Research paper

Barriers and Enablers in Adopting Circular Business Models in Horticulture SMEs: Insights from Zimbabwe.

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Abstract

The Circular Economy (CE) offers solution to sustainability challenges, yet its application in agricultural SMEs is underexplored. This qualitative research aimed to explore the enablers and barriers that affect the implementation of CE approaches by horticultural producers in Mashonaland East Province, Zimbabwe. Thematic analysis was employed to identify the patterns and insights. The study revealed 25 participants through semi-structured interviews, which comprise 10 farm owners, eight workers, and seven key stakeholders, that some contextual barriers to CE adoption, like financial constraints, lack of access to technology, and weak institutional support. Market incentives, stakeholder collaboration, and the utilisation of traditional farming practices aligned with CE principles were identified as key enablers. The research has revealed the necessity of customised interventions in the form of capacity-development programs and policy recommendations targeting the need to assist horticulture farmers in transitioning towards circular operations. This study enriches CE literature by contextualising horticultural SMEs in Zimbabwe and providing actionable recommendations for sustainable farming practices. It therefore calls for addressing systemic barriers to the application of knowledge and technological innovations towards more sustainable and circular horticulture.

Keywords: Circular Economy · Constrain Economies · Horticulture · Small and Medium Enterprises

1. INTRODUCTION

The CE is a game-changing paradigm addressing environmental and resource sustainability challenges across industries, including agriculture. Its application to the agricultural sector, mainly horticulture, provides promising solutions for addressing environmental degradation and enhancing resource sustainability. Despite its global recognition, CE adoption in Zimbabwean horticulture remains low. Small and Medium Enterprises (SMEs) contribute approximately 60% of the country's total employment and 40% of GDP, yet only 15% of them have adopted sustainable practices aligned with CE principles (Mugano, 2024). This highlights a critical gap in the potential for SMEs, particularly in the horticulture sector, to enhance sustainability and resource efficiency through CE adoption. Mashonaland East Province has diverse economic activities, including agriculture, and is facing structural challenges hindering sustainable business practices.

Wu et al. (2022) and Cantore and Mazzanti (2023) highlight CE's interdisciplinary potential and role in combining economic feasibility with environment sustainability. Schröder and Barrie (2024) also examined the role of SMEs in the CE, focusing on enablers and challenges. Mishra et al. (2024) note significant barriers that SMEs face in adopting CE, in developing countries. Pereira et al. (2022) call for a regionalised framework for adopting CE and show how regional dynamics shape CE practices in emerging economies.

Tritto et al. (2024) researched SMEs in the context of eco-innovation in Europe from an agricultural perspective, proving that CE practices are largely associated with potential growth. Dey et al. (2023) use CE concepts to evaluate sustainability performance among SMEs and point out related economic and environmental

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benefits. The most pertinent barriers to adopting the CE practices in Zimbabwe are budgetary constraints, technological resource deficiencies, and lack of institutional support. In this regard, Ferasso et al. (2023) concurred that tailored approaches aligned with the socio-economic conditions of the region are necessary. Mishra et al. (2024) call for interventions that integrate conventional farming practices in line with the CE ideas.

This study addressed the adoption of the CE in horticulture farms in Mashonaland East Province, Zimbabwe, focusing on barriers and enablers. The objectives are to identify systemic and contextual challenges impeding the CE adoption in the context of Zimbabwe and to explore socio-economic and environmental factors that facilitate the adoption of the CE in horticultural farms. The primary research questions are: What systemic challenges hinder the adoption of a CE in horticulture farms? What factors enable the adoption of circular practices? The study used qualitative methods, gathering insights through semi-structured interviews with farmers and stakeholders. The findings will address gaps in the CE literature on SMEs in developing economies, particularly Zimbabwe. The paper, therefore, highlights the transformative role played by the CE in the sustainable practice of horticulture and the furtherance of the global sustainability agenda.

This research starts with an overview of the horticulture industry of Zimbabwe, its significance, and research questions. Followed by the review of the relevant literature and the methodology. Findings, analysis, conclusions, and recommendations were discussed respectively.

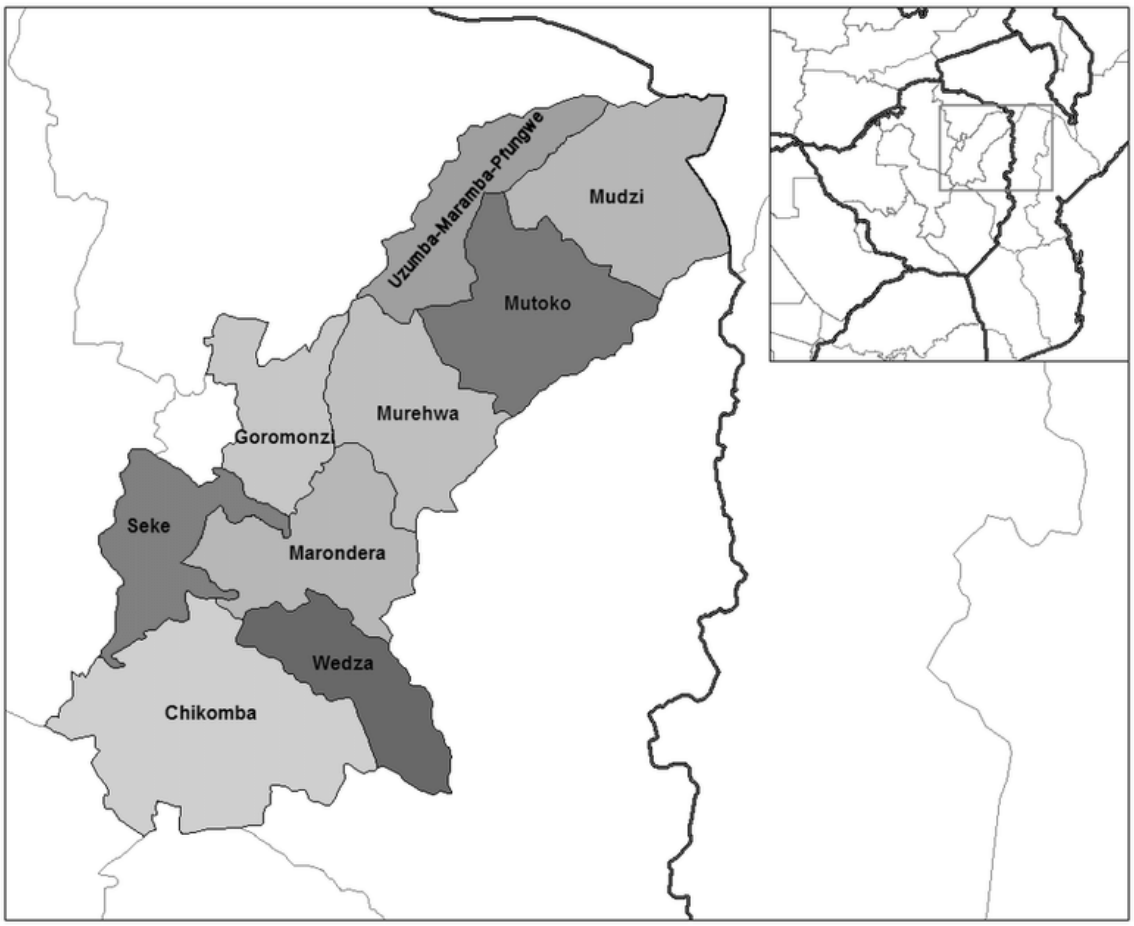

Figure 1. Mashonaland East Province Map, Source: Google Map (2025)

2. THEORETICAL UNDERPINNING AND LITERATURE REVIEW

2.1 Theoretical Framework

This study draws upon two complementary theoretical lenses, Institutional Theory and the Resource-Based View (RBV), to frame and interpret the adoption of Circular Economy (CE) practices among horticultural SMEs

in Mashonaland East Province, Zimbabwe. These theories were used to inform the conceptual foundation of the study but also guided the research questions, interview design, and thematic analysis.

The Institutional Theory (Scott, 2025) explains how external factors like policies, incentives, and norms shape an organisational behaviour and CE adoption. The interview questions were, thus, designed to elicit respondents' experience and perception of institutional support or hindrances, e.g., unclear government policies or lack of enforcement mechanisms. In data analysis, themes such as 'policy gaps' and 'government incentives' corresponded with institutional constructs, and their effects on CE decisions were elucidated.

In contrast, the Resource-Based View (RBV) (Barney, 1991; Dorrego-Viera et al., 2025; Mishra et al., 2024) focuses on the role of firms' internal resources and capabilities in determining competitive advantage. RBV was employed to investigate the effect of the availability—or lack thereof—of physical, technological, and human resources on SMEs' capacity to implement CE practices. Interview questions broached CE-related training availability, technical skill, and technology infrastructure (Lu et al., 2024; Toth-Peter et al., 2024). 'Capacity needs' and 'knowledge gaps' themes were coded based on RBV constructs such as VRIN resources.

By employing both Institutional Theory and RBV, the study captures the double effect of external institutional pressure and internal competency on CE take-up. This dual perspective distinguished systemic barriers from internal resource limitations. By using these prisms combined, it was also possible to develop actionable policy-level reform recommendations and internal SME capability-building recommendations.

2.2 The CE in Agriculture

CE has become critical in agriculture for waste repurposing, efficient use of resources, and regenerative practices. On a global level, horticulture has started to adopt principles of the CE, specifically in Europe, Asia, and Africa. Prieto-Sandoval et al. (2022) studied composting, precision agriculture, and renewable energy in gardening for the CE, which can lower costs, enhance soil health, and cut greenhouse gas emissions.

CE strategies often falter in disadvantaged regions. The most unique challenges that have been observed in Sub-Saharan Africa pertain to the limitation of expertise and resources for practices in sustainability (Pereira et al., 2022). Cases from India's Ayurveda industry show CE development depends on cultural insight and local innovations (Mishra et al., 2024).

Horticultural research illustrates that supply chain management is an important element in the shift towards a CE. Chowdhury and Asiabanpour (2024) stated that integrated supply chains are key to increasing resource recovery and minimising waste. Deficits in infrastructure impede rural supply chain efficiency (Munro et al., 2023). The gap between best practice and the specific local situation illustrates the requirement for tailored strategy development in responding to novel challenges.

2.3 SMEs in Zimbabwean Agriculture

The SMEs are also a core component of the agriculture-based economy in Zimbabwe and are crucial for the employment sector, as well as food security. Despite their significance, the organisation faces numerous barriers in the process of adapting CE practices. The SME innovation is hindered by hyperinflation and the constraints of credit (Dey et al., 2023). Unstable weather and soil erosion compound these challenges in Mashonaland East Province (Ferasso et al., 2023).

Drivers of the CE adoption in Zimbabwe are social variables. Martinho (2025) observes that gender disparities and inadequate access to education slow farmers' knowledge of the CE concepts. In addition, insufficient regulations and their enforcement impede progress. Few incentives for sustainable practices limit favourable environmental legislation for the CE (Scott, 2025). Although challenges do exist, there are opportunities, too. All traditional practices, such as intercropping and organic fertilisation, can scale up with the circular economic model (Mishra et al., 2024). Prieto-Sandoval et al. (2022) posit international programmes and incentives foster CE adoption in SMEs.

2.4 Barriers and Enablers of the CE Adoption

The transition barriers to a CE are multilayered; the barriers include financial, technological, institutional, and socio-cultural factors. Limited finance access is the primary barrier for SMEs in developing economies. Munro et al. (2023) state that technological challenges in the CE include lack of access to modernised farm equipment

and limited skills in the application of technology. Institutional barriers, conflicting policies, and governance failure have high implications for the shift of the SMEs towards the CE. Kirchherr et al. (2022) further argued that ineffective legal systems also discourage innovation and investment in sustainability. Cultural challenges and lack of awareness slow CE adoption (Scott, 2025).

Conversely, there are several enablers to the implementation of the CE practices. Dorrego-Viera et al. (2025) highlight the economic benefits, such as high prices for products made using the CE approaches, which serve as an incentive for farmers to adopt such methods. Another major facilitator is collaboration among relevant parties. Collaborative initiatives like public-private partnerships encourage CE adoption through training and knowledge-sharing (Camilleri, 2025; Ferasso et al., 2023). In the same breath, digital technology opens new solutions for traditional challenges, like using mobile phone applications for resource management (Scott, 2025).

2.5 Synthesis and Research Gaps

Despite significant advances toward an understanding of the CE adoption, some shortcomings still exist. Most contemporary studies focused on developed nations; hence, there is a paucity of research concerning the SMEs in developing nations, such as Zimbabwe. The interplay of traditional practices with the modern CE principles has not been sufficiently addressed in the literature to date. Longitudinal research should examine CE's long-term impacts and indigenous knowledge's role in sustainability.

3. METHODOLOGY

3.1 Research Design

This study adopts a qualitative case study design to explore the barriers and enablers of CE adoption among horticultural SMEs in Mashonaland East Province, Zimbabwe. Case studies address 'how,' 'why,' and 'what' questions, making them ideal for exploring complex, under-researched phenomena in real-life contexts (Yin, 2022; Mishra et al., 2024).

The primary research question: “What systemic challenges hinder the adoption of a CE in horticulture farms?” and “What factors enable the adoption of circular practices?”, aim to identify, categorise, and contextualise key elements of CE adoption. These are exploratory “what” questions, not designed to quantify variables or test causal relationships, but to uncover nuanced patterns of practice, constraint, and opportunity. As such, a case study approach is highly suitable because it allows for the in-depth investigation of multiple dimensions of a real-world issue, using rich contextual data from various stakeholders (Creswell & Guetterman, 2025).

The design collected detailed insights from diverse stakeholders, capturing firm-level and institutional influences. It facilitated the researchers in tracing the lived experience, institutional process, and resource strategy that structure CE practices within the horticulture industry of a specific, less-researched region.

The case study was essential in using Institutional Theory and RBV. These theories must understand how contextual variables such as policy environments, cultural norms, and firm capabilities operate in reality. The case study enabled the researchers to align theoretical constructs with empirical observations and form context-specific inferences that larger cross-sectional designs or quantitative methods might overlook (Dorrego-Viera et al., 2025; Ahmadov et al., 2025).

Lastly, case study research design offers richness of analysis, richness of context, and theoretical congruence to the research goals. Particularly, it is particularly well suited to build grounded knowledge of nascent phenomena like CE adoption in developing-country agricultural contexts whose environmental and institutional factors are predominantly complex and under-theorised.

3.2 Study Area

Mashonaland East Province, Zimbabwe, is the country's most fertile and high-rainfall area, with sustainable small- and medium-scale horticultural businesses. Despite potential, climatic vagaries, low technology, and economic instability hamper this sector (Dey et al., 2023). Mashonaland East supports commercial and subsistence farming, which is crucial for food security and employment. The province provides a suitable environment for analysis of the barriers and enablers to the adoption of the CE in the horticulture industry.

3.3 Data Collection

3.3.1 Semi-Structured Interviews

Semi-structured interviews enabled in-depth exploration of complex issues. Purposive sampling included farm owners, workers, and key stakeholders like government and NGO representatives. The range of data collected via the interviews reinforces the validity of the research outcomes (Bryman, 2021). Other comparable CE studies, including Ferasso et al. (2023) and Pereira et al. (2022), have utilised semi-structured interviews to analyse stakeholder attitudes and identify context-specific problems.

3.3.2 Secondary Data Sources

These data were collected from newly available government sources, recent market reports, and the pertinent academic literature. The study therefore had complete awareness of the legal as well as economic environment that influences the adoption of CE in Zimbabwe. Secondary data placed primary findings in a broader context (Creswell & Guetterman, 2025).

3.3.3 Interview Protocol

A structured interviewing protocol was developed to ensure depth and consistency in the data collection exercise. Semi-structured interviews were conducted with a series of questions that were uniquely designed to probe the participants' understanding and utilisation of Circular Economy (CE) principles, drivers, and barriers.

The core questions included:

1. What are the main challenges you face in adopting sustainable or circular practices?
2. Can you describe any practices you use that reduce waste or reuse materials?
3. How do government policies or community norms affect your farming decisions?
4. What kind of support, financial, technical, or educational, would help improve your current practices?

Face-to-face interviews were conducted in respondents' workplaces or farms, allowing the researchers to ground responses in tangible and operational contexts. Sessions took between 15 and 20 minutes, were audio-recorded with consent, and were later transcribed verbatim for analysis. Interview notes were taken to capture contextual details and non-verbal actions (Mishra et al., 2024).

In order to maintain research integrity, the study was vetted by the Institutional Research Ethics Committee of Marondera University of Agricultural Sciences and Technology. The participants were informed of their rights and gave consent. Pseudonyms were employed to maintain anonymity, and transcripts did not include identifying data.

The process followed the best practices recommended by Nowell et al. (2025) in the instance of qualitative interviews and ensured compliance with revised guidelines in regard to ethical fieldwork in developing-country settings (Ahmadov et al., 2025).

3.4 Sampling

The study made use of a purposive sampling approach in choosing the respondents who provided informative and diversified information about the CE adoption. The choice of farms was grounded in size, geographical area, and intensity level of CE practice. Purposive sampling ensured diverse representation in Mashonaland East. Previous work, including Chowdhury and Asiabanpour (2024) and Trainor and Richards (2021) confirmed its efficiency in selecting participants for CE strategy exploration.

Table 1. Demographic data

Category	**Percentage**
Sex	
Male	60%
Female	40%

Age	
20 – 30	40%
31 – 40	35%
41 – 50	25%
Experience in industry	
Less than 5 years	15%
5 – 10 years	25%
Over 10 years	60%
Role of respondents	
Farm owners	40%
Labourers	32%
Stakeholders	28%
Farm size	
Small (<2 hectares)	40%
Medium (2 – 10 hectares)	35%
Large (> 10 hectares)	25%

Source: Authors (2025)

The sample comprised 25 respondents, consisting of 10 farm owners, 8 farm workers, and 7 key stakeholders such as government officials and representatives of NGOs. The sizes of the operational scales of sampled farms were classified as small scale, less than 2 hectares, at 40%; medium scale, 2–10 hectares, at 35%; and large-scale, more than 10 hectares, at 25%. The length of time the respondents had been operating, however, ranges from over 10 years by 60% to between 5-10 years by 25% and to less than 5 years by 15%.

3.5 Data Analysis

A thematic analysis was conducted using a six-step framework (Nowell et al., 2025). NVivo software helped to code and place the data into themes for better organisation and interpretation of the data. Themes resonated with participants' narratives. This approach is consistent with Dorrego-Viera et al. (2025) and Munro et al. (2023), and therefore it is adequate for complex phenomena sensitive to the context.

3.6 Ethical Considerations

Ethical issues were addressed throughout the research. Informed consent was secured, and reasonable measures were employed to ensure participants' anonymity and confidentiality. Ethical approval for interviews was obtained from the Institutional Review Board in order to adhere to ethical norms. These features are known to be typical procedural features common in qualitative research. Dey et al. (2023) and Ferasso et al. (2023) also showed these steps to be necessary for ethical reasons.

4. RESULTS

This study aimed to discuss barriers and enablers in adopting circular business models in horticulture SMEs operating in Zimbabwe. This section therefore presents and discusses the results of data obtained from the interviews.

4.1 Thematic Findings

4.1.1 Barriers

Participants consistently highlighted several barriers to adopting the CE practices:

4.1.1.1 Financial Constraints

Limited access to finance and investment capital has indeed become a major constraint. As one small-scale farmer commented, "We have insufficient financial means to invest in technologies that would actually help us to improve our water recycling and waste management." Perceived risks made institutions hesitant to lend to farmers. A local entrepreneur seconded this point: "Financial institutions do not view agriculture as a productive sector for investment, especially regarding sustainability and acculturation." This economic burden prevents many farms from becoming more sustainable and thus complicates the shift toward models of the CE.

4.1.1.2 Lack of Technical Knowledge

A large number of respondents complained of the inadequacy of their knowledge about the principles and technologies of the CE. One of the farm workers had this to say, "Our knowledge is small about this—we only know the practice." This was more pronounced among small farms. "We do know of circular economy practices; however, no one has shown us how to apply them in our daily operations," said a smallholder farmer. Technical knowledge from employees and owners in agriculture is considered one of the barriers to greener practices since this limit their capacity to successfully introduce new technologies or methods.

4.1.1.3 Policy Gap

The primary obstacles identified by the respondents included insufficient regulatory structures and inconsistent implementation of policies. As one NGO representative put it, "There is no clear policy and incentive from the government side for encouraging sustainable practice." As one government representative explained, "Policies are there, yet without mechanisms for enforcement or incentives for good practice." The participants were frustrated by the fact that even though some of the policies exist, poor implementation and ambiguity significantly jeopardise their potential to allow broad adoption of CE.

4.1.1.4 Infrastructure Challenges

Lack of infrastructure, like storage or waste management systems, hinders CE development. A medium-scale farmer testified, "We would like to recycle, but there is a lack of proper infrastructure for proper waste disposal." Another farmer added, "We need more sorting and recycling facilities near us to make it easier for us to enter the circular economy." In fact, the lack of appropriate infrastructure poses a big challenge because even those farmers who would like to take up greener practices cannot do so due to a lack of resources and supporting mechanisms.

4.1.2 Enablers

Regardless of the above-presented barriers, participants identified several enablers that could facilitate the CE adoption:

4.1.2.1 Access to Training

Capacity-building programmes were a perceived need. According to a representative of one NGO, "Training programmes have helped some farmers understand the benefits of CE practices and how to apply them." One farm manager added that "After a workshop on sustainable practices, we initiated a composting system that has reduced waste." Access to training increases technical knowledge and enhances farmers' confidence in trying new things.

4.1.2.2 Market Incentives

Among the major incentives were increased market prices for items they produced in an environmentally friendly manner. A large-scale farmer testified, "Export markets are increasingly requiring sustainability certifications, compelling us to implement improved practices." Another farmer said, " Consumer preference for organic products drives circular practices." The market's demand for sustainable products is a major motivator for farmers to adopt the circular economy approach, particularly in international markets.

4.1.2.3 Stakeholder Collaboration

Collaboration among farmers, governmental and non-governmental organisations was also identified as a key enabler. This is supported by a government official who stated that "Collaborative initiatives prove that shared resources and knowledge pay off for everybody." A smallholder farmer added that, "We are part of a local farmers' group, where we share information about new practices, enabling us to learn from each other." Several respondents emphasised the necessity of fostering partnerships and collaboration among various stakeholders to create a supportive network that facilitates the adoption of CE.

4.1.2.4 Innovative Practices

Participants emphasised the requirement for local expertise and testing of new methodologies. One of the farmers said that, "We use crop residues as organic mulch for our crops, reducing waste in the process and improving soil health." One of the medium-scale farm owners stated that, "We have succeeded in developing a low-cost irrigation system by reutilising old materials, conserving water, and cutting costs for the farm." In all these ingenious ways, farms are able to devise special solutions for challenges—most often tailored to their unique environment and resources.

4.2 The Existing CE Practices

The study identified several CE practices already in use among horticulture farms:

4.2.1 Recycling

Farming activities transform materials, including plastic containers, irrigation or storage. A farm worker explained, "We do not throw away containers but instead find other uses for them on the farm." Several farms have also adapted ways of reusing equipment, tools, and packaging materials, which reduced waste and increased resource use efficiency. One farm owner added that "Even old tyres and plastic bottles are remade as useful tools to hold the plants."

4.2.2 Composting

Organic wastes, including crop residues and animal dung, were always composted. One small-scale farmer was quoted saying, "We make our own compost to save on fertiliser costs and improve the soil quality." Yet another farmer added, "It helps in waste disposal, and the compost greatly improves the soil quality more than the commercial fertilisers." Composting, a somewhat inexpensive and non-polluting process, reduces garbage and enhances agriculture.

4.2.3 Water Conservation

The study also indicated that larger farms have adopted advanced irrigation methods, such as drip irrigation and water harvesting. One respondent reported that "We collect rainwater during the rainy season and use it during the dry season." A manager of a large-scale farm stated, "We have implemented a drip irrigation mechanism to prevent water waste and ensure sufficient water for the crops." These are methods of efficiency in resource use, and they especially apply to areas where water is in short supply.

4.2.4 Resource Reuse

Farming practices also utilised farm waste in animal feeding and composting. For example, a small farm owner mentioned that "We do not burn the residual of crops; rather, we give it to cattle or use it as mulch to retain soil moisture." Another farmer puts it this way: "We use all crops; we use surplus produce for our animals and compost or mulch the rest." Resource recycling would also minimise dependence on exogenous inputs, increasing agricultural sustainability.

While these practices are highly promising, they are more mainstream on large and medium-sized farms, underlining differences in resources and knowledge at disparate scales of farming. In the case of small farms, limitations to resources and expertise make comprehensive circular economy techniques quite hard to undertake.

5. DISCUSSION

5.1 Interpretation of Findings

Studies indicate that approximately 30% of SMEs in Zimbabwe report significant challenges in accessing financing for sustainable practices, while 25% cite a lack of technical knowledge as a barrier to adopting Circular Economy (CE) principles (Adadzi, 2025; Mugoni et al., 2024). This underscores the pressing need for targeted interventions to enhance capacity and resource availability for these enterprises.

This study confirms that financial limitations, limited technical skills, regulatory inconsistencies, and infrastructure gaps are significant barriers to CE adoption among SMEs in Zimbabwe's horticultural sector, consistent with the work of Dey et al. (2023), Munro et al. (2023), and Kirchherr et al. (2022). These constraints limit sustainable investment and CE adoption. As Ferasso et al. (2023) emphasise, the lack of technical competence underscores the need for targeted capacity-building initiatives.

Training, market incentives, and collaboration are key enablers. These align with findings by Dorrego-Viera et al. (2025), Pereira et al. (2022), and Trainor and Richards (2021), who highlight the importance of education and cooperative engagement. Local innovations, such as composting and water conservation-mirror the practical, low-cost improvements noted by Magaud (2025).

What makes the Zimbabwean case unique is the informal and adaptive way CE is practiced. In contrast to technology-driven approaches seen in developed regions, local farmers rely on traditional knowledge, resourcefulness, and community support. This challenges traditional applications of Institutional Theory and RBV. As Scott (2025) emphasises, informal institutions have greater influence on behaviour compared to formal institutions under poor policy conditions. Additionally, Ferasso et al. (2023) show that locally embedded resources, like innovation in scarcity, are vital resources, expanding the conventional horizon of RBV in CE studies.

Similar to findings in Kenya and South Africa, this study illustrates that technical constraints, financial challenges, and institutional frailty are foremost barriers to CE uptake (Munro et al., 2023). However, the heavy reliance on conventional practices and informal collaboration is more strongly prioritised in Zimbabwe, which signifies unique local adjustments.

5.2 Context-Specific Insights

The context of Mashonaland East Province in Zimbabwe is creating extremely unusual challenges and opportunities for the adoption of the CE practices by the horticulture sector. Scarce resources and traditional practices exacerbate financial and infrastructure challenges. This, nonetheless, offers opportunities for low-cost innovations and the use of indigenous knowledge. CE principles seek to convert farm residues into mulch and compost to substitute for expensive synthetic inputs.

Mashonaland East horticultural SMEs can be used to merge indigenous practice with CE practice under resource-constrained situations (Ahmadov et al. 2025). The structure requires the feasibility of mixing indigenous practices like organic fertilising and emerging technologies like precision agriculture. Hybrid practice avails options for transcending structural barriers and attaining optimum local intelligence and environmental benefits.

SMEs are important agents of food security and employment but lack institutional incentives for transition towards the CE (Martinho, 2025). Furthermore, its erratic climatic variability enhances the difficulty in effective water management (Dey et al., 2023). Market demand for sustainably produced commodities, especially from exports, offers an opportunity to apply CE practices. The outcomes highlight the imperative of specific approaches to address corresponding challenges.

5.3 Theoretical Contributions

This article theoretically contributes tangibly by extending the use of Institutional Theory and the Resource-Based View (RBV) to SME CE adoption in low-resource environments. Rather than using these theories in general, evidence demonstrates how their constructs are actualised in particular within Zimbabwean horticulture SMEs' low-resource, informal environment.

According to the Institutional Theory perspective, the study illustrates how the absence and inconsistency of regulation become strong disincentives to CE adoption. SMEs resort to informal institutions like norms and cooperatives since formal sustainability policy is poorly enforced. This extends theoretical models by illustrating that institutional voids may be supplemented to some degree by grassroots social forms, which may

act as informal enablers of circular activity. Camilleri (2025), highlighted rural firms' reliance on informal approaches instead of formal CE advice.

RBV is extended to uncover non-conventional sources of VRIN resources in resource-scarce environments. For instance, the ability to innovatively recycle waste, access indigenous knowledge, and utilise low-tech innovation emerges as a source of competitive advantage. Improvisation and resilience enable the transition towards circularity for SMEs with no technology or capital. This confirms and expands on Lu et al. (2024), who argued that external partnerships and ecosystem-level collaboration can act as strategic resources when internal competencies are deficient.

In addition, the study emphasises that these collaborative networks—both formal and informal—need to be viewed as essential extensions of a firm's resource base. Knowledge transfer, risk-sharing, and capacity-building are made possible through them, and they serve as substitutes for institutional support. Collaborative capital is a key role-player in developing contexts, complementing physical and technological resources in RBV.

This research integrates Institutional Theory and RBV within informal economy and weak policy contexts, proposing a hybrid solution that enables CE transitions in SMEs and Circular Business Model future research.

5.4 Proposed Conceptual Framework

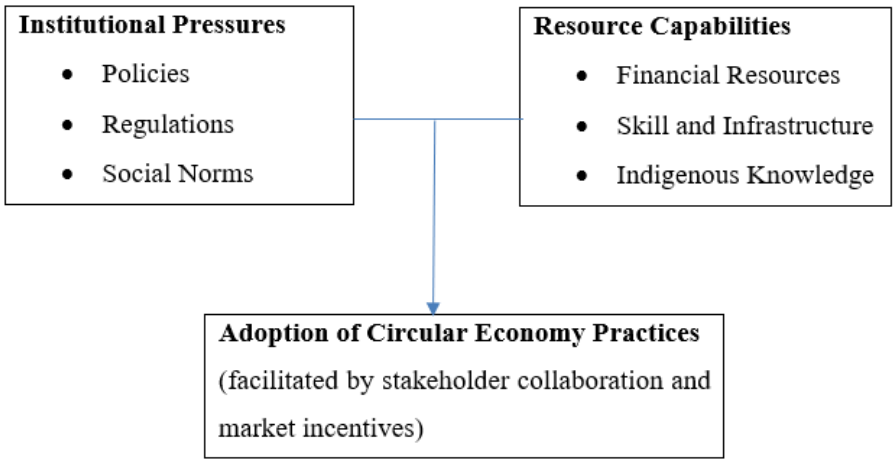

Figure 2.

This study proposes an RBV model of adoption of CE by horticultural SMEs. The adoption of circular practice is driven by institutional pressures and by internal resource abilities. Mediating these are market incentives and collaboration among stakeholders.

5.5 Practical Implications

The findings offer several practical implications for stakeholders:

5.5.1 For Farmers

Sufficient and robust training programmes to increase awareness and technical proficiency in the CE practices. Low-cost measures like composting and water catchment can mitigate financial challenges. Partnerships with NGOs and government agencies could provide access to resources and support networks. Emerging evidence underscores the necessity of leveraging digital platforms in bridging knowledge and resource gaps in smallholder agriculture. Scott (2025) advocates for the utilisation of bespoke mobile apps that facilitate real-time management of resources and stakeholder engagement. Such technologies address financial and infrastructural constraints with affordable solutions. Incorporating digital platforms in capacity-building initiatives would also equip farmers with the ability to implement CE practices.

5.5.2 For Policymakers

Policymakers should harmonise and maintain consistency in policy frameworks to facilitate the adoption of the CE. Incentives such as subsidies and soft loans could minimise financial constraints. Infrastructure-building

policies are required for enforcing the circular economy, like waste management systems that facilitate sustainable activities.

5.5.3 For Development Organisations

Capacity-building activities need to focus on the knowledge and the toolkit that SMEs require for the transition to a circular economy. Public-private partnerships would achieve better resource allocation and innovation. Besides, other market-orientated interventions, like certification programmes for sustainable products, may establish economic incentives for farmers to apply circular economy principles.

6. CONCLUSION

This study explored barriers and enablers to CE adoption among horticultural farms in Mashonaland East Province, Zimbabwe. The study identified barriers like financial constraints and enablers like training and collaboration, underscoring opportunities for sustainable solutions. These findings are relevant to the research questions, as they provide a deep understanding of the systemic and context-specific challenges and opportunities of CE adoption. Dedicated interventions, like capacity-building programmes, financial support mechanisms, and improved policy framework, must address these barriers. The identified enablers, mostly collaborative actions among agricultural owners, legislators, and development agencies, will play a significant role in the transition process to a circular economy.

The report thus calls for firm action by the stakeholders. Policymakers need to put in place harmonised policies and economic incentives to propel CE activities. Development agencies need to scale up the supply of technical training and assistance to call for innovative solutions tailored to the local environment. Owners of farms are called upon to adopt stepwise circular economy practices and collaborate with other stakeholders in dealing with resource shortages. These programmes can facilitate CE implementation, sustaining and increasing resilience in the horticultural sector in Mashonaland East.

7. RECOMMENDATIONS

7.1 Policymakers

Policymakers must come up with an environment conducive to the implementation of the CE practices. Subsidies and low-interest loans can ease the financial issues of SMEs. Implementation of uniform and clear legislative frameworks in support of the implementation of CE can be facilitated by the implementation of recycling policies for waste and the implementation of diverse incentives encouraging sustainability. Moreover, rural infrastructure financing, e.g., that of water reservoirs and waste treatment facilities, plays an important role in supporting the implementation of efficient CE models in practice. The development of public-private partnerships creates new financing sources and enables effective project implementation on the CE. Information campaigns can enhance rural communities' readiness for CE implementation.

7.2 Practitioners

To stimulate more sustainable and efficient farming practices, it is beneficial for owners and workers to seek practical strategies in line with the underlying principles of the circular economy. Low-cost methods like composting and mulching enhance fertility while reducing waste. Adopt water-conserving practices to utilise it efficiently, such as by fitting drip irrigation and rainwater harvesting. The technical skills and abilities of practitioners in shifting towards the CE, for instance, would be enhanced by government capacity-building training and NGOs. Collaboration with farmers and cooperatives enables resource sharing and addresses challenges.

7.3 Future Directions

Future research should explore gaps to strengthen CE behaviours. Longitudinal studies must access CE's impact on productivity, environment, and economics. Future researches across Sub-Saharan Africa can highlight regional CE adoption differences. Indigenous knowledge and technologies like precision farming can bridge traditional and CE practices. A review of existing regulations and incentives can thus give recommendations for improvement of strategies that promote sustainable behaviours.

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