

**Buy-back centres' contribution to community livelihoods in the informal
economy**

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ABSTRACT

The purpose of this study is to investigate the role of buy-back centres (BBCs) in South Africa's informal economy and their contribution to community livelihoods. Through semi-structured interviews, the study explored the economic and social benefits that BBCs provide to informal communities, such as employment opportunities and improved compensation systems. The research also revealed various challenges that BBCs face, including market competition, regulatory issues, infrastructure shortcomings, and the increasing financial contributions of the informal recycling sector. To address these challenges, the study recommends implementing clear policies, enhancing infrastructure, and increasing government support. The research highlights the significance of BBCs in promoting community livelihoods and identifies areas that require further exploration. The study's findings offer practical strategies for stakeholders, underscoring the importance of collaboration to strengthen the impact of BBCs on South Africa's informal economy.

KEYWORDS

BBCs (buy-back centres) , Informal economy, Recycling, Waste pickers, Socio-economic benefits

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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LIST OF ABBREVIATIONS AND ACRONYMS

ADBG:	African Development Bank Group
BBC:	Buy-Back Centre
CSR:	Corporate Social Responsibility
DFFE:	Department of Forestry, Fisheries and the Environment
EPR:	Extended Producer Responsibility
GDP:	Gross Domestic Product
GIBS:	Gordon Institute of Business Science
ILO:	International Labour Organisation
IMF:	International Monetary Fund
IWMP:	Integrated Waste Management Plan
NGO:	Non-Governmental Organisation
NWMS:	National Waste Management Strategy
PETCO:	PET Recycling Company
RPT:	Research Participant
RSA:	Republic of South Africa
RSQ:	Research Sub-Question
SARS:	South African Revenue Service
SME:	Small and Micro-Enterprise
SQ:	Sub-Question
Stats SA:	Statistics South Africa
VAT:	Value Added Tax
WIEGO:	Women in Informal Employment: Globalising and Organising

1. INTRODUCTION TO THE RESEARCH PROBLEM

1.1 Introduction

This research examined the operations of BBCs in South Africa, studying them through a socio-economic lens to understand their potential as a model for sustainable employment generation. It explores the behaviours, practices, and characteristics that contribute to BBCs' potential for job creation in the informal economy. The findings shaped the proposed socio-economic design framework, which provides valuable insights to policymakers and stakeholders. This framework outlines the necessary components for designing effective strategies that can leverage the full potential of BBCs, to address unemployment challenges and foster a more sustainable and inclusive informal economy.

1.2 Background

South Africa, despite being the African continent's most industrialised nation, still grapples with challenges such as a high unemployment rate, significant wealth disparity, and stagnant economic growth—issues that have remained unresolved for three decades after the end of apartheid (African Development Bank Group [ADBG], 2022; Anwana, 2021). The International Monetary Fund (IMF) projections underscore the severity of the situation, indicating that South Africa is expected to maintain the highest global unemployment rate, forecasted to reach 34.8% in 2023 (IMF, 2023). The youth unemployment rate further exemplifies this issue, standing at a reported 46.5% in the first quarter of 2023 (Statistics South Africa [Stats SA], 2023). Limited formal job opportunities and high unemployment rates force individuals to seek opportunities to generate an income through informal means (International Labour Organization [ILO], 2023). Additionally, individuals encounter legal and regulatory barriers in the formal sector, further incentivising their participation in the informal economy (ILO, 2023). On an individual level, factors such as low education levels, discrimination, and poverty create obstacles to accessing formal employment and essential resources. These barriers act as catalysts, compelling individuals to seek opportunities in the informal economy to make a livelihood (ILO, 2023).

Due to the scarcity of formal job opportunities and limited access to quality education, many poor communities have turned to the informal economy for survival (Burger & Fourie, 2019; Schenck et al., 2019). Within this context, BBCs have emerged as a significant player. They function as a vital link between formal and informal economies, facilitating the integration of economic activities from both sectors (Barnes et al., 2021).

BBCs contribute significantly to both the economy and the environment (Barnes et al., 2021; Viljoen et al., 2019). Functioning as hubs for recyclable materials, including paper, glass, scrap metal, and plastic, BBCs have become an integral component of the recycling chain, contributing to socio-economic and environmental sustainability. They enhance the value of recyclable materials through sorting, cleaning, and baling processes, which increases the materials' market appeal (Viljoen et al., 2019). This meticulous operation ensures the sustainability of the recycling supply chain by ensuring that the procurement requirements of larger recycling companies, manufacturers, and importers are met.

Simultaneously, BBCs make significant contributions to communities. They provide income sources for individuals, such as street vendors and informal waste pickers, who are often marginalised in the formal economic structure (Barnes et al., 2021; Viljoen et al., 2019). By incentivising recycling, BBCs promote responsible waste management practices, while at the same time contributing to income generation and poverty reduction in the informal sector (Viljoen et al., 2019).

BBCs, however, face significant challenges, including a lack of recognition and support in South Africa's broader economic framework (Barnes et al., 2021). This lack of recognition may lead to less research focus, insufficient supportive policies, and fewer funding opportunities for BBCs (Barnes et al., 2021). This hinders the ability of BBCs to fully exploit their potential, and undermines their capacity to contribute more substantially to sustainable development and socio-economic advancement (Barnes et al., 2021).

In the context of high unemployment and limited job opportunities, especially for young people, BBCs could provide vital opportunities to generate income and foster skills

(Viljoen et al., 2012). Nevertheless, their capacity to effect substantial change in the informal economy is constrained by a lack of support and recognition.

While BBCs hold significant potential as agents of socio-economic upliftment and environmental sustainability, their role in South Africa's informal economy needs to be better recognised and valued. This research sought to address this gap, exploring how BBCs can more significantly contribute to tackling unemployment and enhancing community livelihoods in South Africa. The aim was to identify strategies to amplify the impact of BBCs and determine how they can be better integrated and supported within the broader economic structure.

1.3 Research Problem

South Africa's high unemployment levels and scarce formal job opportunities necessitate innovative strategies for income creation and skills enhancement. BBCs, which operate between formal and informal economies, present a viable option. They promote sustainable waste management and contribute to socio-economic development by providing job opportunities and improving skills amongst individuals who might otherwise be unemployed (Viljoen et al., 2019).

However, due to several barriers, their full potential is yet to be realised. One primary challenge is the lack of adequate recognition and support for BBCs within South Africa's broader economic framework. BBCs' essential roles in environmental conservation and community development are often overlooked, consequently limiting their ability to address unemployment effectively (Barnes et al., 2021).

Another obstacle is the societal stigma associated with waste-picking activities and recycling. This stigma hampers the ability of BBCs to attract and retain a workforce, thereby obstructing their growth (Women in Informal Employment: Globalizing and Organizing [WIEGO], 2023). Waste pickers often encounter discrimination and stigmatisation in South Africa and other countries, inhibiting their socio-economic contributions (WIEGO, 2023). Without sufficient recognition and support, these centres face difficulties securing necessary resources, funding, and partnerships. Such support

would allow them to expand their operations, create more job opportunities, and offer better support to communities in the informal economy (Mogotsi, 2008).

Further, a more comprehensive understanding of the operational dynamics of BBCs in the informal economy is required. While existing literature offers valuable insights, a knowledge gap persists regarding the varied roles of BBCs and their complex networks (Viljoen et al., 2012). This gap limits the development of effective policies and strategies to support and enhance the potential of BBCs.

In summary, BBCs represent potential solutions for unemployment and economic growth in South Africa. However, their impact is restricted by insufficient recognition, lack of support, and limited understanding of their operations. Therefore, this research addressed the need for an in-depth study of the role and operational dynamics of BBCs in South Africa's informal economy. The goal was to shed light on their potential to contribute to socio-economic growth, which could inform policy and strategy development.

1.4 Research Purpose

The primary purpose of this research was to examine the role, contributions, and potential of BBCs in South Africa's informal economy. This exploration aimed to deepen the understanding of these entities to inform policy development to support the cultivation of a more inclusive, sustainable, and economically productive informal sector (Viljoen et al., 2012).

This research focused specifically on the operations of BBCs, their interactions with the broader economy, and the socio-economic benefits they deliver. The motivation for this examination was to contribute to solutions to the significant unemployment issue South Africa is grappling with and to enhance community livelihoods (Viljoen et al., 2019).

By studying how BBCs operate, this research was aimed at clarifying their functions, challenges, and the intricacies of their relationships with role players in the recycling supply chain. Creating this deeper understanding was aimed at highlighting the transformative capacity of BBCs (Barnes et al., 2021). Further, the research probed the significant barriers BBCs face, such as lack of recognition and inadequate support,

which hinder the realisation of their potential. The aim of the analysis was to yield concrete recommendations on effectively addressing these impediments.

In conclusion, this research aimed to offer actionable insights to enhance the contributions of BBCs to South Africa's informal economy, with a specific focus on reducing unemployment and improving livelihoods. By analysing the roles and challenges associated with BBCs, the study answers a call for more in-depth research in this area. The findings are intended to guide policy development and promote the implementation of sustainable waste management practices throughout South Africa (Barnes et al., 2021; Viljoen et al., 2012; Viljoen et al., 2019).

1.5 Research Scope

This study, set in the South African context, was aimed at creating a better understanding of BBCs and their influence on the informal economy. The research primarily investigated the role and activities of BBCs in waste management and recycling activities.

The key objective was to determine the broader implications of BBCs' contributions, thus going beyond the immediate context of recycling. The research concentrated on how BBCs can enhance the livelihoods of communities engaged in the informal economy, focusing on the two primary outcomes: Job creation and income generation (Barnes et al., 2021; Viljoen et al., 2012). The research entailed analysing the strategies that BBCs employed to promote economic sustainability within the informal sector (Viljoen et al., 2019).

Additionally, the research was aimed at assessing the obstacles restricting BBCs from maximising their potential. These obstacles can be institutional, societal, or economic, and their understanding is pivotal, as they limit BBCs' capacity to make a more significant socio-economic impact (Barnes et al., 2021). Potential strategies to overcome these hurdles and promote an inclusive and sustainable economic environment were also considered.

The research scope encompasses an examination of BBCs in South Africa, including their operational methods, their contributions to improving livelihoods in the informal

economy, the challenges they encounter, and potential solutions. This study was conducted with the central aim of enhancing our understanding and informing strategies that could better utilise the transformative potential of BBCs in the informal economy.

1.6 Research Significance

This study contributes to the expanding knowledge of BBCs in South Africa, a sector of the informal economy often overlooked yet holds significant potential for addressing the critical issue of the country's high unemployment rate (Viljoen et al., 2012). By identifying the main issues these centres face, this study enriches academic understanding and offers practical insights for future action and research.

From an academic viewpoint, this study adds to the existing literature on BBCs in South Africa. Although BBCs are a critical component of the informal economy and can help address high unemployment rates, more academic research is needed. This study was aimed at bridging this gap by exploring the operations of BBCs and identifying their main challenges.

With regard to practice, the research underscores the role of BBCs in promoting economic sustainability in South Africa. BBCs can significantly contribute to the informal economy, but their full potential has yet to be realised due to various operational and systemic issues. This study delves into these aspects, providing insights that could inform the improvement of the functioning of BBCs.

From a policy perspective, the study findings could aid in developing more effective strategies. Using network theory to study the role of BBCs in the informal economy, it offers a detailed analysis of how they affect local livelihoods and identifies the critical actors within this network. These findings could guide the formulation of policies aimed at enhancing the contributions of BBCs to South Africa's informal economy.

Additionally, the research findings may have broader applicability. It presents strategies for overcoming the challenges faced by BBCs, which could be valuable for policy decisions in South Africa and other regions with high unemployment rates that are seeking to harness the potential of the informal economy. This could also encourage more research on BBCs and the application of network theory in similar contexts.

This research is thus relevant for academics, practitioners, and policymakers. By examining the role of BBCs, the study aimed to support the sustainable growth of the South African economy, improve the livelihoods of local communities, and foster a more conducive environment for the informal economy.

1.7 Conclusion

This chapter provided background to this research by outlining the context, purpose, scope, and significance of BBCs in South Africa's informal economy. The persistently high unemployment rate and wealth disparity in South Africa necessitate innovative solutions, and this study examined BBCs as a critical undertaking. Their pivotal role in bridging the formal and informal sectors and their potential for job creation, environmental sustainability, and fostering socio-economic development underscore their transformative capacity.

However, challenges such as inadequate recognition, lack of support, and societal stigma associated with their operations have constrained the full realisation of BBCs' potential. By analysing the operations, contributions, and challenges of BBCs, the research findings could inform strategies and policies to optimise their capacity, thus supporting efforts to reduce unemployment and contribute to a more balanced and sustainable informal economy.

The subsequent chapter builds on this foundation by delving into the existing academic discourse in this domain. It contains a literature review that provides key insights into the theories underpinning this study, illuminating the research gaps that shaped the formulated research questions. The chapter offers a broad overview of academic discussions on BBCs, their role in the informal economy, and their challenges, underpinning the study's research process framework.

2. LITERATURE REVIEW

2.1 Introduction

This chapter presents a literature review of the role of BBCs in the informal recycling economy, their potential to enhance socio-economic growth, and their contributions to sustainable development. The informal economy, especially in the field of sustainable waste management, is a complex system with many participants, including BBCs. The roles, challenges, and opportunities that BBCs encounter within this larger informal recycling economy are examined in this chapter. The review delves into the operations and impact of BBCs, underscoring their possible contributions to sustainable development and poverty reduction. There is a focus on the notable contribution of BBCs to socio-economic growth, such as facilitating local job creation and providing income opportunities in both formal and informal sectors. Network theory is utilised to provide a deeper understanding of the BBCs' operations, specifically the complex network of relationships that dictate the functioning and dynamics of these centres. This exploration is followed by a review of the policy and regulatory environment impacting BBCs' operations. The literature review commences with a discussion of the context in which BBCs function, namely the informal economy.

2.2 Overview of an Informal Economy

This section provides an introduction to the nature of an informal economy and an overview of informal economies worldwide. This is followed by a discussion of informal economies in less industrialised countries, with a subsequent focus on these economies in South Africa. Understanding the complexities of the informal economy is crucial in understanding the roles, challenges, and potential of BBCs in the South African context.

2.2.1 Nature of an informal economy

In literature, an informal economy is described using a variety of terms, including 'atypical', 'cash-in-hand', 'hidden', and 'irregular', which underline its multifaceted nature across different global contexts (Khuong et al., 2021; Webb et al., 2020). However, the complexity of the informal economy is often oversimplified or misinterpreted, resulting in

misleading stereotypes such as 'illegal', 'underground', 'black market', and 'grey market' (WIEGO, 2023).

Encompassing a vast array of activities that operate outside of regulatory and taxation systems, the informal economy spans diverse types of work, from self-employment to wage labour (WIEGO, 2023). A key feature of this sector is its unregistered or hidden status with regard to taxation and social benefits, emphasising the precarious situation of its workers (Khuong et al., 2021; Webb et al., 2020). Despite its significant contribution to the economy, the informal sector also presents substantial challenges concerning worker rights and protections (ILO, 2023).

Informal economies exist in various socio-economic environments, including highly industrialised and less industrialised countries (Khuong et al., 2021). Individuals engage in informal economies for a variety of reasons, including financial necessity, lack of understanding of regulatory compliance, intentional evasion, or a desire to pursue entrepreneurship and gain independence (Blaauw, 2017; Webb et al., 2020). The informal economy is not an isolated entity; it is often intertwined with the formal sector, with entrepreneurial endeavours frequently blurring the boundaries between the two (Webb et al., 2020). Additionally, when societal norms diverge significantly from governmental regulations, individuals may engage in informal economic activities out of necessity rather than choice (Webb et al., 2020).

Occupations in the informal economy vary widely and include, amongst others, street vending, waste collecting, and domestic labour, often characterised by temporary contractual work and a lack of labour protections (WIEGO, 2023). The choice to work in the informal economy is often based on the nature of the work and the informal institutions that govern it, rather than personal preference (Webb et al., 2020). Due to their temporary and contract-free nature, roles such as seasonal farming or retail are typical of the informal sector.

Contrary to the narrow perception of the informal economy consisting solely of standalone, small-scale, unregulated businesses, it has a broader influence and is present in various areas and operations of the formal economy (Webb et al., 2020). This sector involves diverse work arrangements, from self-employed individuals running

unregistered businesses to wage-earning workers within formal entities without formal contracts or benefits (Webb et al., 2020). Irregular practices, such as undeclared income and disguised self-employment, underscore its pervasive influence (Webb et al., 2020). Consequently, the reach of the informal economy extends beyond the fringes of economic activity, impacting the core operations and resilience of the formal economy (Webb et al., 2020).

To fully comprehend its scope and complexity, it is vital to distinguish between unregistered businesses and informal activities in formal entities (Webb et al., 2020). Understanding these differences is crucial for developing targeted policies and interventions that address specific issues within each part of the economy, whether it is to provide support or enforce regulations (Webb et al., 2020). While the differences and complexities of the informal sector are universal, they take on diverse shapes and implications depending on regional and economic conditions. This becomes apparent when looking at the role and prevalence of the informal economy worldwide.

2.2.2 Informal economies worldwide

The informal economy is critically important in many societies, particularly in less industrialised nations, where it is a major source of employment and income that makes a significant contribution to these countries' economies (ILO, 2023). The ILO (2023) estimates that over half of the global labour force and over 90% of small and micro-enterprises (SMEs) worldwide operate within the informal economy. This sector's importance is underscored by its extensive employment contribution across various regions. In Africa, it provides jobs for 85.8% of the workforce, while in Asia and the Pacific, the figure is 68.2%. The Arab states have 68.6% of their workforce employed in this sector, followed by the Americas with 40.0%, and Europe and Central Asia with 25.1% (ILO, 2018).

The informal economy plays a crucial role in shaping the broader economic structure by contributing to job creation, fostering entrepreneurship, and compensating for gaps in formal employment (Webb et al., 2020; WIEGO, 2023). Elgin and Erturk (2019) highlight the informal economy's role in long-term economic growth, poverty alleviation, inequality reduction, and financial development. Elgin and Erturk (2019) suggest that the informal

sector can provide a cushion during business cycle fluctuations and recessions, thus contributing to economic stability. Furthermore, a rise in informal sector wages could shrink income disparities and reduce poverty rates in urban regions. The resilience and entrepreneurial spirit inherent in the informal sector, particularly during periods of economic instability, significantly boost local economies by providing essential services, goods, and employment opportunities (Webb et al., 2020).

2.2.3 Informal economies in less industrialised countries

Less industrialised countries rely heavily on the informal economy, as it is a vital source of income and employment for a significant portion of their populations (Dell'Anno, 2022). This sector forms a substantial part of these economies, constituting a significant proportion of total economic activities (Sultana et al., 2022). The informal sector offers various roles and activities, which include self-employed individuals operating micro-enterprises, small-scale entrepreneurs, and casual labourers. Research by Elgin and Erturk (2019) underscores the informal economy's diversity, highlighting an array of activities, from street vending and artisanal crafts to home-based businesses. This diversity reflects the multifaceted nature of the informal economy and its significant contributions to the economy of less industrialised countries. Moreover, the striking diversity in the structure and scale of the informal economy highlights its role as a refuge during socio-economic crises, providing a crucial safety net when opportunities in the formal sector dwindle (Urban & Ndou, 2019).

The informal economy is a vital lifeline for individuals with limited education and skills, particularly those from economically disadvantaged backgrounds. Etim and Daramola (2020) and Elgin and Erturk (2019) affirm this perspective, highlighting how the informal sector often becomes the sole viable source of income for individuals during challenging economic times. Mahadea (2018) further emphasises that the informal economy is a refuge for survival because it offers essential income opportunities for disadvantaged individuals, a sentiment echoed by Chukwuma and Okonkwo (2023).

Moreover, the informal economy plays a significant part in poverty alleviation. Research by Elgin and Erturk (2019) and Sharma and Adhikari (2020) have shown that the growth of the informal sector is associated with a decline in poverty rates, emphasising its

critical role in meeting the fundamental needs of economically vulnerable households. Webb et al. (2020) add that the informal sector enhances the economic resilience of underprivileged households by providing them with crucial livelihood opportunities, further supporting the notion that the informal economy is a lifeline for marginalised individuals and communities.

Informal economy workers often grapple with low wages and job insecurity, creating a cycle of poverty and instability, as highlighted by Elgin and Erturk (2019) and Narula (2020). Additional challenges, including hazardous working conditions and the absence of regulatory safeguards, contribute to their vulnerable state (Narula, 2020; Webb et al., 2020). Workers also face financial and social exclusion, limiting their access to formal financial systems and social benefits, as noted by Chukwuma and Okonkwo (2023) and Khuong et al. (2021). These factors underscore the need for a comprehensive strategy that acknowledges the unique complexities of the informal sector and its workers (Narula, 2020).

The relationship between poverty and the informal sector is multifaceted, influenced by various factors, including a country's economic development stage. Elgin and Erturk (2019) and Pham (2022) propose that heightened poverty levels can stimulate the expansion of the informal sector, which may inadvertently exacerbate poverty conditions. This phenomenon occurs as the informal sector, while offering employment opportunities to low-skilled workers, often does so at lower wages. This circumstance can mitigate situations of near poverty but can simultaneously deepen extreme poverty due to the inadequate compensation offered in this sector. While expanding the informal sector can alleviate poverty rates in lower- and middle-income countries, Chukwuma and Okonkwo (2023) warn of the risk of increasing income inequality and hampering the collection of tax revenue (Khuong et al., 2021). These complexities highlight the necessity for tailored strategies that consider each country's specific circumstances, as suggested by Webb et al. (2020).

To add to these complications, accurately estimating the size of the informal economy is a challenging task (Sharma & Adhikari, 2020). Methodological debates and discussions around limitations abound, and various approaches have been offered to measure the informal economy, from analysing national income account discrepancies

to using survey and census data or model-based estimates. However, these estimates have shown considerable variation across regions and countries, indicating the heterogeneous nature of the informal economy (Elgin & Erturk, 2019). Web et al. (2020) indicate the necessity to consider the diverse nature of informal economic activities and emphasise the importance of considering the sector's social and cultural dimensions along with economic indicators. As Khuong et al. (2021) argue, evaluating the informal economy needs to go beyond gross domestic product (GDP) figures and consider non-monetary benefits, such as job creation and economic resilience, to ensure a comprehensive understanding of its vast implications. The dynamics of the informal sector exhibit variation across different geographical locations and countries. Since this study focuses on BBCs in South Africa, it is essential to examine the intricacies of the informal economy within this particular context.

2.2.4 The informal economy in South Africa

The informal economy in South Africa, which serves as a critical employment source, has been the subject of much discussion and research (Pham, 2022). Without opportunities in the formal sector, the informal economy becomes a viable means of survival for many South Africans (Chen & Carré, 2020). The sector's contribution to total employment is relatively small compared to similar economies and has gradually declined over time. Despite its small size compared to the formal economy, the informal economy has been shown to play a pivotal role in poverty reduction, highlighting its importance within the broader economic landscape (Chen & Carré, 2020).

The perception of the informal economy as a low-productivity sector with limited social and legal protection has been challenged by recent research. Chen and Carré (2020) argue that this economy is instrumental in poverty reduction, despite its workers often having lower educational attainment. This sector's role in poverty alleviation is further emphasised by its importance in South Africa's overall economic strategy, with the government taking active measures to encourage participation (Chen & Carré, 2020).

The South African government acknowledges the informal economy's potential in effecting transformation. One significant area of emphasis is fostering entrepreneurship in townships, spaces historically marked by apartheid's spatial discrimination (Urban &

Ndou, 2019). The government intends to transform these townships from remnants of a segregated past into bustling economic hubs, providing substantial benefits to their less privileged and previously disadvantaged populations (Chen & Carré, 2020). These measures align with the argument that the informal economy can be a powerful vehicle for poverty alleviation when properly understood and supported (Chen & Carré, 2020).

However, the transformation of South Africa's informal economy into a powerful force for poverty alleviation and economic development is encountering significant challenges. Workers in the informal sector face spatial disadvantages and limited access to economic opportunities, primarily due to their concentration in lower-income areas with restricted skill sets (Urban & Ndou, 2019). In order to address these challenges, it is crucial that policy measures better recognise and support the crucial role of the informal sector in poverty reduction. This includes implementing robust data collection methods to accurately capture the actual contributions of informal employment (Chen & Carré, 2020). Additionally, it is essential to acknowledge the nuanced relationship between the informal economy and the tax system, moving away from the narrative of tax evasion and recognising the significant contributions of informal workers through indirect taxes and user fees (Chen & Carré, 2020). By understanding these complexities, policymakers can effectively address the challenges faced by workers in South Africa's informal sector (Chen & Carré, 2020; Smit & Musango, 2015; Urban & Ndou, 2019).

The recycling sector is a crucial component of South Africa's informal economy, with waste pickers playing a prominent role in its success. Despite operating outside of formal waste management systems, these individuals make significant contributions to environmental sustainability and the overall economic framework of the country (Godfrey, 2021; Godfrey & Oelofse, 2017). The following section focuses on this study's specific area of interest, which is the informal economy's recycling activities in South Africa.

2.3 Informal Recycling Sector in South Africa

The informal recycling sector is a diverse subsector of South Africa's informal economy and plays a critical role in the country's waste management efforts. Informal waste

reclaimers, commonly known as 'waste pickers', have been at the forefront of these efforts for over three decades (Godfrey, 2021). These individuals operate outside the formal waste management system, collecting recyclable materials from households, streets, and landfills (Godfrey, 2021).

2.3.1 The role of informal waste reclaimers

The role of informal waste reclaimers in South Africa's recycling initiatives is significant. In 2017, it was estimated that they collected approximately 51% of the nation's paper and packaging waste (Godfrey, 2021). This substantial contribution not only aids waste reduction and resource recovery but also fosters a circular economy by diverting materials from landfills (Godfrey & Oelofse, 2017). By returning these materials to the production cycle, informal reclaimers help conserve natural resources and reduce the environmental impact associated with extracting and processing additional resources.

The growth of South Africa's recycling economy has been supported by legislation and initiatives such as the voluntary extended producer responsibility (EPR) scheme. These policy measures ensure that producers are accountable for the end-of-life stage of their products and the promotion of waste reduction and recycling. These schemes have attracted private-sector investment, developed local end-use markets, and increased the demand for recyclables (Godfrey, 2021).

Financial support from the private sector has been crucial in sustaining the informal recycling sector, as such investments have created jobs, improved the livelihoods of informal waste reclaimers, and indirectly funded municipal waste diversion strategies (Godfrey & Oelofse, 2017). In 2012, an estimated R625 million was paid to the informal waste sector through intermediaries such as BBCs, and this figure increased to R872 million in 2017 (Godfrey, 2021). This financial support has played a significant role in supporting the livelihoods of informal waste reclaimers (Godfrey, 2021).

Despite their invaluable contributions, informal waste reclaimers face several challenges. One pressing issue is the lack of fair compensation for their services. They are typically paid based on the market value of the recyclables they collect without additional compensation for their collection efforts (Godfrey, 2021). The problem lies in

the current legislative framework, which needs to be revised to address these issues and to ensure the sustainable development of the sector (Godfrey & Oelofse, 2017).

From the above, it is clear that the informal recycling sector is vital to South Africa's waste management infrastructure. Its contribution to the economy and the environment is significant, as it reduces municipalities' waste collection and disposal costs. Despite being part of the informal sector, informal recyclers are nevertheless subject to South African waste management and regulations. These are discussed below.

2.3.2 South African waste management legislation and regulation

The regulatory environment of the informal economy and BBCs in South Africa is influenced by specific legislation and strategies. These include the National Environmental Management: Waste Act 59 of 2008, the National Waste Management Strategy of 2011, and the updated National Waste Management Strategy of 2020, all of which have a significant impact on the operations and sustainability of BBCs in the country (Department of Forestry, Fisheries and the Environment [DFFE], n.d.).

The National Environmental Management: Waste Act 59 of 2008 lays the foundation for South Africa's waste management policies. This Act creates a broad policy framework, emphasising waste avoidance, reduction, reuse, recycling, and recovery, and is a pivotal legislative piece that has influenced the country's waste management practices (DFFE, 2009, 2016).

The Act embodies South Africa's commitment to improving waste management practices. This legislation aims to prioritise recycling and recovery efforts to reduce resource consumption and waste generation while treating safe waste disposal as a last resort (DFFE, 2009). The Act provides a national waste management strategy that outlines norms and standards for waste collection and disposal procedures in a broader framework. This includes more complex issues, such as handling hazardous waste and managing contaminated land (DFFE, 2009). The Act has significant implications for BBCs. By promoting waste minimisation, recycling, and recovery — areas inherently aligned with BBCs' functions — the Act potentially catalyses BBCs' growth and integration into the broader waste management system. Notably, the Act's licensing

mandate provides BBCs with formal legal recognition, which is crucial to their acceptance and further development (DFFE, 2009, 2016).

Building on the Waste Act (RSA, 2008), the **2011 National Waste Management Strategy (NWMS)** expands on South Africa's environmental legislation and is a critical element of the legal framework. The 2011 NWMS was shaped in response to the nation's rapidly urbanising population and escalating consumerism, which highlighted the environmental constraints of waste absorption. This strategy not only operationalises the principles of the Waste Act (RSA, 2008), but also supports the country's commitment to sustainable development by encouraging the establishment of waste management facilities, formalising the roles of waste pickers, and streamlining waste management processes (DFFE, 2011).

Per the objectives of the Waste Act (RSA, 2008), the 2011 NWMS follows a waste management hierarchy prioritising waste avoidance, reduction, reuse, recycling, and recovery over treatment and disposal. The approach outlined in the 2011 NWMS comprises eight strategic goals. The objectives of these goals include maximising the use of products and utilising materials at the end of their lifecycle through recycling, composting, or energy recovery methods (DFFE, 2011). While the absolute eradication of waste may not be feasible, this strategic application of the waste management hierarchy could shift the balance towards favouring reuse, recycling, recovery, and treatment as preferred waste management options, reducing the reliance on landfills in the coming decades (DFFE, 2011, 2016).

The 2011 NWMS can substantially influence BBCs by creating job opportunities in the waste management sector, expanding facilities, and integrating waste management into broader municipal and regional planning strategies. The DFFE (2011, 2016) notes that these developments could enhance the operational efficiency of BBCs and establish more effective connections with waste producers. Additionally, the NWMS, through its emphasis on boosting the green economy, could translate into financial incentives for BBCs, thereby promoting their sustainability. The NWMS is also a tool for public awareness about the impacts of waste, which could increase the supply of recyclable materials for BBCs and strengthen their supply chains. With improved compliance with waste regulations, a more supportive regulatory environment for BBCs can be fostered,

and the strategy's focus on job creation may give rise to incentives or schemes that benefit BBCs, ultimately contributing to socio-economic growth (DFFE, 2011, 2016).

The revised **NWMS of 2020** is aimed at aligning South Africa with global and national benchmarks and marks a stride towards a circular economy. This comprehensive strategy brings together stakeholders from government departments, local municipalities, the private sector, and informal waste pickers to establish a multifaceted dialogue on national waste management. While the emphasis is still on waste reduction, reuse, recycling, and recovery (DFFE, 2020), the NWMS 2020 supports a transition to a more inclusive and sustainable waste management framework. The 2020 NWMS underscores the importance of innovative approaches to waste management. It promotes exploring alternative waste treatment technologies and advocates creating industry-specific waste management plans. Notably, the 2020 NWMS recognises the critical role of informal waste pickers in the waste management ecosystem and promises to improve their working conditions and livelihoods (DFFE, 2020).

The 2020 NWMS encourages the integration of regional Integrated Waste Management Plans (IWMPs) to promote coordinated waste management and stakeholder participation. It mainly benefits BBCs by providing for their development and the creation of storage facilities for recyclables. The DFFE (2020) plans to create financial models for the sustainability of BBCs with potential funding from EPR schemes. The inclusion of BBCs in the 2020 NWMS aims to improve recycling rates, streamline waste management, and accelerate the move towards a circular economy (DFFE, 2020). However, the legislation's impact hinges on effective implementation, enforcement, and stakeholder cooperation.

In summary, the Waste Act 59 of 2008 outlines the broad policy framework for waste avoidance, reduction, reuse, recycling, and recovery (DFFE, 2009). It forms the groundwork for waste management practices in South Africa, influencing recycling and BBCs (DFFE, 2009). The 2011 NWMS operationalises the principles of the Waste Act (RSA, 2008) by promoting the establishment of waste management facilities, formalising waste pickers' roles, and streamlining waste management processes (DFFE, 2011). This strategy is aimed at the expansion of facilities and job creation within the waste management sector, thus influencing BBCs (DFFE, 2011). The updated 2020 NWMS

aligns with both the United Nations Sustainable Development Goals (n.d.) and South Africa's National Development Plan 2030 (RSA, 2017). It emphasises the transition towards a circular economy and encourages collaboration amongst various stakeholders (DFFE, 2020). This updated strategy impacts the operations and growth of BBCs by promoting a circular economy and encouraging stakeholder collaboration (DFFE, 2020).

The legislative and regulatory framework for waste management in South Africa has significantly influenced BBCs' trajectory. By emphasising waste minimisation and recycling, legislation aligns with the core functions of BBCs, potentially facilitating their growth and the expansion of facilities while creating jobs. However, the actualisation of these benefits relies heavily on the enforcement, implementation, and cooperation of all stakeholders. In addition, to achieve sustainable development in this sector, legislation and policies should focus on addressing key challenges such as fair compensation and integrating waste reclaimers into formal waste management systems (Godfrey & Oelofse, 2017).

The following section will focus on BBCs in the country's recycling industry. BBCs serve as operational hubs, bridging the gap between formal and informal economies. This section will examine the roles, interactions, and significance of BBCs in improving South Africa's recycling framework within the context of sustainable development and current legislation.

2.4 BBCs in South Africa's Recycling Sector

BBCs have become critical entities in the recycling sector of South Africa. Not only do they serve as operational hubs, but their roles extend into the economic and social spheres, making them integral to the country's waste management (Viljoen et al., 2012). Their strategic position allows them to facilitate and foster interactions between the formal and informal sectors of the economy, functioning as crucial connecting nodes within the recycling value chain (Mpact, 2022).

2.4.1 Functions and role of BBCs

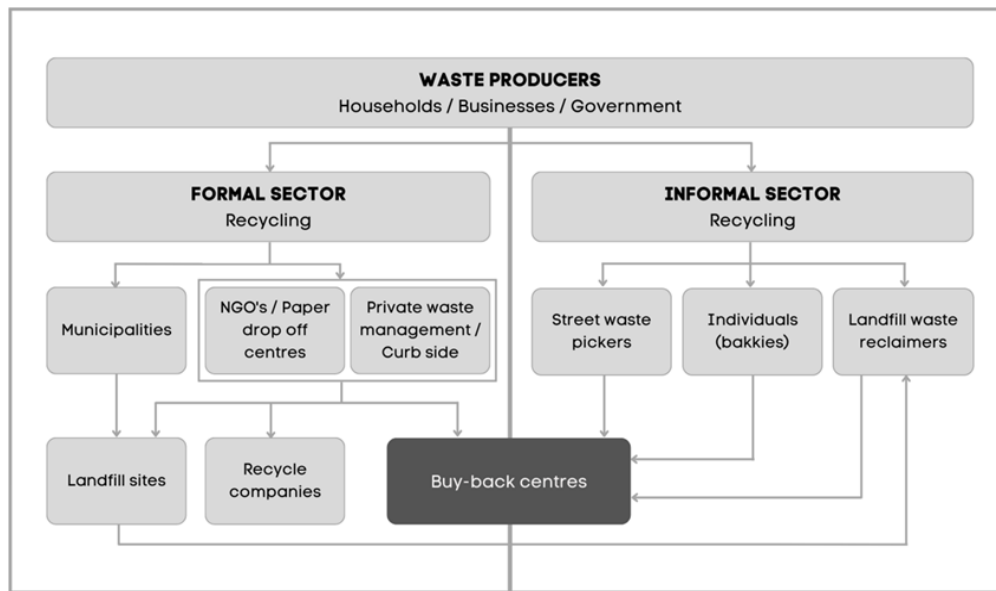
BBCs act as transactional nodes for recyclables, transforming waste pickers' efforts into monetary gains. Viljoen (2019) explains how this interdependent relationship is sustained by daily exchanges, where waste pickers deliver recyclables of different types and grades to BBCs and receive immediate payment in return. Furthermore, BBCs function as strategically located 'satellite stations' supplementing larger recycling centres. These stations are often situated in densely populated, low-income areas or industrial zones. The proximity of these BBCs to waste pickers provides a logistical advantage, consequently boosting the efficiency of the recycling process (Viljoen et al., 2012). BBCs also play a critical role in gathering and temporarily holding post-consumer waste, mainly derived from homes and businesses. This strategic positioning and function make them vital entry points into the larger waste management system, reinforcing their key role in shaping and improving South Africa's recycling industry (Viljoen et al., 2012).

The integral role of BBCs extends to the informal economy, where they perform a crucial and multifaceted role. Acting as intermediaries, they bridge the gap between informal waste pickers and the formal recycling industry. This enhances the value of recyclables and shapes the dynamic landscape of the recycling sector (Barnes et al., 2021).

Figure 1 illustrates South Africa's waste recycling landscape, highlighting the interdependence between the various stakeholders.

Figure 1

Overview of the Waste Recycling Industry



Source: Viljoen et al. (2012)

The BBCs are central to this framework as they efficiently move recyclables across formal and informal sectors. Recyclable materials are an essential resource in South Africa's waste management system. These materials are collected from households, businesses, and government entities. Once collected, the materials are sorted and recycled through formal and informal recycling networks. The informal sector, which includes street waste pickers and reclaimers, primarily sources post-consumer recyclables from kerbside collections and landfills.

On the other hand, the formal sector comprises private waste management businesses, municipalities, and NGOs responsible for collecting and treating different types of waste. BBCs play an essential role in recycling by purchasing recyclable materials from both sectors and selling processed materials to formal recycling companies. This not only reduces the load on landfills, but also aids in increasing recycling rates. BBCs act as an intermediary between the formal and informal sectors, ensuring that all recyclable materials are collected and processed efficiently. As a result, South Africa's waste management system benefits from the involvement of BBCs in the recycling process.

2.4.2 Stakeholders

The functioning of BBCs involves several key stakeholders, including the entrepreneurs managing these centres, waste pickers supplying the recyclables, larger recycling firms, manufacturers, and importers procuring the enhanced recyclables (Viljoen et al., 2012). It is worth noting that entrepreneurs play more than just a managerial role in this setting. They are deeply integrated into the broader recycling system, initiating key processes such as sorting, cleaning, and compacting recyclables into bales. These activities enhance the value of recyclable materials, allowing them to fetch higher prices in the market (Viljoen et al., 2019).

2.5 BBCs Contributions and Challenges

Despite the significant opportunities and contributions they offer, BBCs face multiple operational and regulatory challenges. These are discussed in the sections below.

2.5.1 Contributions of BBCs

BBCs act as structured hubs for waste pickers by providing a means to sell their sorted materials. These materials subsequently undergo additional processing before their introduction into the formal recycling industry (Viljoen et al., 2019). The outcome of this engagement is two-fold: First, it streamlines recycling processes, creating efficiencies, and second, it lessens environmental impacts by decreasing the amount of waste directed to landfills (Viljoen et al., 2012).

Beyond these functions, BBCs also participate in value-addition activities, including sorting, cleaning, and baling, which enhance the quality and, thus, the value of recyclables. This increased value allows recyclables to be sold at competitive prices, thus appealing to a larger market spectrum, which includes large-scale recycling companies, exporters, and manufacturers (Chisango, 2017; Viljoen et al., 2012; Viljoen et al., 2019).

This multi-layered role positions BBCs as critical nodes within the recycling value chain, bridging the gap between informal waste reclaimers and the formal sector. Recognising the importance of this function, institutions such as the DFFE (2020) affirm the

significance of BBCs as crucial interaction points for waste reclaimers and the importance of fostering a more inclusive and sustainable waste economy.

BBCs are key players in the recycling economy and contribute significantly to environmental sustainability and socio-economic development. Their unique role is instrumental in generating job opportunities and mitigating poverty by fostering economic growth within the formal and informal sectors of the waste management industry (Barnes et al., 2021; Viljoen et al., 2012). In the formal recycling sector, BBCs serve as a linchpin for employment and growth, offering a platform encompassing various integral recycling activities. Through involvement in collecting, sorting, and purchasing recyclable materials, BBCs facilitate the integration of formal recycling companies into the informal sector. This integration widens the companies' operational reach and expands their workforce, thereby stimulating job creation (Viljoen et al., 2019). According to Barnes et al. (2021) and Viljoen et al. (2012), the influence of BBCs extends through the recycling value chain, leading to an increase in employment opportunities and promoting job growth in formal recycling companies. This demonstrates the significant role BBCs play in the larger recycling economy.

BBCs' influence also permeates the informal economy by providing waste pickers a steady marketplace for their collected materials. This stable market not only anchors the lower end of the recycling chain, but also paves the way for a broad network of employment opportunities, thereby bridging the divide between the formal and informal sectors. This dual role — facilitating a vital link for the formal sector and a consistent market for the informal sector — emphasises BBCs' essential role in promoting job creation and socio-economic development in the recycling industry.

Moreover, the function of BBCs extends beyond pure economic activity. They serve as comprehensive support systems by offering waste pickers an income, thereby providing access to life essentials such as meals, shelter, and clothing. Research by Barnes et al. (2021), Viljoen et al. (2012) and Viljoen et al. (2019) highlight BBCs' significant role as job creators in the waste management sector, with data showing that BBCs are substantial employers, boasting an average of 18 to 20 employees per centre across various geographical regions. This underscores BBCs' integral role in enhancing the well-being and empowerment of impoverished individuals (Viljoen et al., 2019).

In sum, the multifaceted contribution of BBCs to the recycling sector is evident in the economic opportunities they create, the comprehensive support they provide to the informal economy, and the employment they generate for low-skilled workers. These findings further underscore the indispensable role of BBCs in bolstering the livelihoods of waste pickers and facilitating economic development within the recycling sector. However, despite their vital role, BBCs face several challenges.

2.5.2 Challenges and opportunities for development of BBCs

Barnes et al. (2021), Viljoen et al. (2012), and Viljoen et al. (2019) highlight issues such as inadequate infrastructure, lack of equipment, and an uncertain regulatory landscape that often overlooks the inclusion of BBCs in decision-making processes, leading to a lack of support for their operations. These obstacles hamper the effectiveness of BBCs, particularly their functioning within the informal economy. Addressing these challenges necessitates comprehensively understanding these problems and identifying and implementing potential solutions. Doing so will bolster the pivotal role of BBCs in waste management and sustainable economic growth (Barnes et al., 2021).

The literature discussed above underpinned the current study's central aim, which was to gain an understanding of the potential of BBCs as a sustainable employment-generation model in South Africa's informal economy. Therefore, it was crucial to contextualise the empirical observations within a theoretical framework to attain a holistic comprehension of the observed dynamics and interactions and a systematic approach to addressing the research questions. To this end, network theory was used to integrate the findings from existing literature with a theoretical framework in order to gain a holistic understanding of the function and potential of BBCs in the informal economy of South Africa. The next section examines the role and functions of BBCs using network theory.

2.6 BBCs through the Lens of Network Theory

Network theory, as outlined by Borgatti and Halgin (2011) and Brass (2002), explains the interactions of network structures through internal processes to produce specific outcomes for individuals and groups. It highlights the influence of network variables,

including the number of connections an entity has and the centrality of its position within the network (Borgatti & Halgin, 2011). This theory presents a comprehensive framework with which to interpret the complex relationships in networks and gives insights into their dynamics. It offers a valuable understanding of the operations of BBCs, their place within the recycling economy, and their potential for job creation (Borgatti et al., 2009; Borgatti & Halgin, 2011).

Network theory views networks as interconnected nodes or actors linked by various ties. The positioning of nodes in these networks can significantly affect individual behaviour and the overall dynamics of the network, much like social capital in social sciences (Borgatti et al., 2009; Borgatti & Halgin, 2011). The scope of network theory extends beyond understanding the origins and formation of networks. It emphasises analysing the outcomes these networks produce. According to Borgatti et al. (2009), these outcomes relate to homogeneity, reflecting behavioural similarity amongst actors and performance, and indicate the proficiency of nodes in specific areas. Borgatti and Halgin (2011) emphasise that the primary focus of network theory is to study the results or outcomes that these networks produce rather than just understanding how networks are formed.

In the context of the informal recycling economy and BBCs, network theory provides a structural framework for mapping interactions amongst the various actors. These actors include BBC operators, waste pickers, informal waste collectors, and local authorities. This mapping process aids understanding of the underlying structures of this economy by identifying key actors or nodes. The agency of actors in creating networks is also a crucial aspect to consider (Borgatti & Halgin, 2011). Outcomes are the results of the actors' structural position, not merely their intentions or actions. Moreover, the attributes of nodes and contextual factors influence the actors' capability to manoeuvre within their positions, ultimately affecting the network's outcomes (Borgatti & Halgin, 2011).

Network theory incorporates theoretical mechanisms, namely transmission, adaptation, binding, and exclusion, which provide further insight into network dynamics (Borgatti et al., 2009). These mechanisms outline cause-and-effect relationships between network structures, intra-network interactions, and emergent properties. Applying network theory to studying BBCs offers substantial benefits. It aids understanding of the network's

structural dynamics, the roles of key actors, and the effects of interactions within the network. This understanding could assist in identifying potential inefficiencies within the BBC system. The insights derived from this theory could also inform strategies to optimise these networks and enhance their role in the informal recycling economy. Acknowledging the double-hermeneutic effect, network theory emphasises that increased awareness of network structures can alter actors' behaviours, leading to changes in network dynamics (Borgatti et al., 2009). This increased awareness may introduce unanticipated changes within the BBC system, highlighting the importance of adaptive policy design (Borgatti et al., 2009).

In conclusion, network theory comprehensively explains network relationships and dynamics. It is a valuable tool for both academic discourse and practical applications, enabling policymakers to identify critical nodes, comprehend their roles, and anticipate potential shifts due to increased network awareness. Consequently, it could inform policy decisions and foster socio-economic development within the informal recycling economy, emphasising the theory's practical relevance to the current study.

2.7 Conclusion

The literature review highlighted the crucial role of BBCs within the complex network of the informal recycling economy, particularly in South Africa. One recurring theme throughout this review is the ability of BBCs to deal with the pressing issue of unemployment and contribute to the country's socio-economic progress. The review underscored the multifaceted functions of BBCs within the waste management sector, their capacity to create jobs at a local level, and their contributions to environmental sustainability. However, a central issue identified is the need for more recognition and support of BBCs within the broader economic framework, the lack of which significantly hinders their potential. This reaffirms the research problem under investigation — the need to thoroughly examine and highlight the transformative potential of BBCs within South Africa's informal economy.

The review of existing literature clarified BBCs' roles and potential contributions to sustainable development. However, the review also revealed gaps in the current knowledge base, particularly concerning the usefulness of network theory as it relates

to BBCs' operations and the impact of regulatory environments on their performance. The informal economy sector's existing research gaps present opportunities for expanding knowledge. These gaps align with the purpose of the current study, which is to explore the complex operations of BBCs and their contribution to the livelihoods of communities in South Africa's informal economy. Given the elevated rate of unemployment and its widespread impact on the economy and society, this endeavour is critical. This review highlighted the need for an enhanced understanding of BBCs within the informal recycling economy, as well as greater recognition and support to enable these centres to fully exploit their potential in addressing South Africa's pressing socio-economic issues. The insights from this review informed the focus of the current study, specifically with regard to policy formulation and practical strategies to promote a more inclusive and sustainable informal economy. The next section details the current study's research questions.

3. RESEARCH QUESTIONS

This study was guided by a primary research question and five sub-questions, each derived from the review of extant literature in the domain under study. The primary research encapsulated the overall intent of the study, while the sub-questions each addressed a discrete segment of the topic under study.

The study's main research question was:

How do BBCs contribute to the livelihoods of communities in the informal economy of South Africa?

The main research question was answered by addressing the following research sub-questions (RSQs)

RSQ1: What are the operational strategies of BBCs in the South African informal economy?

This sub-question focused on the operational strategies of BBCs and how they contribute to improving community livelihoods. This exploration delved into the strategic methods used by BBCs, offering insights into their business models, the scope of their activities, and their approach to overcoming challenges.

RSQ2: What are the dynamics of BBCs in the South African informal economy?

This sub-question explored the dynamics of BBCs in the informal economy of South Africa. Its goal was to provide insight into the different interactions that occur within BBCs and their relationships with other parts of the informal economy. The objective was to enhance comprehension of the operational environment and the multitude of elements that impacted their performance.

RSQ3: What specific socio-economic benefits do BBCs provide to individuals and communities within the South African informal economy?

This question was intended to shed light on the concrete impact of BBCs on the livelihoods of individuals and communities by exploring how BBCs provide a source of

income, skills development, and other benefits that could lead to socio-economic upliftment.

RSQ4: What are the significant barriers that hinder the full potential of BBCs in the South African informal economy?

This question was aimed at identifying the key barriers restricting the operations of BBCs to provide insights into why these entities may not achieve their full potential. Understanding these barriers could guide the formulation of strategies and policies to address these challenges and enhance the effectiveness of BBCs.

RSQ5: How could the transformative capacity of BBCs in the South African informal economy be optimised?

This question investigated how BBCs' contributions to community welfare could be maximised. The transformative capacity of BBCs lies in their potential to bring about significant positive changes within the informal sector by reshaping the recycling landscape and stimulating economic growth. Answering this question involved examining interventions, policy changes, and support mechanisms that could boost the performance of these entities and, subsequently, increase their socio-economic impact.

4. RESEARCH METHODOLOGY

4.1 Introduction

This chapter offers an overview of the research design used to investigate the role of BBCs in South Africa's informal economy. The methodological choices were informed by the aim of the study and guided by the Research Onion of Saunders and Lewis (2018). The study used qualitative methods to develop theories inductively for a deeper understanding of the topic, following a cross-sectional timeline within an interpretivist approach. Data were gathered through semi-structured interviews with members of the target population and analysed using thematic analysis. The following sections provide details on the methodological choices, while the final section of this chapter explores the strategies for ensuring trustworthiness and addresses the study's limitations.

4.2 Research Philosophy

The research philosophy chosen for this study was interpretivism. This philosophy holds that there is no objective reality but that reality is socially constructed (Merriam & Tisdell, 2015). The main goal of interpretivism is to understand social phenomena as they occur authentically and emphasises gathering participants' unique viewpoints (Saunders & Lewis, 2018). Given its nature, interpretivism is suitable for exploring individuals' subjective experiences within their natural social contexts (Merriam & Tisdell, 2015). The current research focused on the subjective experiences and viewpoints of BBCs operating in the informal sector. The goal was to acquire comprehensive knowledge of their roles, interactions, and relationships with surrounding communities, primarily focusing on how BBCs support livelihoods. By adopting the interpretivist philosophy, the research was able to focus on the subjective experiences of BBCs and gain a better understanding of their contributions to the livelihoods of communities. The interpretivist philosophy is aligned with a qualitative research approach and analysis of the data using inductive reasoning (Merriam & Tisdell, 2015).

4.3 Approach to Theory Development

An inductive approach was followed in analysing the data and constructing theory. It is widely acknowledged that qualitative studies necessitate the development of new theoretical frameworks or extending existing ones to effectively capture the subtleties of the subject being investigated (Saunders & Lewis, 2018). Thus, to address this requirement, the present study's inductive approach was intentionally designed to be adaptable, evolving in response to real-world observations, with a particular focus on the role of BBCs in the informal economy.

By using the inductive approach, this study followed a bottom-up methodology. The approach was to allow themes to arise naturally from the data instead of trying to fit them into predefined theoretical frameworks. In this context, it provided a clearer understanding of the role and dynamics of BBCs in South Africa's informal economy. As a result, the findings offered valuable insights into the experiences and challenges individuals in the informal sector encountered.

4.4 Methodological Choice

Previous studies often combined qualitative and quantitative data (mixed-methods approach) (Barnes et al., 2021; Mogotsi, 2008; Viljoen et al., 2012; Viljoen et al., 2019). The current study, however, was mono-method, i.e., a qualitative approach, with semi-structured interviews as the primary method of gathering qualitative data. As advocated by Merriam and Tisdell (2015), this strategy allowed participants to provide authentic narratives, while the researcher was able to remain flexible with regard to the order in which the questions were posed and asking additional and probing questions to gather additional information, to ensure comprehensive and context-specific data.

The methodological choice was influenced by the need to understand the role of BBCs in South Africa's informal economy and to collect insights from key stakeholders like owners, managers, and representatives of BBCs who work with street-level informal waste pickers. Utilising semi-structured interviews as a qualitative technique allowed for practical and concentrated data gathering and interpretation in this study. This research

approach ensured that the insights were both comprehensive and applicable to the unique context of South Africa.

4.5 Research Design

The design was structured as exploratory, focusing on the role of BBCs in South Africa, an area with limited existing research. As Saunders and Lewis (2018) note, exploratory research can shed light on previously untouched areas or address gaps in the existing knowledge. By focusing on the intricacies of BBCs' contributions to the informal economy, this study aimed to provide a detailed portrayal of the subject. The aim was to delve deeper into the participants' experiences to capture the essence of participants' experiences, which is particularly important when studying entities closely connected to their daily lives, such as small businesses in the informal sector (Merriam & Tisdell, 2015).

4.6 Research Strategy

The research approach used in this study was phenomenology, which is a qualitative research method (Merriam & Tisdell, 2015). Phenomenology aims to explore participants' lived experiences and how they interpret and understand them. It captures the essence of their experiences, which is particularly useful when studying phenomena closely tied to their daily lives (Merriam & Tisdell, 2015). This approach was chosen because it aligns with the purpose of the study, which is to examine the real-life experiences of people working in small businesses in the informal sector. By using this approach, the research was able to gain a detailed understanding of the strategies, benefits, challenges, and areas for improvement associated with business development services in South Africa's informal sector.

4.7 Time Horizon

A research study can be conducted either longitudinally, where data is collected periodically over an extended period of time to enable comparison and determine changes, or cross-sectionally, where data is gathered at a single moment (Saunders & Lewis, 2018). The present study adopted a cross-sectional design due to limitations in

time and financial resources and thus provides a 'snapshot' of the phenomenon under study, namely the role of BBCs on community livelihoods within the informal economy.

4.8 Techniques and Procedures

The section describes the techniques and procedures applied in carrying out the study, including details on the population, sampling, and data collection and analysis.

4.8.1 Population

In research, the term 'population' refers to the entire group of individuals or entities a researcher is interested in studying, while the 'target population' is the subgroup selected for research based on the study's objectives (Saunders & Lewis). The current study's population encompassed all individuals involved in BBCs operating in South Africa. The target population consisted of owners, managers, and representatives of various BBCs who engage in transactions with informal waste pickers, especially those who operate on the street level. Since it is difficult to include every individual in the population in a research study, researchers choose to sample individuals who are representative of the population.

4.8.2 Sampling and sample size

There are two types of research sampling techniques: Probability and non-probability. Probability sampling allows for making statistically significant inferences about a population using the characteristics of a sample (Saunders & Lewis, 2018). However, this method is primarily aimed at facilitating the generalisation of findings to the larger population, which is not possible with qualitative research findings. Qualitative studies are designed to explore the intricacies and relationships within the phenomenon being investigated (Merriam & Tisdell, 2015). Therefore, non-probability sampling techniques are used in such studies, which implies that not every individual in the population has an equal likelihood of being chosen for the study.

For the current research, two non-probability sampling methods were selected: Purposive sampling and snowball sampling. Purposive sampling involves the deliberate selection of participants with extensive knowledge and experience of the phenomenon

under study, who are thus able to provide insightful and valuable perspectives (Saunders & Lewis, 2018). The criteria for inclusion in the current study were individuals involved in the operations of BBCs in South Africa who engage in transactions with informal waste collectors. This ensured the collection of context-specific and rich data aligned with the research objectives.

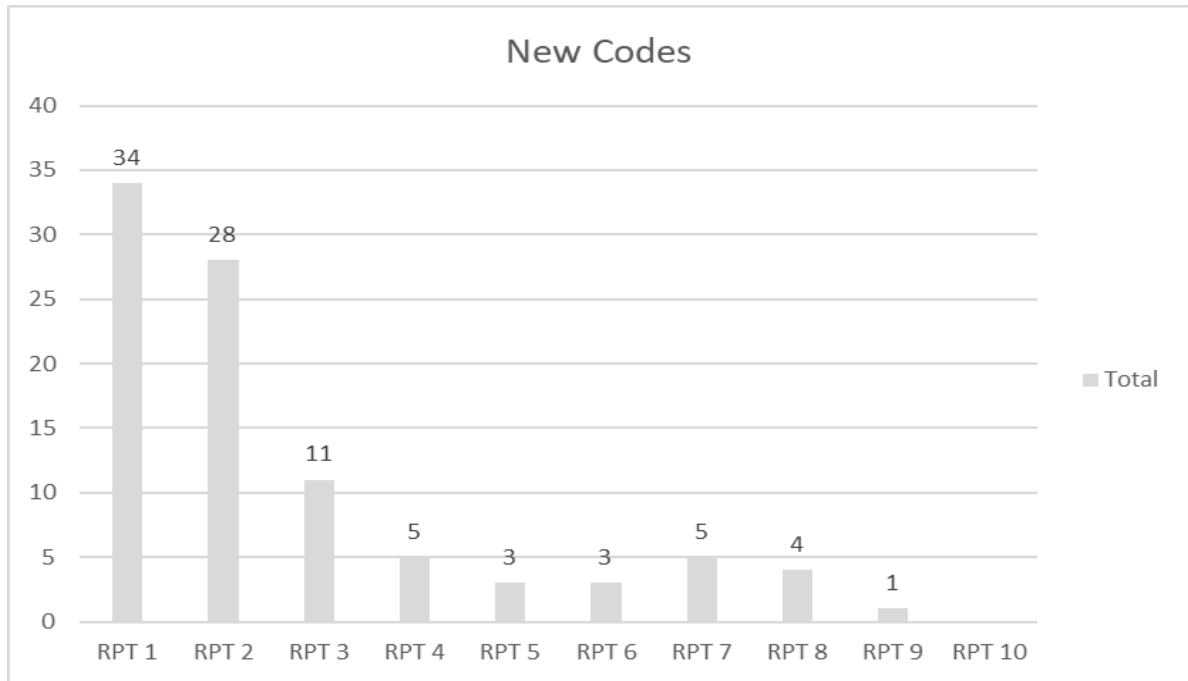
Snowball sampling, which is the process of participants referring the researcher to additional participants, served as a complementary strategy to identify more suitable BBCs for inclusion in the study. This method is particularly advantageous when specific population segments are difficult to access and allows the researcher to access participants' networks to gain additional insights (Saunders & Lewis, 2018).

In qualitative research, determining an adequate sample size is a difficult task, driven by the objective of the study and the degree of insights desired. Morse (1994) suggests six participants for phenomenology studies in order to explore the essence of experiences. According to a recent systematic review by Hennink and Kaiser (2022), saturation can be achieved in 9-17 interviews or 4-8 focus group discussions, especially when the study focuses on homogeneous groups with specific objectives. However, the final decision on sample size depends on the researcher's judgement, the methodology used, and the intended research conclusion.

In the current study, the sample size was dependent on data saturation — the point where further data collection did not yield any new information or insights (Merriam & Tisdell, 2015). A synergistic strategy of thorough data analysis in tandem with ongoing data collection was followed to determine data saturation. This strategy minimised the collection of redundant data, which allowed for concentrated efforts in analysing relevant data, resulting in comprehensive and meaningful conclusions. The emphasis was on the depth and quality of information rather than sheer quantity, in alignment with the study's qualitative approach (Fusch & Ness, 2015). In the current study, data saturation was reached by the tenth interview, as illustrated in Figure 2.

Figure 2

Number of New Codes per Interview



4.8.3 Data collection

Data for this study were collected through semi-structured interviews, a technique designed to solicit authentic and in-depth information from participants (Merriam & Tisdell, 2015). Semi-structured interviews are often used in qualitative research due to their inherent adaptability. They enable the interviewer to produce detailed data, adjust the sequence of questions, and explore further, depending on the direction of the conversation (Saunders & Lewis, 2018; Yin, 2016).

In order to guide the discussion, an interview guide was developed consisting of open-ended questions (see Appendix 1). This tool directs the course of the discussion, thereby ensuring that the interview remains on the topic under study, and the researcher has the freedom to ask additional questions to pose probing questions to gather more detail and gain clarity. Thus, interview guides offer a structured set of questions to ensure a comprehensive investigation of participants' experiences (Merriam & Grenier, 2019).

In the present study, the researcher contacted BBCs from a list of BBCs provided by the researcher's employing company, which had professional ties with the BBCs and, therefore, maintained a database. The researcher also used the Petco website to identify potential BBCs for involvement in the study. Potential participants were contacted via email. Additional participants were identified through the use of snowball sampling — participants referring the researcher to potential participants.

Given the dispersed locations of the participants, interviews were carried out using telephonic and virtual means, utilising platforms such as Teams and Zoom. Participants were given the freedom to choose a convenient time and a disruption-free environment for their interviews, following the best practices recommended by Saunders and Lewis (2018).

Furthermore, the researcher engaged in rapport-building exercises before delving into the core interview questions to create a relaxed atmosphere and encourage openness. Throughout the interview process, attentiveness was demonstrated through non-verbal indicators, such as sustained eye contact and nodding gestures. In order to ensure accurate and thorough data collection, all interviews were recorded with participant consent and transcribed verbatim. Additionally, contemporaneous notes were taken to capture essential points and immediate impressions.

4.8.4 Data analysis

Data analysis is the process of consolidating, reducing, and interpreting the gathered information. Saunders and Lewis (2018) categorise qualitative data into two forms: Text and non-text. Non-text data, which include images, audio, and video recordings, can be analysed in their original format. Interview data are usually transcribed for ease of analysis. Highlighting the importance of real-time analysis, Merriam and Tisdell (2015) indicate that concurrent data collection and analysis prevent the creation of an overwhelming and unfocused dataset, which could lead to redundancy and a lack of coherence. Hence, effective data analysis mandates real-time consolidation, interpretation, and reduction of both textual and non-textual data to extract valuable insights (Merriam & Tisdell, 2015).

In the present study, the transcribed interview data were analysed in an inductive manner, thus moving from detail to overarching insights (Friese, 2012). The method employed was thematic analysis, performed using Atlas.ti. Thematic analysis, a cornerstone of qualitative data analysis, is a systematic procedure for identifying, analysing, and reporting recurring patterns and identifying themes within the dataset (Kiger & Varpio, 2020).

The researcher used the six-step process outlined by Braun and Clarke (2006) in conducting the thematic analysis.

Step 1 involves becoming acquainted with the data through carefully reading and re-reading the data and making notes, a process referred to as 'immersion in the data'. This familiarisation process was essential, especially considering the nuanced role of BBCs in South Africa's informal economy. Annotations and preliminary notes helped to highlight recurrent themes and insights shared by the participants. Step 2 is the initial coding phase, where distinct labels were assigned to specific transcript segments, highlighting their potential significance in addressing the research questions. Step 3 entails collating data associated with a specific code and identifying potential themes through a process known as 'creating a thematic map'. (Braun & Clarke, 2006, p. 87). This map was invaluable in visually presenting and categorising experiences tied to BBCs in the context of South Africa's informal economy. During Step 4, every identified theme was carefully examined and cross-checked with its corresponding coded sections in the transcripts to ensure that the emergent themes reflected the lived experiences and perspectives of the participants. Step 5 involved refining and labelling these themes to capture the essence of the data. The final step of this process, Step 6, involved drafting the findings, supported by selected quotations from the interview transcripts to demonstrate the dynamics of BBCs in South Africa's informal sector.

4.9 Trustworthiness

Establishing trustworthiness is important in qualitative research and is similar to quantitative studies' validity and reliability concepts. While quantitative research primarily focuses on the accuracy of measuring instruments (validity) and their consistency (reliability), qualitative researchers focus on trustworthiness (Bloomberg &

Volpe, 2008). Denzin and Lincoln (1994) proposed four criteria: Credibility, dependability, confirmability, and transferability to ensure quality research. Bloomberg and Volpe (2008) support this view, stating that these four criteria in qualitative research correspond to the principles of validity and reliability in quantitative research.

Several measures were implemented to strengthen the trustworthiness of this research. Semi-structured interview questions were standardised for all participants, providing a uniform approach to the interviews. During the interview, participants had considerable flexibility to delve into various topics and ideas. The researcher was conscious of potential biases and strove to ensure that the findings reflected the data. Furthermore, the researcher maintained an audit trail, documenting the research setting, processes, and decisions. This will enable readers to determine whether the study findings are applicable to their context.

4.10 Ethical Considerations

The study received ethical clearance from the GIBS Ethics Committee (see Appendix 2). Before the interview, participants were provided with information about the study's purpose, also included in an informed consent form (refer to Appendix 3) that participants had to sign. Participants were assured of anonymity and that personal identifiers would not be used in the reporting of the findings. Participation was voluntary, with no remuneration, and participants were informed that they could withdraw from the study at any point without negative consequences. The data were stored securely and will be destroyed five years after completion of the study.

4.11 Research Limitations

It is essential to acknowledge the limitations of any study for transparency and to guide future research. In this study, several limitations were encountered due to time and financial constraints, which led to the use of a cross-sectional timeline. For a more thorough understanding of the long-term impact of BBCs on community livelihoods in the informal economy, future researchers could employ a longitudinal time horizon to enable comparisons over time.

During the interviews, language barriers were encountered with participants who were not proficient in English. This raised concerns about the accuracy and comprehensiveness of the information gathered. Despite attempts to overcome these challenges, certain subtleties may have been overlooked, potentially impacting the overall findings of the research.

Data collection in the informal sector posed unique challenges. Establishing the necessary rapport to engage with participants proved challenging, and building trust with BBC operators and individuals in the informal economy was a complex process. These factors may have influenced the quality and quantity of collected data.

Several potential participants expressed reluctance to participate in this study, and despite efforts to ensure a comfortable and confidential environment, certain individuals declined to participate. Consequently, the data might be biased due to the inability to capture the perspectives of these non-participants, potentially limiting the representativity and comprehensiveness of the study.

The research followed a qualitative approach, which provided valuable in-depth insights. Future studies could incorporate quantitative measures to gain additional insights into the topic under study. Using this data triangulation ensures a deeper, more holistic grasp of the research topic.

5. FINDINGS

5.1 Introduction

The study sought to uncover the role of BBCs in enhancing the lives of South African informal economy communities. The central research question is, "How do BBCs contribute to the livelihoods of communities in the informal economy of South Africa?". This was investigated using qualitative research conducted with ten semi-structured interviews. The acquired empirical data underwent content analysis using the computer-assisted program, Atlas.ti.

The chapter begins by providing an overview of the sample, highlighting the significance of both the sample and the empirical data. It then delves into the findings based on the research questions and concludes by summarising the results in preparation for the discussion in the succeeding chapter.

5.2 Description of the Sample

Table 1 provides a demographic profile of the study's ten interview participants. Each participant was assigned a unique code, and company- and individual names were replaced with pseudonyms to protect identities. The study examined the perspectives of managers, owners, and co-owners of various BBCs to thoroughly comprehend the phenomenon and ensure the credibility of the results. The researchers employed purposive and snowball sampling techniques to select interview participants who met the predetermined inclusion criteria. Of the ten interviews, six took place via a video call, while the other four were conducted over the phone.

Table 1*Profile of Research Participants*

Participant Code	Position	Company	Company Age	Province
RPT 1	Manager	MPR	12 years	National
RPT 2	Owner	BSR	11 years	Western Cape
RPT 3	Owner	TCL	5 years	Limpopo
RPT 4	Co-owner	EBL	2 years	Western Cape
RPT 5	Owner	VR	5 years	Limpopo
RPT 6	Owner	FR	12 years	Limpopo
RPT 7	Owner	GSP	20 years	Western Cape
RPT 8	Owner	WTR	9 years	Gauteng
RPT 9	Owner	GRC	12 years	Limpopo
RPT 10	Owner	MKS	3 years	KwaZulu Natal

In addition, it is important to understand the relevance of the empirical data collected. The word cloud is useful to visualise the dominant data (Figure 3). It is evident from this word cloud that there was alignment with the objectives, with words such as support, employment, collaborations, and interactions among those dominant words.

Table 2*Overview of Findings: RSQ 1*

Objective	Categories	Themes
RSQ 1: What are the operational strategies of BBCs in the South African informal economy?	Community-centric entrepreneurship	Efficient and collaborative community-centric business
	Product line extension and diversification	
	Collaborative supply chain strategies	
	Collaboration with waste pickers	Sustainable partnerships for a circular economy
	Cross-industry collaboration	
	Product strategy	Differentiation and segmentation
	Market segmentation	

5.4.1 Theme 1: Efficient and collaborative community-centric business

In exploring the operational strategies of BBCs in the informal economy of South Africa, the research findings indicated the importance of a community-centric approach. Participants emphasised a well-rounded strategy that includes community engagement, product-line expansion, diversification, and collaborative supply chain initiatives. Community involvement is vital to the sustainability and efficiency of BBCs. This highlights the importance of community development and empowerment in strengthening the business model and ensuring the long-term effectiveness of the BBCs.

“When we help set up these buyback centres, we also promise to buy the materials they collect. The real goal here is to support new businesses along the recycling chain. With MPACT’s backing, we provided essential infrastructure, tools, and logistical support to these emerging ventures. The

overarching vision is to transform these centres into vibrant hubs, thereby strengthening the grassroots-level recycling market” (RPT1).

As the participant suggested, their primary purpose is to nurture and support new businesses, thereby forming the foundation for a thriving ecosystem. This participant also emphasised the importance of empowering community entrepreneurs and promoting decentralised ownership.

“I initiated those buyback centres and later passed them on to individuals in the community who were passionate about growing within this industry” (RPT8).

Passing the responsibility to passionate community members symbolises the essence of community-centric entrepreneurship. This empowers local talents to take charge and ownership of their own destinies and contributes to community development. It also leads to integration into the community.

“This concept turns everyday establishments into crucial collection points, making the recycling process more integrated into the community” (RPT1).

Community-centric entrepreneurship does not work in isolation. It transforms everyday establishments into key collection points, making recycling facilities more accessible and convenient. This approach also helps to create a sense of ownership within the community. Through active community involvement, recycling becomes more than just an abstract idea; it becomes a collaborative effort grounded in the community's shared responsibilities and goals. The success of such community-centred entrepreneurship in business development is a tribute to the value of innovation, empowerment, and community engagement. It shows the possibility for positive change when economic development is community-centric and ecologically conscious.

Product-line extension and diversification are part of the growth strategy. The quest to remain financially viable and ensure continued growth in the recycling industry prompted BBCs to embrace innovative strategies. Participants acknowledged the necessity of diversifying their product offerings to cater to changing client demands and to remain

competitive in the market. This category outlines the strategies for growing a business by introducing new products and services.

“This approach would enhance the viability of buyback centres by adding another product line, specifically unbroken glass. The current economic landscape for recycling is challenging, to say the least. Diversification, therefore, becomes vital for survival and growth. Over time, they began collecting a broader range of recyclables” (RPT1).

“We shifted our focus from the paper and glass industry. For the growth of our business, we identified three specific commodities that we could efficiently process in our plant” (RPT8).

For BBCs to sustain their environmental initiatives and remain viable, they need to broaden their product ranges and offer a variety of items. This expansion allows them to access new markets and appeal to more customers, which in turn supports their ongoing recycling efforts.

The collaborative supply chain is grounded on vertical integration. Vertical Integration, as a strategic approach, encompasses a company's control over multiple supply chain stages, from raw material sourcing to production and distribution. Collaborative partnerships are the foundation for vertical integration. Thus, a company's associations with informal waste pickers, taverns, and other sourcing points form a robust ecosystem, highlighting the importance of business partnerships. This includes setting up BBCs.

“When we help set up these buyback centres, we also promised to buy the materials they collect” (RPT1).

This establishes a local presence in various communities. Furthermore, the commitment to purchasing materials ensures a consistent supply of recyclable materials, incentivising the BBCs to continue their operations. Here, materials from diverse sources converge to be transformed into valuable commodities.

“Once at an MPACT location, the materials are further processed, baled, and quality checked” (RPT1).

5.4.2 Theme 2: Sustainable partnerships for a circular economy

Another proposed strategy is sustainable partnerships for a circular economy through collaboration with waste pickers and cross-industry collaboration. Participants mentioned collaboration between recycling companies and diverse sectors, such as manufacturing, retail, and technology, to devise sustainable initiatives. There is a notable commitment to change, starting with personal engagement with local waste pickers. These partnerships break down boundaries, as waste pickers become integral players in the circular economy ecosystem, and it is crucial to establish sustainable partnerships.

“I’ve been in talks with SAB [South African Breweries] and Distell. While I haven’t yet engaged with Heineken, our collaboration with Distell has been active for the past three months. At my buyback centre in town, there are around 80 regular waste pickers. I recognise them and even know most of them by name. Those are primarily the individuals I collaborate with” (RPT8).

The research found that BBCs can thrive through partnerships with and support of the more prominent players in the industry. One participant remarked that small businesses have a significant impact.

“Currently, we have a partnership with the Glass Recycling Company. Such support in terms of resources is invaluable for small businesses like ours and greatly enhances our operations” (RPT2).

Cape Concrete's collaboration with a BBC demonstrates that the circular economy extends beyond waste management. The partnership demonstrates resource efficiency and resilience by transforming non-recyclable plastics into fire-resistant and durable building bricks for sustainable construction.

“We’ve partnered with Cape Concrete on a project where these non-recyclable plastics are integrated into the production of new bricks. These are sustainable bricks that are less susceptible to fire. Incorporating a certain percentage of plastics into the bricks makes them more durable and sustainable” (RPT7).

Additionally, industry players are teaming up with local municipalities and businesses to promote recycling efforts. This collaboration underscores the critical role of policymakers, regulators, and industry experts in advancing sustainability on a bigger scale.

“We're currently working with local municipalities on recycling initiatives. There's a significant gap in the partnership between policymakers and the industry. If we took advantage of existing infrastructures, we could achieve so much with minimal investment. We have partnered with associations like Petco, SA Waste, and SA Plastics” (RPT1).

“...the partnership with Nestlé where they will fund setting up all of these mobile buyback centers around the whole municipality” (RPT10).

Organisations can better address environmental challenges and work together to achieve long-term sustainability goals while fostering innovation and positive change across industries by focusing on sustainable partnerships in the circular economy. Sustainable partnerships, as demonstrated by the individuals and organisations in the current study, are essential for a circular economy. These partnerships extend beyond the usual scope of industry interactions, bringing together various stakeholders to collaborate towards a more sustainable future. These collaborations encourage a collective mindset.

5.4.3 Theme 3: Differentiation and market segmentation

The final set of strategies focuses on differentiation and segmentation. The differentiation strategy is particularly valuable in competitive markets that depend on innovation. A participant shared an example to highlight the practical use of product differentiation.

“We've faced challenges in fairly competing with companies purchasing returnable bottles. Often, the price offered by bottle stores is comparable to the return value we could provide. Given these complexities, we've chosen to focus exclusively on non-returnable glass” (RPT3).

This business focused exclusively on non-returnable glass in response to the competition around returnable bottles. This decision allowed them to find a unique space in the market and address a specific challenge effectively. This move demonstrates differentiation, enabling the business to establish a unique market position, reduce competition, and effectively meet specific market demands.

Moreover, BBCs are using segmentation to improve their operations and interactions with customers. By categorising customers based on their contribution volumes, companies can efficiently manage their resources and maintain financial stability. This approach helps to reduce additional expenses, such as service and banking fees, which ensures the long-term effectiveness of the centres. Additionally, companies are segmenting based on geographical factors to meet the unique needs of specific areas. This commitment to geographic and volume-based segmentation enables companies to effectively serve a diverse range of customers, from large-scale contributors to smaller individual entities, fostering an inclusive and comprehensive operational model. An example of this systematic approach is considering location and volume to ensure broad service availability while managing financial and operational challenges.

“While we do have some smaller customers, there’s a minimum requirement of 100 bottles, due to associated service- and banking fees. We can’t pay a collector R50 for bottles and then incur an additional R20 in fees. While most of our customers are large-scale, we do serve smaller ones as well. Our customer base is solely from the townships, while our sales are directed at major liquor suppliers” (RPT4).

In conclusion, this analysis examined the operational strategies of BBCs in South Africa's informal economy, uncovering three key themes that drive their success and sustainability. The first theme, community-centric business, emphasises the importance of community engagement, diversification, and collaborative supply chain initiatives. It also underscores the value of a collective approach to enhance BBC's sustainability and efficiency. The second theme, sustainable partnerships for a circular economy, highlights the importance of collaboration with various stakeholders, including waste pickers and prominent industry players. These partnerships are essential to promoting environmental sustainability and incorporating waste pickers into the recycling

ecosystem, thus improving the overall recycling industry in South Africa. The third theme, differentiation and market segmentation underscores the critical role of establishing a unique market position. By having a clear product strategy and employing strategic customer segmentation, BBCs can effectively meet diverse market demands and enhance their operational stability. This analysis provides clear insights into the strategies used by BBCs, which are crucial in promoting sustainability and innovation within South Africa's informal economy.

5.5 Findings: RSQ 2

RSQ 2: What are the dynamics of BBCs in the South African informal economy?

This section investigates the various elements that influence the operational dynamics of BBCs in the informal sector of South Africa. In the circular economy, factors such as the supply of and demand for waste materials, economic instability, competition amongst similar businesses, regulatory frameworks, and unique business operations all play a role. Appendix 4 contains the 32 codes for the categories and themes displayed in Table 3, related to RSQ 2.

Table 3*Overview of Findings: RSQ 2*

Objective	Categories	Themes
RSQ 2: What are the dynamics of BBCs in the South African informal economy?	Continuous change in supply and demand	Market dynamics
	Economic volatility in raw material markets	
	Competition realities	
	Dynamics of material operations lifecycle	Business operations
	Market challenges and adaptation	
	Overregulation is strangling progress	Government regulations
	Lack of regulation	

5.5.1 Theme 1: Market dynamics

Three categories of factors emerged under the market dynamics of BBCs theme: Continuous fluctuations in supply and demand, economic instability in the raw-material markets, and competition.

The demand for certain waste products can fluctuate, leading to changes in supply. This phenomenon was observed in commodities such as cardboard and plastic, where prices decreased significantly. The oversupply of traditionally highly collected materials like cardboard led to a reduction in market prices. Such trends and shifts highlight the significance of BBCs remaining adaptable and having a solid understanding of the market to ensure steady operations during these changes.

“The current market for recyclables is quite depressed. For example, cardboard, which has traditionally been highly collected, is currently facing oversupply issues, leading to depressed prices” (RPT1).

“During our active years, we faced challenges like the decline in the market value for cardboard boxes” (RPT5).

This economic situation is made worse by the instability of raw material markets, which significantly impacts the recycling and waste management industry. The volatility in the industry is a test of the effectiveness of strategies and resilience.

"Market unpredictability or volatility is another challenge. If this gets stabilised, a lot of regulatory issues will sort themselves out" (RPT1).

"However, the rates for commodities, especially cardboard, have been quite volatile. Over the past year, the price for cardboard boxes has significantly dropped, and recently, plastic bottle prices have also taken a hit" (RPT7).

Competition plays a significant role in shaping decisions, strategies, and innovation in the recycling and waste management sector. BBCs have to continuously adjust their strategies to remain relevant and attractive to waste pickers and suppliers. Participants in the research emphasised their continuous efforts to offer collectors competitive rates. They also adjust their pricing in response to volume incentives received from alcohol suppliers.

“They aim to pay competitive rates to collectors and adjust their pricing based on volume incentives from alcohol suppliers” (RPT9).

This adaptive approach emphasises the importance of regularly adjusting pricing strategies to sustain appeal to waste pickers in a competitive market.

New participants entering the market can be challenging, as they tend to disrupt the balance by setting unrealistically low prices, potentially selling at a loss. This sudden shift can destabilise the market, leaving established businesses seeking strategies to adjust to these abrupt changes. One participant stated that waste pickers move between centres depending on which one offers a higher price at a certain time.

“So then, if they feel like our price is lower, they might come and sell to us, and then maybe next time, they will sell somewhere else because the price is a little bit better” (RPT10).

The decision-making process of waste pickers is mostly based on price. They are not necessarily loyal to a particular BBC, as their focus is to obtain the best price for the materials they collect. Even when given additional resources, their priority remains financial gain. Other participants also emphasised the variable loyalty of waste pickers based on the rates they are offered.

“If the prices are low, fewer reclaimers come to us. It’s important to understand that reclaimers aren’t loyal to any specific buyback centre; their loyalty is tied to the best prices. Even if we provide them with materials like bags, gloves, and other resources, their allegiance doesn’t lie with a particular centre; it’s primarily dictated by the offered prices” (RPT3).

“For the waste pickers, it’s often about who offers the highest amount for returnables. Some remain loyal to us, even giving us a heads-up if a new buyback centre offers more. But, of course, some go where the rates are higher” (RPT6).

5.5.2 Theme 2: Business operations

The theme, business operations, encompasses areas that are crucial to a BBCs functionality and overall success. It examines the dynamics of the material operations lifecycle, providing an understanding of the different stages and processes involved. It also covers the challenges faced in the market and the need for adaptation. The importance of having effective strategies to navigate the market complexities is also highlighted.

The dynamics of the material operations lifecycle include the entire process, from sourcing and collecting materials to processing and distribution. BBCs work with various recyclable materials, including glass, plastics, paper, and cardboard. One participant described how BBCs manage a diverse range of recyclable items, including paper products and all types of plastics.

“...handles everything that can be recycled. We also manage non-recyclables. Our range includes paper, like newspapers, white papers, and magazines, as well as glass and all types of plastics” (RPT7).

BBCs obtain these materials from various sources, such as households, landfills, schools, hospitals, and businesses, to ensure a steady stream of materials for processing. Detailed sorting within the facilities is crucial to effectively recycle various materials, especially mixed plastics, even after the initial collection and separation.

"While waste pickers separate broad categories, like plastics from glass, they often mix various types of plastics together. Consequently, we have to perform more detailed sorting to separate these items at our facility" (RPT9).

In this process, waste pickers, schools, hospitals, and other institutions collaborate with BBCs to ensure optimal collection and processing of materials.

"About 25 waste pickers from the landfill sites sell to us. Additionally, some come directly to our facility. We also purchase white paper from schools and cardboard boxes from hospitals" (RPT6).

These examples showcase the variety of materials and sources that BBCs manage, emphasizing their vital function in ensuring the efficient processing of recyclable materials. This comprehensive approach directs these materials to the appropriate recycling pathways, demonstrating the importance of BBCs in the recycling ecosystem.

When analysing the market challenges, BBCs encounter notable obstacles. The COVID-19 pandemic affected many individuals and caused a decline in the market value of several items, resulting in reduced profitability. This impact was noted by a participant, who underscored the pervasive effects of the pandemic on the industry.

"We began operations in 2018 and ran until mid-2021, when our business suffered due to COVID-19" (RPT5).

The challenges faced by BBCs are intertwined and include numerous issues. High expenses related to materials, baling, and transportation to major markets are a significant concern, as these negatively impact the financial health of businesses. Participants noted that unforeseen costs like baling materials and transportation can quickly add up.

“Even though they might be claiming to offer you lower prices, you still have to account for the purchase cost, the expenses of baling the materials, and arranging transportation” (RPT3).

“After re-evaluating our operations, transportation costs due to long distances became a notable factor” (RPT5).

Resource constraints further complicate these challenges, specifically the mismatch between incoming and outgoing funds. This imbalance aggravates operational issues, most notably salaries and expenses, underscoring the crucial need for efficient financial management and planning.

“The main issue is cash flow. Payments from selling the waste come in slowly, but the employees need their wages weekly. Additionally, I only have one small vehicle for collections, and no processing machines. So, I manually prepare the waste and then coordinate with trucks for collection” (RPT9).

“Our primary challenge is the prolonged payment time from the suppliers we sell bottles to, which strains our cash flow” (RPT4).

As BBCs grow, the need for scaling and formalisation leads to unexpected financial obligations, such as mandatory taxes and registration for value-added tax [VAT]. As highlighted by the participants, the substantial VAT payments underscore the financial strain businesses are placed under in the phase of growth and structure. Although crucial for business expansion, the transition involves navigating significant financial and operational complexities.

“When discussing challenges, one primary issue in this industry is the need to continuously scale. As you grow in the recycling sector, there's a push towards formalisation, especially since companies like Consol won't deal with informal traders. With this formalisation, you encounter unexpected challenges. For instance, after reaching a particular capacity in our operations, we were suddenly required to register for VAT. To give you an idea of the financial burden this introduced, in just the last six months, we paid R600 000 in VAT alone” (RPT2).

“Initially, registering with SARS [South African Revenue Service] for income tax and VAT nearly shut us down. Our model is unique; instead of buying from suppliers, they buy from us, which includes VAT. However, our customers aren't VAT-registered, meaning we couldn't claim VAT back” (RPT4).

Moreover, a lack of education exacerbates these challenges, particularly among waste pickers who lack the knowledge to comprehend the complexities of rate changes in recycling.

“I think a big challenge that we experience is working with waste pickers, because they are uneducated and don't understand some things. So, you would know that, within the recycling space, prices fluctuate. Petrol sometimes has an impact on what prices are doing. Loadshedding has an impact on what happens to prices....” (RPT10).

Beyond these, location and infrastructural limitations, such as lack of electricity and inadequate facilities, constrain operations and affect efficiency and productivity, making operations particularly challenging. Adverse weather conditions also play a role.

“My primary challenge over the past 20 years has been our location. I was allocated this spot by the municipality two decades ago, and our current setting limits our operations. I have six to seven containers and a baling machine, which I can't use due to our location constraints and lack of electricity. Another pressing issue is the absence of a roof. Working during the rainy season becomes especially challenging as the material gets wet and harder to manage” (RPT7).

5.5.3 Theme 3: Government regulations

The theme, government regulations, encapsulates the balance between overregulation and a lack of regulation of the industry. It includes the challenges and opportunities faced by BBCs in this context and emphasises the need for appropriate regulatory oversight to ensure sustained growth and stability.

A number of participants criticised municipal regulations as excessive, inconsistent, and complicated, noting that this made operations difficult. The shared experience revealed a regulatory environment with too much regulation, inconsistency, and even a lack of necessary regulation in some areas.

“They seem to overregulate our industry, and have many conflicting policies. One major issue is health certification. The government requires us to obtain these certifications monthly” (RPT6).

“It's ironic that, at the end of the month, they expect a report detailing how much waste we've diverted or recycled from the town. Yet, they hinder our access to the landfill. But, in many municipalities, politics play a part, and they often fail to see the value. They always question what's in it for them” (RPT3).

“The main challenges I see revolve around regulations and a lack of consistent support. Local governments should have bylaws that actively promote recycling” (RPT1).

“Many municipalities lack a clear understanding of their role in supporting buyback centres within their jurisdiction. This support often feels inconsistent or even subjective” (RPT3).

The need for clear regulation highlights the existing regulatory gap. While many worry about overregulation, there is also insufficient regulation in some areas. Participants called for consistent and fair regulatory oversight.

“The lack of regulation hampers the establishment of appropriate pricing benchmarks in line with the prevailing market rates we commonly rely upon. This regulatory gap poses yet another substantial challenge” (RPT3).

“There's little regulation at the landfill sites, and they [municipalities] don't provide much help in getting permits. Yet they complain about the landfill sites getting full without taking significant action” (RPT5).

In summary, the investigation into the dynamics of BBCs in South Africa's informal economy revealed three central themes: Market dynamics, business operations, and government regulations. Market dynamics highlight the continuous change in supply and demand, economic volatility, and competition. These factors affect pricing strategies and stability, emphasising BBCs' need for adaptability and market awareness. The theme, business operations, highlights the complexities of the material operations lifecycle. It underscores the importance of effective strategies to navigate market challenges and the significance of smooth operational workflows. The impact of the COVID-19 pandemic, additional operational costs, and issues with scaling and formalisation further add to these operational challenges. Finally, the theme of government regulations highlights the current problems of both excessive and inconsistent regulations. This situation emphasises the importance of having clear, concise, and consistent regulatory frameworks to enhance the growth and stability of BBCs operating in the informal economy of South Africa.

5.6 Findings: RSQ 3

RSQ 3: What specific socio-economic benefits do BBCs provide to individuals and communities within the South African informal economy?

This section evaluates the specific socio-economic benefits BBCs provide within South Africa's informal economy. Four main categories are identified: Employment opportunities, enhanced compensation and payment, unity and inclusion empowerment, and innovative, pioneering solutions. Appendix 4 contains the consolidated codes, and a structured overview is given in Table 4, displaying the breadth of socio-economic impacts BBCs contribute to in the informal setting.

Table 4

Overview of Findings: RSQ 3

Objective	Categories	Themes
RSQ 3: What specific socio-economic benefits do BBCs provide to individuals and communities within South Africa's informal economy?	Employment opportunities through co-operation with waste pickers	Socio-economic impact
	Enhancing compensation and payment mechanisms	
	Empowering unity and inclusion	
	Pioneering solutions: Innovations that transform	

5.6.1 Theme 1: Socio-economic impact

The socio-economic impact includes employment opportunities through co-operation with waste pickers. The BBCs actively promote community support and sustainable business practices by working closely with waste pickers. Participants shared their experiences and noted initiatives that improve waste pickers' livelihoods and foster economic growth within their communities.

“We source from the waste pickers directly. We often go to the landfills, as that’s where they gather the bulk of their materials” (RPT9).

“We support 2 000 individuals, particularly women—making up about 80% of our clientele. With the presence of waste, we saw an opportunity to create income sources for these individuals, providing them with a livelihood, and we’ve made progress in that direction. An interesting point to note, though I’d need to review the latest data, is that, on average, people earn between R400 and R500 per pickup” (RPT2).

“About 25 waste pickers from the landfill sites sell to us. Additionally, some come directly to our facility. We also purchase white paper from schools and cardboard boxes from hospitals” (RPT6).

“Beyond our six to seven permanent staff, we have hundreds of clients who rely on us for their livelihood” (RPT4).

“Monthly, we pay an average of R600 000 to our customers. In May, we paid R730 000; in June, R762 000; and in July, it was R610 000, due to some bottles no longer being returnable. This money, which they didn't have before, flows into the township economy, benefiting local businesses like taverns and tuck shops. Indirectly, we're supporting numerous jobs within the community” (RPT4).

The BBCs exemplify how sustainable business practices can go beyond profit-making to become instruments of positive socio-economic change. The collaboration and partnerships with waste pickers not only reduce waste but also support livelihoods.

Additionally, BBCs have made efforts to improve compensation and payment systems for waste pickers. They have created a system that considers different materials' supply and demand dynamics and the quantities provided. This approach aims to ensure that waste pickers are fairly and promptly compensated for their contributions based on the specific types and volumes of materials they provide.

“One significant support we provide is the rapid payment system” (RPT4).

“The way we structure our payment is based on the material rate. Typically, we pay these waste pickers half of the going rate for the materials they bring in. If someone brings in a large volume, especially of glass, we offer a higher rate. Approximately 20 to 30 individuals come in each day with a variety of materials, from glass and plastic to car bumpers. We provide waste pickers with a bag. Once filled, the bag is weighed, and they receive payment” (RPT7).

Some participants highlighted their active involvement in the local community, including taverns and other community spaces, fostering an empowering sense of unity and inclusion. Many BBCs have collaborated with waste pickers, offering them income-

earning opportunities through recyclables collection. These waste pickers play a meaningful role in the recycling supply chain.

“The first leverages local taverns, using them as buyback centres. Here, these taverns don't just serve their primary function; they also collect and store returnable bottles on our behalf. This concept turns everyday establishments into crucial collection points, making the recycling process more integrated into the community” (RPT1).

“I've given ownership to individuals within the community who wanted to run these businesses. I act as a mediator between them and the buyers” (RPT8).

“Another significant lesson over the years concerns group dynamics. When we began around 2005, we mainly worked with collectives or groups. However, over time, I recognised that engaging with individuals directly was more effective” (RPT2).

Community engagement and the empowerment of waste pickers are central aspects of BBC initiatives. These initiatives have fostered collaboration with local establishments, like taverns, and evolved to focus on individual engagement. Through these innovative strategies, BBCs are creating sustainable solutions that benefit both the environment and the communities they serve.

Lastly, several BBCs are implementing innovative programmes to improve community well-being and overcome traditional boundaries. These pioneering initiatives not only tackle pressing social issues, but also empower residents, demonstrating the proactive role that BBCs play in shaping the destiny of their communities.

“We've initiated a programme called the 'Swap Shop'. However, my search for a suitable location separate from the depot has reduced its activity lately. Here's how the Swap Shop works: residents from informal settlements collect recyclables. Instead of paying them entirely in cash, we offer them essential food items in exchange for the recyclables they bring in” (RPT7).

“Recognising an undersupply in the market, we felt the urgency to innovate and explore alternate avenues. This led us to a community-driven initiative, assisting individuals in establishing their own recycling startups” (RPT1).

“We've linked up with local spaza shops, so they get a voucher that they can redeem at the spaza shop. So, for us, it's the idea of keeping the economy circular within that specific community” (RPT10).

The innovative initiatives undertaken by select BBCs stand as remarkable exemplars of their community-focused approach. The Swap Shop programme, support for recycling startups, and collaborations with local businesses all signify a concerted effort to create positive, sustainable change.

In conclusion, BBCs significantly impact the lives of waste pickers in South Africa's informal economy. Their efforts to provide direct employment opportunities, enhance compensation mechanisms, and foster unity and inclusion are evident in their various initiatives. The partnerships formed with waste pickers and local establishments, like taverns, highlight the commitment to community engagement and empowerment. Furthermore, the innovative strategies, such as the Swap Shop programme and support for recycling startups, highlight their commitment to creating sustainable and positive change. These comprehensive efforts by BBCs contribute to environmental sustainability and enhance the socio-economic well-being of the communities they impact, serving as a robust model for others to follow.

5.7 Findings: RSQ 4

RSQ 4: What are the significant barriers that hinder the full potential of BBCs in the South African informal economy?

This section delves into the theme of market dominance within the context of BBCs in South Africa's informal economy. Various categories were identified, including monopolistic competition, established systems, and cost barriers, as shown in Table 5. These categories highlight the different aspects that BBCs have to navigate and possibly leverage to establish market dominance. For a more detailed exploration and understanding of these complex aspects, refer to the codes provided in Appendix 4.

Table 5

Overview of Findings: RSQ 4

Objective	Categories	Themes
RSQ 4: What are the significant barriers that hinder the full potential of BBCs in the South African informal economy?	Monopolistic competition	Market dominance
	Established systems and cost barriers	

5.7.1 Theme 1: Market dominance

The market is dominated by established players who maintain a stronghold for extended periods, resulting in high levels of monopolistic competition. This makes it challenging for new players to enter the market. One participant highlighted this issue.

“There's also a noticeable monopoly in certain aspects of the business. There's a distinct monopoly where certain long-standing players, especially one who's been in the business for around 20 years, exert significant control over the district” (RPT3).

Additionally, cost barriers present a significant obstacle for new market entrants. The established system's efficiency makes it difficult to create a similar infrastructure and network, requiring considerable resources and effort.

“This established system is efficient, making it challenging for newcomers to replicate. Direct competition with MPACT would mean setting up a whole new network and then contending against MPACT's formidable market presence” (RPT1).

Despite the growth of other recycling companies, established companies maintain a significant market share, underscoring their continued dominance in the region.

“We pioneered recycling in Franschhoek, and while many other recycling companies have sprung up in the area since then, it hasn't significantly impacted our business. We've managed to retain most of our clients and continue to be a dominant player in the region” (RPT7).

The experiences shared by the participants highlight the significant barriers that new entities face in the market, such as high expenses and infrastructure limitations. This emphasises the need for innovative strategies for new entrants aiming to establish themselves in the market. To compete with established players in the South African recycling industry, new entrants must overcome significant challenges, including high establishment costs and infrastructure issues. Aspiring competitors must approach these barriers with innovative and resilient strategies, which is essential for fostering a more inclusive and competitive market. Ultimately, addressing these obstacles is essential to the expansion and prosperity of South Africa's recycling sector.

5.8 Findings: RSQ 5

RSQ 5: How could the transformative capacity of BBCs in the South African informal economy be optimised?

The final sub-question addressed how the transformative capacity of BBCs in the South African informal economy could be optimised. The participants highlighted a need to remove the barriers to access and participation and foster space, infrastructure, and presence. This question investigated how the BBC's contributions to community welfare could be maximised. Addressing this question involved examining interventions, policy changes, and support mechanisms that could boost the performance of these entities and, subsequently, increase their socio-economic impact (Table 6). This was based on eight codes (Appendix 4), two categories, and two themes.

Table 6

Overview of Findings: RSQ 5

Objective	Categories	Themes
RSQ 5: How could the transformative capacity of BBCs in the South African informal economy be optimised?	Removing the barriers to access and participation	Enhancing economic inclusion in informal markets
	Enhancing space, infrastructure, and presence	Government support for transformation

5.8.1 Theme 1: Enhancing economic inclusion in informal markets

It is crucial to ensure accessibility and participation in order to fully optimise the impact of BBCs in the informal economy of South Africa. BBCs have the potential to revolutionise the recycling industry, and they play a critical role in waste management. However, several challenges hinder their transformative capacity, such as market access, disconnection, permit issues, the role of reclaimers, and limited awareness.

Efforts to improve the situation include ensuring open market access. This is crucial for BBCs to operate effectively and connect with the wider market. Planning, coordination, and partnerships are required to facilitate seamless transactions between BBCs and other market players.

“There are numerous challenges we face. One of the most significant issues is access to markets. We've attempted to gain access to another landfill recently, but the municipality flatly refused us, effectively shutting us out of that market” (RPT3).

Streamlining the permit process can enhance the impact of BBCs. The difficulty of obtaining permits hampers their operation and potential. Clearer guidelines and a simpler process could help them overcome these challenges.

“There's little regulation at the landfill sites, and they [municipalities] don't provide much help in getting permits” (RPT5).

In addition, it is essential to acknowledge and assist reclaimers as they play a crucial role in collecting and distributing recyclable materials. The BBCs can significantly enhance their ability to drive change in the informal economy if they are offered proper training, rewards, and safety precautions.

“I think waste reclaimers need a little bit more education. I don't know how that could be structured, but I really believe waste reclaimers, whether they're from landfills or whether they are just in communities, need a little bit more education on waste recycling opportunities that are available” (RPT10).

Increasing awareness of the benefits of BBCs to the environment and the economy is crucial for their success and broad acceptance.

“Community buyback centres, especially in this region, are primarily rural-based. There's a substantial information gap where many community members aren't fully aware of the business's potential benefits. Some overlook the opportunity to sell plastics, choosing to burn them instead, often because they view selling as cumbersome” (RPT3).

5.8.2 Theme 2: Government support for transformation

Participants stressed the need for substantial government intervention to drive meaningful change, particularly in providing suitable spaces and adequate infrastructure. The importance of clear government support and presence was emphasised with regard to enabling transformation within the informal economy, which could assist in establishing a more organised and efficient system for BBCs.

“Essentially, our primary need is a larger plot of land with proper infrastructure – a facility under a roof to store materials and keep them dry” (RPT7).

The participants expressed their desire for municipal bodies to be more visible and active in supporting the projects. It is not just about financial assistance, but also about providing legitimacy and encouragement to enhance community confidence and involvement in BBCs.

“You need the municipality to present and show that they are part of the project. We can source our own funding, but we just want the face of the municipality so that people can buy into the project” (RPT10).

“Expecting a buyback centre to sustain a daily cash flow of, for example, R100 000 is tough. This is where I believe municipalities should play a bigger role. They should provide a list of reclaimers, link buyback centres, and outline standardised payment terms” (RPT3).

In order to achieve transformation, it is crucial to have government support and co-operation from different stakeholders. The government, therefore, has to actively allocate resources and create a favourable environment for businesses to thrive to ensure optimal functioning and growth of informal economy businesses.

5.9 Conclusion

The interviews offered valuable insights into participants' varied roles within the recycling industry, highlighting the perspectives and expertise contributing to sustainable recycling practices in South Africa. The research explored the operational strategies of BBCs in the South African informal economy, emphasising efficiency and community-centred business practices.

In understanding the dynamics of BBCs, the study identified several factors, such as fluctuations in supply and demand, economic instability in raw material markets, and competition. Along with business operations and government regulations, the findings highlight a significant regulatory gap, with overregulation and lack of oversight being prevalent issues.

An examination of the socio-economic benefits of BBCs showed their positive impact on employment opportunities, enhanced compensation and payment structures, and increased unity and inclusion within communities. BBCs also play a role in promoting innovative solutions in the recycling industry.

The research identified significant challenges that hinder BBCs from reaching their full potential in the informal economy, including monopolistic competition, established systems, and high-cost barriers.

The findings indicate that, in order to enhance the transformative potential of BBCs in the South African informal economy, it is crucial to increase economic inclusivity by eliminating obstacles to entry and engagement. Government support is also emphasised as a vital element in providing adequate space, infrastructure, and presence for BBCs, to aid their growth and maximise their potential. The detailed findings and their context are discussed further in Chapter 6.

6. DISCUSSION

6.1 Introduction

This chapter delves into an analysis of the research findings, referencing the literature introduced in the second chapter and contextualising within the scope of the current study. The findings of the study are compared with existing literature to address the research questions outlined in Chapter 3. Valuable information on the role and contributions of BBCs in South Africa's informal economy is revealed, shedding light on insights previously unexplored in the literature. The significance of these findings is examined in the context of established knowledge on the subject. New perspectives that emerged from the findings are highlighted, and their implications are evaluated within the broader scope of the study's focus.

6.2 Discussion of Findings: RSQ 1

RSQ 1: What are the operational strategies of BBCs in the South African informal economy?

In order to understand how BBCs enhance community livelihoods, this sub-question delved into the operational strategies they employ within the South African informal economy. Key themes that emerged from the analysis include efficient and collaborative community-centric business models, the significance of sustainable partnerships for a circular economy, and the importance of differentiation and segmentation in their operational approach. The subsequent discussion will explore these themes in greater depth, highlighting the business models employed by BBCs, the extent of their operations, and their methods for addressing challenges. Each theme will be analysed in detail to provide insights into the multifaceted strategic approaches adopted by BBCs.

6.2.1 Efficient and collaborative community-centric business

In the operational strategies of BBCs operating within South Africa's informal economy, there is a departure from some of the conventional perspectives noted in the literature. According to Viljoen et al. (2019), research has demonstrated that businesses have

historically treated communities as a secondary consideration rather than a primary component of their operations.

However, the findings demonstrate that, for BBCs, community engagement is not a secondary factor but a central aspect of their operations. This deviation challenges Viljoen's characterisation and highlights the significant impact of community interactions on BBC strategies.

In addition, Barnes et al. (2021) recognised the importance of adaptability in businesses, which aligns with the current study's findings. The findings also highlight the crucial role of product diversification for BBCs in the informal economy.

To navigate the complexities of this industry, BBCs have found it necessary to adopt a well-rounded strategy that includes community engagement and product-line expansion. This proactive approach ensures their sustainability and relevance in a constantly evolving business landscape. By implementing this nuanced strategy, BBCs demonstrate their commitment to their communities and the broader business objectives they strive to achieve. Another way BBCs are demonstrating their commitment is through the establishment of partnerships in order to diversify their business model.

6.2.2 Sustainable partnerships for a circular economy

Findings from this study indicate that many businesses in the South African informal economy are now seeking sustainable partnerships to support a circular economy. This marks a departure from traditional business models. (Viljoen, 2019). In the past, BBCs focused only on their own goals and operated independently of others (Viljoen, 2019). However, this study highlights a growing trend where BBCs are increasingly forming partnerships, especially in manufacturing and technology, to promote sustainable initiatives.

Local waste pickers, historically overlooked in traditional models, are now recognised as crucial contributors to partnerships. This growing inclusion highlights the industry's acknowledgement of their significance in the circular economy framework. An excellent example of this shift is the collaboration between Cape Concrete and a BBC. Through

their use of non-recyclable plastics, this partnership is pushing the limits of conventional waste management and integrating sustainability into inventive construction methods.

Barnes et al. (2021) state that industries and local municipalities increasingly collaborate to address environmental challenges. This adaptability is evident in the growth of integrated models that involve multiple stakeholders. The partnership between industries and municipalities highlights the importance of interconnected strategies and emphasises the need for adaptability in ensuring a sustainable future, as Barnes et al. (2021) suggest. Part of these interconnected strategies may include differentiation and market segmentation.

6.2.3 Differentiation and market segmentation

In South Africa's informal economy, BBCs commonly use differentiation and market segmentation as part of their operational strategies. According to Viljoen (2019), BBCs used to apply general strategies to all their markets. However, recent research shows that BBCs are now adopting a more targeted approach to meet the specific demands of each market.

For example, some businesses only focus on non-returnable glass, which is a clear example of this strategy and differs from the general patterns identified by Viljoen (2019). Additionally, compared to the general business strategies outlined by Barnes et al. (2021), segmentation is a primary method used by BBCs. By segmenting their customers according to factors like contribution volume and location, BBCs can allocate resources and optimise services more efficiently.

This targeted approach enables BBCs to effectively meet the diverse needs of their market, displaying adaptability and flexibility in their operations. Three main themes were identified in the current study in examining the operational strategies of BBCs in the informal economy of South Africa.

The research shows that community engagement is a significant focus for BBCs, which differs from the traditional business views presented by Viljoen (2019). There is also a growing trend towards sustainable partnerships that support a circular economy and a move away from isolated business practices. Lastly, BBCs are using differentiation and

market segmentation as practical approaches to meet specific market demands, which differs from the broader strategies cited by Barnes et al. (2021). Together, these findings provide valuable insights into how BBCs operate in the context of South Africa's informal economy.

6.3 Discussion of Findings: RSQ 2

RSQ 2: What are the dynamics of BBCs in the South African informal economy?

This sub-question aimed to understand the inner workings of BBCs in the South African informal sector by exploring the different factors that affect their operations. The central themes identified from the analysis include market dynamics, business operations, and responses to government regulations. The following section will further discuss these themes, detailing BBCs' market strategies, operational processes, and interactions with regulatory frameworks. Each theme will be explored to better understand BBC's role in the informal South African economy.

6.3.1 Market dynamics

The study's findings shed light on the market dynamics of BBCs in South Africa, focusing on three main areas: Continuous fluctuations in supply and demand, economic shifts in raw material markets, and the role of competition. The findings indicate that high demand led to excess supply, causing a drop in prices for materials such as cardboard, necessitating flexibility from BBCs. This finding aligns with Godfrey's (2021) research, which emphasises the variation in demand for recyclables, its impact on waste pickers' collection patterns, and the influence of policy initiatives.

Additionally, the recycling industry faces challenges due to the unpredictable nature of raw material markets. According to Godfrey (2021) and Godfrey and Oelofse (2017), waste pickers' earnings are typically linked to the market value of recyclables. This highlights the connection between market behaviour and policy decisions.

With regard to competition, BBCs regularly adjust their strategies to stay competitive. This is especially important when faced with aggressive pricing by new market entrants.

Barnes et al. (2021) and Viljoen et al. (2012) highlight how important BBCs are connecting informal waste reclaimers with the formal sector.

Finally, waste pickers' loyalty is determined mainly by the rates they receive. Godfrey's (2021) research findings support this view. It is, therefore, essential to understand these dynamics in ensuring the continued success of BBCs in South Africa's waste management framework.

6.3.2 Business operations

The study's findings offer valuable insights into the operational processes and challenges BBCs face in South Africa's recycling sector. The findings highlight the lifecycle of material operations, from sourcing to distribution, revealing that BBCs have a comprehensive approach to managing diverse recyclables.

This approach is in line with the research of Godfrey (2021) and Godfrey and Oelofse (2017), which emphasised the crucial role of informal waste reclaimers in recycling. It suggests that BBCs are crucial in connecting these reclaimers with the broader recycling infrastructure. These findings, when considered alongside existing literature, emphasise how BBCs and informal waste reclaimers work together to improve and streamline the recycling process in South Africa.

Furthermore, the study highlights the significance of collaborations between BBCs and other institutions like schools and hospitals. Such partnerships play a vital role in the recycling sector. By partnering up, BBCs can ensure a continuous supply of recyclable materials while the institutions can promote sustainable practices. This mutual collaboration enhances community involvement and highlights the importance of collective efforts in addressing recycling challenges. These collaborative efforts are in line with existing literature on the recycling sector's interconnectedness, as highlighted by works such as Godfrey (2021), Viljoen (2019), and Viljoen et al. (2012). In South Africa, the recycling sector is grappling with issues like market fluctuations, financial constraints, and educational gaps among waste pickers. These challenges align with the broader concerns outlined by Godfrey (2021).

Also, the need for improved facilities highlighted by Barnes et al. (2021) is consistent with the infrastructural issues identified in the study. Their findings align with the challenges reported by BBCs, who face significant infrastructural hurdles, including location constraints, lack of electricity, and inadequate facilities like poor roofing. These issues directly impact their efficiency, especially during adverse weather when materials become difficult to manage. This highlights the urgent need for infrastructure improvements in the recycling sector.

6.3.3 Government regulations

The findings on government regulations concerning South Africa's informal recycling sector and waste management make it clear that the regulatory environment is creating challenges for BBCs.

The literature highlights the significance of the informal recycling sector, with waste reclaimers playing a crucial role in waste management and making a substantial contribution to the circular economy (Godfrey, 2021; Godfrey & Oelofse, 2017). Legal frameworks such as the Waste Act 59 of 2008 and the NWMS 2011 and 2020 emphasise the formalisation of waste pickers' roles and the streamlining of waste management processes (DFFE, 2009; DFFE, 2011; DFFE, 2020). These laws aim to promote sustainable waste management practices and encourage the establishment of waste management facilities, including BBCs.

However, the study's findings indicate a discrepancy between the regulatory frameworks and real-life experiences. Participants expressed concerns about inconsistent and sometimes onerous regulatory requirements. This inconsistency between what the literature suggests as ideal for entities like BBCs and what stakeholders experience in reality highlights a gap in policy implementation.

As suggested by Godfrey (2021), effective regulatory structures should acknowledge the importance of BBCs and ensure that regulations are fair and consistent to promote their contributions to the recycling sector. The research identified inconsistencies between legislative intent and their actual impact on BBCs, highlighting the need for a

more consistent and harmonised approach to regulatory oversight. These findings contribute to the current understanding of the topic.

The section provided valuable insights into the workings of BBCs in the informal economy of South Africa. The market dynamics, business operations, and government regulations were explored, revealing the challenges faced due to shifts in supply and demand, changes in the economy, and competition in the market. The findings indicate that being able to adapt is crucial in this context. BBCs played a critical role in closing the divide between informal waste reclaimers and the formal recycling sector, demonstrating their ability to manage recyclables comprehensively. Collaborations with educational institutions and healthcare facilities also show how interconnected this sector is. The vital role of clear and consistent regulatory frameworks was emphasised, aligning with existing literature. However, a noticeable gap exists between governmental regulations' intended purpose of improving and streamlining waste management and their actual implementation. Addressing these disparities is necessary to promote sustainability and effectiveness within South Africa's waste management system to ultimately ensure that regulations support and enhance the pivotal role of BBCs.

6.4 Discussion of Findings: RSQ 3

RSQ 3: What specific socio-economic benefits do BBCs provide to individuals and communities within the South African informal economy?

This sub-question explores the theme of the socio-economic impact of BBCs and how they can benefit individuals and communities in South Africa's informal economy. The investigation will focus on various aspects, such as employment opportunities for waste pickers, better compensation mechanisms, inclusivity and community unity, and introducing and adopting innovative solutions. The following section will delve deeper into each benefit, providing a comprehensive understanding of BBCs' significant role in the informal sector.

6.4.1 Socio-economic impact

In South Africa's recycling sector, BBCs play a significant and diverse role, as evidenced by this study's findings and existing literature. Godfrey (2021) and Viljoen et al. (2019)

recognise the socio-economic contributions of informal recyclers and waste pickers, highlighting their role in shaping the waste management industry. The literature also highlights the economic benefits of BBCs, particularly regarding job creation and livelihood support (Barnes et al., 2021; Viljoen et al., 2012). This study's findings further confirm these claims by demonstrating that partnerships between BBCs and waste pickers result in employment opportunities and community development.

In addition, the BBCs' emphasis on establishing a suitable compensation system aligns with Godfrey's (2021) concerns about the unequal payment of waste pickers. The compensation strategy adopted by the BBCs under study directly responds to the problems highlighted in existing literature, indicating a proactive approach by these organisations. The research findings also validate the environmental advantages of these partnerships, such as reducing landfill waste, as noted by Godfrey and Oelofse (2017).

Regarding community engagement, MPact (2022) has recognised the importance of BBCs in connecting the formal and informal sectors. However, this study provides more comprehensive insights by demonstrating how BBCs collaborate with local businesses, like taverns, to actively engage with the community. These efforts correspond with Viljoen et al.'s (2012) depiction of BBCs as essential intermediaries in recycling, highlighting a community-oriented approach.

With regard to innovation, many studies have focused on the economic benefits of recycling, for example, Godfrey's (2021) research. However, the current study highlights the creative approaches BBCs use to promote recycling. Through initiatives like the Swap Shop programme and support for new recycling businesses, BBCs are actively working to improve the well-being of their communities instead of being passive bystanders.

6.5 Discussion of Findings: RSQ 4

RSQ 4: What are the significant barriers that hinder the full potential of BBCs in the South African informal economy?

This sub-question aims to understand the challenges that BBCs face in the informal economy of South Africa, with a focus on the obstacles that prevent them from reaching their full potential. The primary theme identified is 'Market dominance'. This theme highlights the strong influence of well-established entities, competitive factors, and the costs associated with entering the market. The following sections will discuss this theme in more detail, providing insights into its consequences for BBCs in informal contexts.

6.5.1 Market dominance

The research findings align with existing literature on South Africa's informal recycling industry, which posits that established players hold a significant market share, making it difficult for new entrants to join. Previous studies consistently highlighted the challenges posed by monopolistic competition, the high costs of establishing a presence, and poor infrastructure (Godfrey, 2021; Viljoen et al., 2012).

One such barrier is cost, a significant obstacle for newcomers. However, BBCs have been acknowledged as a viable means of bridging the divide between the formal and informal sectors, offering a cost-effective entry point (Viljoen et al., 2012). These centres are vital in linking the formal and informal sectors, as shown by recent reports from MPact (2022) and Viljoen et al. (2012).

However, the dominance of established players in the market remains, making it challenging for new entrants to gain a foothold. To overcome these challenges, newcomers need to adopt innovative strategies. They also need to navigate infrastructural deficiencies and regulatory ambiguities. Additionally, there is potential for BBCs to serve as vital components in the recycling value chain and aid in integrating newcomers into the industry (Barnes et al., 2021; Viljoen et al., 2012).

6.6 Discussion of Findings: RSQ 5

RSQ 5: How could the transformative capacity of BBCs in the South African informal economy be optimised?

This sub-question explores methods and mechanisms to support the transformative capacity of BBCs in South Africa's informal economy in order to enhance their socio-economic impact. The investigation focused on ways to remove access barriers, develop infrastructure, and foster supportive spaces. The findings identified two significant themes: Improving economic inclusion in informal markets and the crucial role of government support for transformation. These themes will be further examined in the following sections, providing a detailed perspective on the strategies and limitations associated with maximising the role of BBCs in the informal sector.

6.6.1 Enhancing economic inclusion in informal markets

The potential of BBCs to improve the recycling industry and take on a notable position in South Africa's waste management is evident. This aligns with existing literature that emphasises the essential position of BBCs in the recycling value chain (Barnes et al., 2021; Viljoen et al., 2012).

The findings highlight the difficulties in accessing the market, navigating permit regulations, and recognising the reclaimers' crucial role. These findings echo the concerns expressed by Godfrey (2021) about the informal recycling sector's lack of fair pay and the legislative obstacles it faces. In particular, the present study confirms the significant economic contributions of informal recyclers, as previously described by Godfrey (2021) and Godfrey and Oelofse (2017), and the similar challenges faced by BBCs.

Furthermore, the literature emphasises the financial importance of the informal sector, as evidenced by the significant increase in payouts from R625 million in 2012 to R872 million in 2017 (Godfrey, 2021). It is essential to improve market access, streamline permit processes, and increase awareness to fully utilise the potential of the informal recycling sector, including BBCs (Barnes et al., 2021; Viljoen et al., 2019).

This comparative evaluation highlights a consistent theme: Although the informal recycling sector can drive significant environmental and economic progress, it is hindered by regulatory and operational challenges that require strategic solutions to maximise its potential.

6.6.2 Government support for transformation

The government's role in promoting transformative change in the informal economy, particularly in the improvement and growth of BBCs, is crucial, according to research and existing literature. BBCs are essential in the value chain of recycling as they connect formal and informal sectors and support socio-economic development (Barnes et al., 2021; Viljoen et al., 2012).

However, Godfrey and Oelofse (2017) highlighted challenges hindering them from reaching their full potential, including insufficient infrastructure and lack of integration in decision-making processes. The study participants emphasised the significance of government and municipal support for BBCs, including financial aid, infrastructure development, community trust-building, and legitimising their work. This observation is consistent with the research conducted by Viljoen et al. (2019), who stress the importance of BBCs as both economic drivers and vital support systems for waste pickers. Based on these insights, governmental bodies, private sectors, and BBCs must work together more closely to establish a sustainable employment-generating model for South Africa's informal economy.

Two main themes were identified with regard to optimising BBCs in South Africa's informal economy: The need for greater economic inclusion in informal markets and consistent government support. The findings suggest that BBCs are crucial in enhancing recycling and waste management. However, many BBCs need help to enter the markets, comply with regulations, and improve their operational efficiency. Despite informal recyclers' significant contribution to the economy, there is still room for improvement to maximise their influence. Moreover, it is clear that the government can support BBCs in strengthening their role in the informal economy. This support, together with enhanced infrastructure and increased collaboration between sectors, could make

a significant impact. To achieve this, it is essential to establish clear regulations, improve market access, and ensure consistent government backing.

6.7 Conclusion

The findings indicate that BBCs have transformed traditional business models, as they now prioritise incorporating community needs directly into their operations. This change signals a more community-focused approach. Furthermore, BBCs actively seek partnerships with different sectors, such as technology and manufacturing. This indicates a proactive and integrated approach to business, particularly regarding environmental considerations. In terms of market strategies, there is a noticeable emphasis on adaptability, with BBCs using market segmentation and differentiation to better cater to specific market demands.

To comprehend how BBCs function, it is crucial to consider the interplay between supply and demand in the market. BBCs must be versatile and able to adjust to changing market conditions. A vital aspect of this system is the involvement of informal waste pickers. BBCs have taken on a crucial role as intermediaries, connecting these collectors to the wider recycling network in South Africa.

However, although progress has been made, there are still challenges that need to be addressed regarding regulatory oversight in the waste management sector. While existing frameworks are in place to improve this area, there are noticeable discrepancies between the intentions of these regulations and their actual implementation and effect. This emphasises the importance of aligning regulatory frameworks with real-world circumstances.

In conclusion, BBCs are crucial to South Africa's informal economy. Their emphasis on community involvement, collaborations, and flexibility highlights their significance as recycling organisations and as significant contributors to a more extensive waste management system. The obstacles they encounter emphasise the necessity for improved policy coherence and pragmatic resolutions.

7. CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

This chapter examines the role of BBCs in South Africa's informal economy and their contribution to supporting livelihoods. It commences by discussing the research findings and the study's contributions, including trends towards increased collaboration and strategies for improving BBC operations. Additionally, it explores waste pickers' key roles and the benefits private corporations can gain by partnering with BBCs. The chapter concludes by discussing the implications for various stakeholders and providing guidance for future studies in the field while acknowledging the limitations of the research.

7.2 Research Findings

South Africa's informal economy is marked by high unemployment and significant wealth inequality. BBCs are seen as potential contributors to the socio-economic development of the country. However, they face several challenges, such as societal biases and limited support. This study aimed to understand the role and challenges of BBCs by answering the central question: "How do BBCs contribute to the livelihoods of communities in South Africa's informal economy?".

In order to answer the main research question, the study was divided into sub-questions. Firstly, the operational strategies of BBCs were examined to obtain insights into their business models, activities, and how they tackle challenges. Secondly, the dynamics of BBCs were explored with the aim of understanding their interactions within the informal sector and external factors that affect their operations.

The third sub-question focused on the socio-economic benefits of BBCs, including diverse income sources and skill development opportunities that positively impact community welfare. The fourth sub-question identified operational limitations and the reasons behind them. Lastly, the fifth sub-question investigated potential strategies to enhance the role and impact of BBCs, focusing on policy changes and support mechanisms to strengthen their socio-economic contributions.

This structured approach offered new insights into the role of BBCs in South Africa's informal economy and a validation of existing knowledge.

7.2.1 Operational strategies of BBCs in the South African informal economy

BBCs in the informal economy have adapted traditional business models to better align with community needs. They prioritise environmental considerations and emphasise community engagement as a central component of their operations, a perspective that is also shared by Viljoen et al. (2019).

It has been observed that BBCs are increasingly forming sustainable partnerships to promote a circular economy. This is a shift from past practices, where they operated more independently, as noted by Viljoen (2019). The trend now is for partnerships, both with waste pickers and with larger corporations, which suggests a change in operational strategies (Barnes et al., 2021).

Additionally, BBCs are now implementing more focused strategies, such as targeting non-returnable glass instead of using broad strategies for their markets as they have in the past. This shift towards differentiation and market segmentation allows BBCs to better meet the needs of their customers (Barnes et al., 2021; Viljoen, 2019).

7.2.2 Dynamics of BBCs in the South African informal economy

Various market dynamics, operational factors, and regulations influence BBCs in the South African informal sector. BBCs are affected by changes in supply and demand. For example, when supply increases, there may be an oversupply of materials like cardboard, causing prices to drop. The earnings of waste pickers can also change depending on the fluctuating prices of recyclables in the raw material markets. In order to stay competitive, BBCs adapt their strategies, especially when new companies enter the market. The compensation given to waste pickers is essential in keeping them as valuable service providers.

In terms of operations, BBCs have a well-organised system for handling recyclable materials, beginning with the acquisition and ending with distribution. This system enables them to link informal waste pickers to the more extensive recycling network.

Additionally, they work alongside establishments like schools and hospitals, highlighting the extensive scope of their activities. Still, they encounter difficulties such as inadequate infrastructure, financial limitations, and market inconsistencies.

Regarding regulations, there is often a disconnect between their intended purpose and how they are implemented in the real world. While regulations are meant to provide waste pickers with structure and improve waste management, stakeholders have expressed concerns that the regulations can be unclear or overly strict. It is important for regulations to be practical and supportive of the role that waste pickers play in the recycling industry.

7.2.3 Socio-economic benefits BBCs offer to South Africa's informal communities

The role of BBCs in the socio-economic development of South Africa's informal communities is significant. They are instrumental in creating employment opportunities, especially through their partnerships with waste pickers, which is supported by Barnes et al. (2021) and Godfrey (2021).

Furthermore, BBCs address the concerns raised in literature about the uneven pay structures for waste pickers by focusing on developing an equitable compensation system (Godfrey, 2021). Their community-centric approach is also evident in their collaborations with local businesses, including taverns, strengthening community ties (Viljoen et al., 2012).

In addition to their economic contributions, BBCs have introduced innovative solutions that prioritise community welfare. They support emerging recycling ventures and significantly reduce landfill waste, showcasing the positive environmental impact of their operations (Godfrey & Oelofse, 2017).

7.2.4 Barriers that limit BBCs' potential in South Africa's informal economy

In South Africa's informal recycling economy, BBCs face various challenges. One of the most significant challenges is the prevalence of established BBCs, which makes it harder for new players to enter the market. Additionally, the need for significant initial

capital and a lack of infrastructure exacerbates these entry barriers. Existing literature indicates that although BBCs are crucial in connecting the formal and informal sectors, they encounter challenges such as regulatory uncertainties and market monopolies (Viljoen et al., 2012).

The study has highlighted the potential of BBCs as a crucial component within the recycling value chain, suggesting new ways to improve their role in facilitating newcomers. However, although BBCs play a crucial role in recycling, they still need to enhance their support towards introducing and mentoring new members in the industry (Barnes et al., 2021; Viljoen, 2019).

7.2.5 Optimising the transformative capacity of BBCs in South Africa's informal economy

BBCs play a crucial role in enhancing the recycling industry in South Africa, given their vital position in the recycling value chain, as reported by Barnes et al. (2021) and Viljoen et al. (2012). However, they encounter various challenges, such as market access issues, permit regulations, and the need to acknowledge the significant role of reclaimers. Additionally, it is essential to highlight the importance of fair payment structures for waste pickers, as noted by Godfrey (2021). According to Godfrey (2021), the informal recycling sector has seen an increase in financial contribution, rising from R625 million in 2012 to R872 million in 2017. Barnes et al. (2021) and Viljoen et al. (2019) suggest that to fully benefit from the sector, improvements must be made in market access, permit processes should be clarified, and industry awareness should be raised.

Government involvement is crucial for BBCs in the informal economy. Godfrey and Oelofse (2017) identified challenges like infrastructure gaps and limited involvement in decision-making processes. To overcome these challenges, governmental and municipal bodies must provide support in areas such as financial aid, infrastructure improvement, building trust within the community, and recognising the vital role that BBCs play. These ideas align with the research of Viljoen et al. (2019), who also emphasise the significance of BBCs.

BBCs in South Africa play an important role in supporting the livelihoods of individuals in the informal economy. The study shows that they adjust their strategies to meet the community's needs, create job opportunities, and ensure fair wages. They are also committed to promoting community well-being, environmental considerations, and building long-term partnerships. Despite these positive contributions, BBCs face various challenges, such as market competition, unclear regulations, and infrastructure limitations. These challenges highlight the need for clear policies and more substantial government support. In summary, BBCs significantly contribute to the informal economy in South Africa. With adequate support, their impact has the potential to be even greater.

7.3 Contribution of this Study

This study offers valuable insights into the role of BBCs in South Africa's informal economy, including economic and socio-economic interactions, regulatory challenges, and growth opportunities. By closely examining these factors, the study sheds light on the functioning of BBCs in the informal economy and the difficulties they face. The findings of this research can inform policymaking and initiatives aimed at promoting the development and well-being of BBCs in South Africa.

7.3.1 Academic contribution

The study investigates the operational strategies and market dynamics of BBCs. It identifies changes in the industry, such as the shift towards sustainable partnerships and more targeted market strategies. The study contributes to the academic discussion on BBCs and provides a foundation for future research, particularly on the social and economic impacts of BBCs in developing economies.

7.3.2 Practical insights

This study provides a detailed analysis of the challenges that BBCs face in the recycling and waste management industry. It highlights issues such as regulatory inconsistencies, market monopolies, and infrastructure inadequacies, emphasising the importance of creating a more enabling environment for these businesses. This information is crucial

for stakeholders in the recycling and waste management sector, as it underscores the urgent need for an environment that promotes the growth and success of BBCs.

7.3.3 Socio-economic contributions

The study underscores the pivotal role played by BBCs in South Africa's informal sector's socio-economic landscape. These businesses are crucial in creating employment opportunities, ensuring fair pay structures, and championing community welfare initiatives. Their contributions are significant, and policies should be in place to recognise, support and enhance them, thereby laying the foundation for sustained community development.

7.3.4 Strategic recommendations

The research provides actionable strategies to strengthen the transformative potential of BBCs based on comprehensive analysis. It emphasises the importance of entities like governments, municipalities and other significant players in providing essential support, such as financial aid, infrastructure improvements, building community trust, and revising existing regulations. These recommendations offer a clear path for future policy considerations and implementation.

7.4 Research Limitations

7.4.1 Researcher bias

In researching BBCs within South Africa's informal economy, participant selection posed challenges due to the intricacies of the sector. The researcher relied on their professional network for identification, potentially introducing sampling bias. The use of semi-structured interviews provided detailed insights, but it was acknowledged that the researcher's personal views could have influenced the interpretation of these insights. To avoid this issue, the researcher followed the guidance of Saunders and Lewis (2018) and took deliberate steps to be conscious of any possible biases. Virtual platforms such as Teams, Zoom and telephone interviews helped create a detachment from the participants.

7.4.2 Interviewer experience

The researcher's limited interview experience posed possible challenges to the data's credibility. Despite the researcher's attempt to address this issue by conducting pilot interviews, it is important to acknowledge that their inadequate training in interviewing techniques and methods still posed a constraint. This lack of comprehensive training and practical experience could have impacted the thoroughness, quality, and precision of the data collected. It is possible that some subtleties were overlooked or certain aspects were not explored as thoroughly as they would have been by a more experienced interviewer.

7.4.3 Period of study

This study had a limited timeframe, which restricted the number of interviews that were conducted. In comparison, Barnes et al. (2022) and Viljoen et al. (2019) conducted studies that lasted for nine and 14 months, respectively, and completed 53 and 67 interviews. Because of their extended research periods and multiple researchers' involvement, they collected more comprehensive data. Although this study achieved data saturation, the shorter timeframe limited the scope and depth of the research in comparison to Barnes and Viljoen's studies.

In addition, this study took a cross-sectional approach due to limitations of time and finances. It aimed to capture the role of BBCs on community livelihoods within the informal economy during 2023, providing a snapshot of the behaviours at that specific moment. However, as Saunders and Lewis (2018) noted, behaviours can change over time. Therefore, any assumptions about future behaviour based on current data might be limited.

7.4.4 Cultural and language differences

The researcher conducted most interviews in English, which was not the native language for most participants. This language barrier could have resulted in misunderstandings and a lack of attention to cultural and linguistic nuances. Participants who were not fluent in English faced additional difficulties, which may have impacted the accuracy and depth of the data gathered. Although efforts were made to address

language challenges, some details may have been overlooked, which could impact research findings.

7.4.5 Access to the informal market

Collecting data from the informal market can be challenging as it requires building relationships with the participants. Due to these challenges and time limitations, the researcher used a pre-existing database of BBCs for data collection, which limited the sample's diversity. Despite efforts to create a comfortable and confidential environment, some potential participants were hesitant to be a part of the study. This could have resulted in biased data as the perspectives of these non-participants were not captured, thereby limiting the study's representativeness and comprehensiveness.

7.5 Implications for Stakeholders

7.5.1 Government

The findings highlight the need for governments and regulatory bodies to modify and improve their policies concerning the evolving dynamics of BBCs. The first step towards empowering these entities and enhancing their operational efficiency is establishing clearer and more supportive regulations and ensuring consistent implementation. This would enable BBCs to operate smoothly within established frameworks. The study also points out areas where governmental intervention and investment are most needed, particularly in the recycling and waste management sectors, which face infrastructure challenges. By directing resources towards these sectors, authorities can significantly boost the growth and impact of BBCs.

7.5.2 BBCs

The research has identified some crucial strategic insights for BBCs. It is evident that there is a growing trend towards increased collaboration, which implies that it is essential to develop sustainable partnerships. By aligning themselves with waste pickers and larger corporate entities, BBCs can leverage their collective strengths and promote mutual growth. Moreover, the data suggest a shift towards more specialised operational

strategies, such as targeting specific market segments. By adopting these focused approaches, BBCs can position themselves more favourably in the market and potentially gain a competitive edge.

7.5.3 Waste pickers

This study highlights the resilience and significant contributions of waste pickers and other informal sector workers. With this understanding, waste pickers should be empowered to advocate for better pay, safer working conditions, and the recognition they deserve. Furthermore, as they are crucial to the functioning of BBCs, these workers could benefit significantly from participating in skill-enhancement programmes. Such training can improve their efficiency, making them even more valuable within the recycling value chain.

7.5.4 Private corporations

Private corporations can benefit from understanding the critical role played by BBCs in the recycling ecosystem. By collaborating with BBCs, corporations can explore innovative and eco-friendly solutions that can drive economic gains. Additionally, as BBCs provide significant socio-economic benefits to informal communities, corporations can easily align their involvement with their Corporate Social Responsibility (CSR) objectives, thereby promoting goodwill and enhancing their brand image.

7.6 Recommendations for Future Research

In order to minimise sampling bias, it is recommended that future research on BBCs in South Africa's informal economy should involve a diverse group of participants. Researchers should consider using various recruitment methods extending beyond their personal network to gain a more comprehensive understanding of the sector. Additionally, given the challenges highlighted in this study regarding interview techniques, it is suggested that future researchers enhance their interviewing skills or collaborate with more experienced interviewers.

It would be valuable for future studies to have a longer duration, similar to the research conducted by Barnes et al. (2022) and Viljoen et al. (2019). This could provide a more

thorough examination of the dynamics of the informal economy over time. Since the present study used a cross-sectional approach, further research could explore the role of BBCs over an extended period. The language and cultural barriers identified in this study indicate that future research should consider using translators or engaging with native-speaking interviewers to ensure more accurate data collection.

A comparative study that examines BBC's strategies in different African countries could provide valuable insights. Additionally, the role of technology in the informal economy and how it can assist BBCs in their operations should be explored. The significance of waste pickers, as highlighted in this study, suggests that they should be the primary focus of subsequent research. This has the potential to enhance comprehension of their respective roles, challenges, and needs.

Finally, it would be beneficial to investigate how private corporations and the government can collaborate with BBCs and optimise these partnerships. The research has provided insights into the role of BBCs in the informal economy of South Africa. By implementing the abovementioned recommendations, future studies can improve our understanding of BBCs and provide practical solutions.

7.7 Conclusion

This research aimed to assess the role of BBCs in South Africa's informal economy. The study revealed both the significance and challenges faced by the BBCs. Key limitations such as potential researcher bias, limited interviewing experience, and time restrictions were identified. Additionally, cultural and language differences were noted as factors that could influence data quality. Despite these limitations, valuable insights were provided to stakeholders, highlighting the vital role of BBCs in the sector. In order to strengthen future research, recommendations were made to delve deeper into BBCs' contributions and dynamics within the informal economy.

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9. APPENDICES

Appendix 1: Interview Guide

Introduction and Background

- Can you introduce yourself and explain your involvement with the BBC? [SQ1]
- What are the main activities and operations of the BBC? [SQ1]
- Which types of materials does the BBC primarily manage or work with? [SQ2]
- How long have you been with the BBC?
- Can you briefly describe the evolution or history of the BBC you're affiliated with? [SQ2]

Role and Impact of BBCs on Livelihoods

- How many people are affiliated with the BBC, including employees and waste pickers? [SQ3]
- How does the BBC support the livelihoods of people in the informal economy? [SQ3]

Working with Waste Pickers

- How does your BBC collaborate with waste pickers? [SQ1]
- Describe the relationship and compensation structure for waste pickers. [SQ3]
- Do you provide any additional support to the waste pickers? [SQ3]
- How much do you pay the waste pickers for the different types of waste items? [SQ3]

Challenges and Strategies Employed by BBCs

- What major challenges does your BBC face in supporting the informal economy? [SQ4]
- Are there specific strategies your BBC has used to address these challenges or to help the community? [SQ1]
- Besides operational challenges, are there any external factors (like regulations, societal perceptions, etc.) that pose challenges to your BBC? [SQ4]

Collaboration and Partnerships

- How does your BBC partner with entities like recycling companies or local authorities? [SQ1]
- Can you highlight any significant successes or challenges in these collaborations? [SQ4]

Support and Resources

- What additional resources or support would enhance your BBC's impact on the informal economy? [SQ5]

Impact Assessment

- How does your BBC's work affect the lives of people in the informal economy? [SQ3]

Future Perspectives and Recommendations

- What future developments do you foresee for BBCs in the informal economy? [SQ2]
- What advice or suggestions do you have for policymakers or organizations to better support BBCs? [SQ5]

Closing Remarks

- Are there any other insights or experiences you'd like to share about BBCs and their role in the informal economy?

Appendix 2: Ethical Clearance

**Gordon Institute
of Business Science**
University of Pretoria

**Ethical Clearance
Approved**

Dear |

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

You are therefore allowed to continue collecting your data.

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

[Ethical Clearance Form](#)

Kind Regards

This email has been sent from an unmonitored email account. If you have any comments or concerns, please contact the GIBS Research Admin team.

Appendix 3: Consent Form

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. My research focuses on the role of Buy-Back Centres (BBCs) in the informal economy, particularly how these centres facilitate job creation and socioeconomic development. Our interview is expected to last about an hour and your insights will be incredibly valuable in understanding the role of BBCs, their operations, and the way they interact with both the formal and informal sectors in the recycling industry. **Your participation is voluntary, and you can withdraw at any time without penalty.** To ensure confidentiality, all collected data will be reported without any identifying information. If you have any concerns, please contact my supervisor or me. Our details are provided below.

Researcher name:

Email:

Phone:

Research Supervisor Name:

Email:

Phone:

Signature of participant: _____

Date: _____

Signature of researcher: _____

Date: _____

Appendix 4: Code Book

SUB-QUESTIONS	THEMES	CATEGORIES	NUMBER OF CODES
Sub-question 1: What are the operational strategies of BBCs in the South African informal economy?	Efficient and collaborative community-centric business	Community-centric entrepreneurship	4
		Product line extension and diversification	4
		Collaborative supply chain strategies	2
	Sustainable partnerships for a circular economy	Collaboration with waste pickers	5
		Cross-industry collaboration	2
	Differentiation and segmentation	Product strategy	3
		Market segmentation	3
			23
Sub-question 2: What are the dynamics of BBCs in the South African informal economy?	Market dynamics	Continuous change in supply and demand	4
		Economic volatility in raw material markets	4
		Competition realities	3
	Business operations	Dynamics of material operations lifecycle	3
		Market challenges and adaptation	12
	Government regulations	Overregulation: Strangling progress	2
		Lack of regulation: The regulatory gap	4
			32
Sub-question 3: What specific socio-economic benefits do BBCs provide to individuals and communities within South Africa's informal economy?	Socio-economic impact	Employment opportunities through cooperation with waste pickers	4
		Enhancing compensation and payment mechanisms	3
		Empowering unity and inclusion	5
		Pioneering solutions: innovations that transform	6
			18
Sub-question 4: What are the significant barriers that hinder the full potential of BBCs in the South African informal economy?	Market dominance	Monopolistic competition	4
		Established systems and cost barriers	7
			11
Sub-question 5: How could the transformative capacity of BBCs in the South African informal economy be optimised?	Enhancing economic inclusion in informal markets Government support for transformation	Removing the barriers to access and participation	5
		Fostering space, infrastructure, and presence	3
			8
TOTAL			92

SUB-QUESTIONS	THEMES	CATEGORIES	CODES	
Sub-question 1: What are the operational strategies of BBCs in the South African informal economy?	Efficient and collaborative community-centric business	Community-centric entrepreneurship	Engagement Entrepreneurship Local economy Social investment Diversification	
		Product line extension and diversification	Expansion Growth Opportunity	
		Collaborative supply chain strategies	Collaboration Collection system Education Support	
	Sustainable partnerships for a circular economy	Collaboration with waste pickers	Training and development Waste collector behaviour Waste collector interactions	
		Cross-industry collaboration	Industry expertise Partnerships	
	Differentiation and segmentation	Product strategy	Incentives Preference Pricing	
		Market segmentation	Customers Location Volumes	
	Sub-question 2: What are the dynamics of BBCs in the South African informal economy?	Market dynamics	Continuous change in supply and demand	Disruptions Excess supply Oversupply issues Supply shortage
			Economic volatility in raw material markets	Economic Impact Market volatility Projections Rates
			Competition realities	Competition Foreign players Loyalty
Business operations		Dynamics of material operations lifecycle	Materials collected Operations Waste disposal	
		Market challenges and adaptation	Bale bags COVID-19 impact Crime Expenditure Market dynamics Market trends PPE VAT Safety concern Formalization Seasonal employment Transport	
Government regulations		Overregulation: Strangling progress	Government Policy	
		Lack of regulation: The regulatory gap	Municipality Politics Regulations Reluctance Employment	
Sub-question 3: What specific socio-economic benefits do BBCs provide to individuals and communities within South Africa's informal economy?		Socio-economic impact	Employment opportunities through cooperation with waste pickers	Income Job creation Livelihood
			Enhancing compensation and payment mechanisms	Cashless transactions Fairness Payment system Community
		Empowering unity and inclusion	Empowerment Motivation Optimism Sustainability	
	Pioneering solutions: innovations that transform	Environmental sustainability Initiatives Internal solutions Non-recyclable items Pilot project Returnable Bottles		
Sub-question 4: What are the significant barriers that hinder the full potential of BBCs in the South African informal economy?	Market dominance	Monopolistic competition	Accessibility Awareness Leverage Monopoly Cash Flow Credit Equipment	
		Established systems and cost barriers	Financial constraints Infrastructure Low rates Transportation Communication	
Sub-question 5: How could the transformative capacity of BBCs in the South African informal economy be optimised?	Enhancing economic inclusion in informal markets	Removing the barriers to access and participation	Disconnect Distance Effort Unemployment insurance	
	Government support for transformation	Fostering space, infrastructure, and presence	Business scale Landfills Source separation	

SUB-QUESTIONS	THEMES	CATEGORIES	CODES	
Sub-question 1: What are the operational strategies of BBCs in the South African informal economy?	Efficient and collaborative community-centric business	Community-centric entrepreneurship	Engagement Entrepreneurship Local economy Social investment Diversification	
		Product line extension and diversification	Expansion Growth Opportunity	
		Collaborative supply chain strategies	Collaboration Collection system Education Support	
	Sustainable partnerships for a circular economy	Collaboration with waste pickers	Training and development Waste collector behaviour Waste collector interactions	
		Cross-industry collaboration	Industry expertise Partnerships	
	Differentiation and segmentation	Product strategy	Incentives Preference Pricing	
		Market segmentation	Customers Location Volumes	
	Sub-question 2: What are the dynamics of BBCs in the South African informal economy?	Market dynamics	Continuous change in supply and demand	Disruptions Excess supply Oversupply issues Supply shortage
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			Enhancing compensation and payment mechanisms	Cashless transactions Fairness Payment system
			Empowering unity and inclusion	Community Empowerment Motivation Optimism Sustainability
	Pioneering solutions: innovations that transform		Environmental sustainability Initiatives Internal solutions Non-recyclable items Pilot project Returnable Bottles	
	Monopolistic competition		Accessibility Awareness Leverage Monopoly Cash Flow Credit Equipment	
Sub-question 4: What are the significant barriers that hinder the full potential of BBCs in the South African informal economy?	Market dominance	Established systems and cost barriers	Financial constraints Infrastructure Low rates Transportation VAT	
		Removing the barriers to access and participation	Communication Disconnect Distance Effort Unemployment insurance	
Sub-question 5: How could the transformative capacity of BBCs in the South African informal economy be optimised?	Enhancing economic inclusion in informal markets		Business scale Landfills Source separation	
	Government support for transformation	Fostering space, infrastructure, and presence		