J., Bartlam, B., Burroughs, H., & Jinks, C. (2018). Saturation in qualitative research: exploring its conceptualization and operationalization. *Quality & Quantity,* 52, 1893–1907. https://doi.org/10.1007/s11135-017-0574-8

Saunders, M. N., & Townsend, K. (2016). Reporting and justifying the number of interview participants in organization and workplace research. *International Journal on Entrepreneurship and Innovation Management 27*(4), 836 - 852. https://doi.org/10.1111/1467-8551.12182   (ABS 4)

Schaltegger, S., Hansen, E. G., & Lüdeke-Freund, F. (2016). Business models for sustainability: Origins, present research, and future avenues. *Organization & Environment*, *29*(1), 3-10. https://doi.org/10.1177%2F1086026615599806

Schroeder, P., Anggraeni, K., & Weber, U. (2019). The relevance of circular economy practices to the sustainable development goals. *Journal of Industrial Ecology*, *23*(1), 77-95. https://doi.org/10.1111/jiec.12732   (ABS 2)

Sehnem, S., de Queiroz, A. A. F. S., Pereira, S. C. F., dos Santos Correia, G., & Kuzma, E. (2022). Circular economy and innovation: A look from the perspective of organizational capabilities. *Business Strategy and the Environment*, *31*(1), 236-250. https://doi.org/10.1002/bse.2884

Sharma, N. K., Govindan, K., Lai, K. K., Chen, W. K., & Kumar, V. (2021). The transition from linear economy to circular economy for sustainability among SMEs: A study on

prospects, impediments, and prerequisites. *Business Strategy and the Environment*, *30*(4), 1803-1822. https://doi.org/10.1002/bse.2717

Sharma, H. B., Vanapalli, K. R., Cheela, V. S., Ranjan, V. P., Jaglan, A. K., Dubey, B., Goel, S. & Bhattacharya, J. (2020). Challenges, opportunities, and innovations for effective solid waste management during and post COVID-19 pandemic. *Resources, Conservation and Recycling*, *162*, 105052. https://doi.org/10.1016/j.resconrec.2020.105052

Shi, Y., Wang, Y., Yue, Y., Zhao, J., Maraseni, T., & Qian, G. (2021). Unbalanced status and multidimensional influences of municipal solid waste management in Africa. *Chemosphere*, *281*, 130884. https://doi.org/10.1016/j.chemosphere.2021.130884

Sohal, A., Nand, A. A., Goyal, P., & Bhattacharya, A. (2022). Developing a circular economy: An examination of SME's role in India. *Journal of Business Research*, *142*, 435-447. https://doi.org/10.1016/j.jbusres.2021.12.072

Suchek, N., Fernandes, C. I., Kraus, S., Filser, M., & Sjögrén, H. (2021). Innovation and the circular economy: A systematic literature review. *Business Strategy and the Environment*, *30*(8), 3686-3702. https://doi.org/10.1002/bse.2834

Teece, D. J. (2014). A dynamic capabilities-based entrepreneurial theory of the multinational enterprise. *Journal of international business studies*, *45*(1), 8-37. https://doi:10.1057/jibs.2013.54

Teece, D. J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, *28*(13), 1319-1350. https://doi.org/10.1002/smj.640   (ABS 4)

Teece, D. J. (2017). Towards a capability theory of (innovating) firms: implications for management and policy. *Cambridge Journal of Economics*, *41*(3), 693-720. https://doi:10.1093/cje/bew063   (ABS 3)

Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning*, *51*(1), 40-49. https://doi.org/10.1016/j.lrp.2017.06.007   (ABS 3)

Teece, D., & Pisano, G. (1994). The dynamic capabilities of firms: an introduction. *Industrial and Corporate Change. 3*(3), 537-556. https://doi.org/10.1093/icc/3.3.537-a (ABS 3)

Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, 27(2), 237-246. https://doi.org/10.1177%2F1098214005283748

United Nations. (2015). *The Paris agreement*. https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf

United Nations Eswatini. (2020). *A rapid socioeconomic assessment of COVID-19 in Eswatini*. United Nations Development Programme. https://www.sz.undp.org/content/eswatini/en/home/library/policy-brief--rapid-socioeconomic-assessment-of-covid-19-in-eswa/

Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & health sciences*, *15*(3), 398-405. https://doi.org/10.1111/nhs.12048

Van Langen, S. K., Vassillo, C., Ghisellini, P., Restaino, D., Passaro, R., & Ulgiati, S. (2021). Promoting circular economy transition: A study about misconceptions and awareness by different stakeholders groups. *Journal of Cleaner Production*, *316*, 128166.

Vu, H. M. (2020). A review of dynamic capabilities, innovation capabilities, entrepreneurial capabilities and their consequences. *The Journal of Asian Finance, Economics, and Business*, *7*(8), 485-494. https://doi.org/10.13106/jafeb.2020.vol7.no8.485

Wang, C. L., & Ahmed, P. K. (2007). Dynamic capabilities: A review and research agenda. *International journal of management reviews*, *9*(1), 31-51. https://doi.org/10.1111/j.1468-2370.2007.00201.x

Wegner, T. (2016). *Applied business statistics: Methods and Excel-based applications (4ᵗʰ Ed)*. Juta and Company ltd.

Whicher, A., Harris, C., Beverley, K., & Swiatek, P. (2018). Design for circular economy: Developing an action plan for Scotland. *Journal of Cleaner Production*, *172*, 3237-3248.

https://doi.org/10.1016/j.jclepro.2017.11.009

Yeow, A., Soh, C., & Hansen, R. (2018). Aligning with new digital strategy: A dynamic capabilities approach. *The Journal of Strategic Information Systems*, *27*(1), 43-58. https://doi.org/10.1016/j.jsis.2017.09.001 (ABS 3)

Zahra, S. A., Sapienza, H. J., & Davidsson, P. (2006). Entrepreneurship and dynamic capabilities: A review, model and research agenda. *Journal of Management studies*, *43*(4), 917-955. https://doi.org/10.1111/j.1467-6486.2006.00616.x (ABS 4)

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2010). *Business research methods* (8th ed.). Cengage Learning.

Zott, C., Amit, R., & Massa, L. (2011). The business model: recent developments and future research. *Journal   of   Management*. *37*(4),   1019   -   1042. https://doi.org/10.1177%2F0149206311406265

Appendix A: Semi-Structured Interview Guide

Part I: Background Information (5 mins)

Ask the respondent to provide the following information

i. Introduction of respondent: a) name, b) qualification, d) role c) years of experience

ii. Introduction of Company: a) name b) what do you do c) years in operation

Part II: Circular Economy Practices in SMEs in Eswatini

RQ1: How are SMEs in Eswatini incorporating circular economy into their business models?   (15mins)

i. What is your understanding of the circular economy and its benefits? (please provide examples from your company or other companies/organisations that you are aware of)

ii. How does/could your organisation apply circular economy principles in its processes, products and/or services?

    a.

Part III: Organisational Capabilities

RQ2: How do SMEs in Eswatini use dynamic capabilities to transform to innovative circular economy business models? (30mins)

<u>Sensing:</u>

i. What strategies does your organisation use when exploring new opportunities, new markets and/or new technologies?

    a. What are the key decision factors

    b. What do you look for or consider?

ii. How were circular economy approaches or principles factored into the new opportunities your organisation has explored in the past five years?

    a. Is circular economy part of the decision making criteria?

    b. It is a key driver

    c. Does it form part of the discussions?

    d. If not, then why not?

<u>Seizing:</u>

i. When making a decision to invest in a new product, equipment, raw material etc, what circular economy approaches or principles are/should be included in the decision-making process?

    a. What do you consider when buying raw material, what informs your

diciosn

    b. In the actual process, what type of equipment or technology do you look for? What is the most important factor for the actual process? (Ask the respondent to include details on technology assessment and target market identification when framing the answer)

  ii. Please explain how in your knowledge, your suppliers and competitors use circular economy approaches or principles in identifying and taking decisions on new opportunities.

<u>Reconfiguring:</u>

  i. How are/could you equipping your team (with knowledge/skills) to innovate towards circular business models?

  ii. Does your organisation have an environmental policy?

  iii. Is there value in equipping them in circular economy principles?

  iv. Which roles/positions in the organisation are involved or affected reviewing the business model?

  v. What are the drivers of the reviews/updates of your business model and what role does the circular economy play in driving this change?

Part IV: Barriers and Enablers

RQ3: What are the organisational barriers for the adoption of circular economy approaches by SMEs in Eswatini? (10 min)

  i. What in your opinion are the organisational barriers to adoption of circular economy approaches in your business, in your value chain (network), in the country?

  ii. What gaps still need to be addressed for SMEs in Eswatini to transition to a circular economy?

  iii. What circular economy opportunities are there for SMEs to explore which could enhance their business models: -products or operations?

Appendix C: Consistency Matrix

Research Question	Literature Review	Data Collection Tool	Analysis
i. How are SMEs in Eswatini incorporating circular economy into their business models?	Ghisellini, 2016 Lewandowski, 2016 Rizos et al., 2016 Schaltegger et al., 2016 Kalmykova et al., 2018 Parajuly, 2020	Semi-structured interview Part II: Circular Economy Initiatives	Content analysis to determine the types of business models and processes following in developing them
ii. How do SMEs in Eswatini use dynamic capabilities to transform to innovative circular economy business models?	Senhem et al., 2020 Eisenhardt & Martin, 2000 Geissdoerfer et al., 2018 Vu, 2020	Semi-structured interview Part III: Organisational Capabilities	Content analysis to identify the dominant theme/capability
iii. What are the organisational barriers for the adoption of circular economy approaches by SMEs in Eswatini?	Piispanen et al., 2019 Schroeder et al., 2019 Sharma et al., 2021 Sohal et al., 2021 Ghisellini, 2016 Salvioni & Almici, 2021 Ddiba et al., 2020	Semi-structured interview Part IV: Barriers and Enablers	Content analysis to profile the types and sources of organisational barriers

Appendix D: Table of Academic Journal rating

Title	ABS Rating (*)
Journal of management	4
Journal of Management studies	4
Strategic management journal	4
Academy of Management Review	4
International Journal on Entrepreneurship and Innovation Management	4
Production Planning & Control	3
Journal of Business Ethics	3
Ecological economics	3
Cambridge Journal of Economics	3
Long range planning	3
The Journal of Strategic Information Systems	3
Journal of Industrial Ecology	2
International Journal on Entrepreneurship and Innovation Management	1

Appendix E: Ethical Committee Clearance
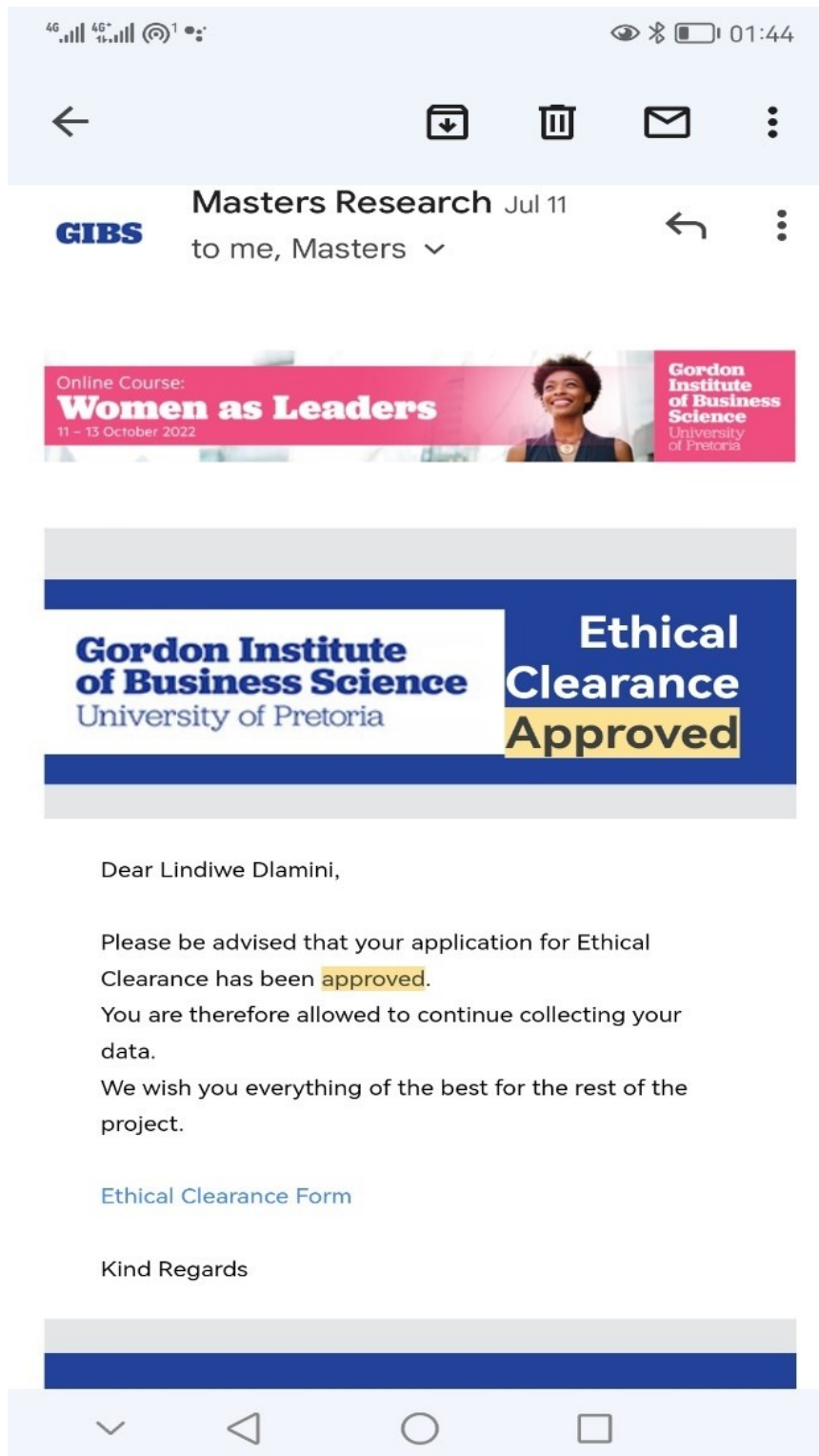
Appendix F: List of Interviewed Participants

Participant	Location	Sector	Type
M1	Mbabane	Energy and Waste	MSME
M2	Mbabane	Composting	MSME
M3	Matsapha	Construction, Cleaning Chemicals, Bakery	MSME
M4	Countrywide	Informal trading	MSME
M5	Mbabane	Agriculture	MSME
M6	Mbabane	Entrepreneur training	MSME
M7	Manzini	Block yard	MSME
M8	Matsapha	Recyclers	MSME
E1	Environment	Expert	Expert
E2	Environment Research	Expert	Expert
P1	Municipality	Policy	Policy
P2	Government Parastatal	Policy	Policy
E1	Municipality background/ Public Procurement	Policy	Policy

Appendix G: Codebook and Interview Codes

Codebook

Themes	Codes
Circular Economy Business Model	Closed Loop Economy, Reduce, reuse, recycle, 'Design to re-design', Waste as a resource, Slowing Loop, Ease of maintenance, ease of repairs
Green Transition	No waste, green mindset, economic considerations, innovation,
Misconceptions	Emerging, gradual enlightenment, new, awareness: none, awareness: limited, aware, value, not applicable, context
Dynamic Capabilities	Sensing, seizing, transform
Barriers to a CE	Policy, legislation, financial, capacity

Interview Codes

Theme	Codes	# Sub Codes
Awareness of the CE	Awareness	45
	Misconceptions	10
Sensing	Priority: profit	37
	Readiness for CE	52
	Realising Value from CE	41
	Motive	13
Seizing	CE Business Model	18
Transform	Building Organisational Capacity	34
	Corporate Governance and the CE	2
	Networks	17
Barriers to a CE	Barriers: Financial	25
	Barriers: Culture	7
	Barriers: Technical	21
	Barriers: Capacity	16
	Barriers: Policy and Regulation	39

Appendix H: Consent Form

Dear Participant

I am currently a student at the University of Pretoria's Gordon Institute of Business Science and completing my research in partial fulfilment of an MBA.

I am conducting research on circular economy innovations or practices being adopted by SMEs in Eswatini. You are kindly requested to participate in this research as a key informant. Our interview is expected to last about an hour and will help us understand how SMEs in Eswatini build organisational capabilities for the adoption of circular economy principles.

Your participation is voluntary, and you can withdraw at any time without penalty. All data will be reported without identifiers. If you have any concerns, please contact my supervisor or me. Our details are provided below.

	Researcher	**Research Supervisor**
Name:	Lindiwe Dlamini	Prof Johan Olivier
Email:	**20807342@mygibs.ac.za**	**olivierjo@gibs.co.za**
Phone:		

Signature of participant: _____ Date: _____

Signature of researcher: _____ Date: _____