

The Role of Circular Economy Practices in Enhancing Competitive Edge in Small and Medium Enterprises (SMEs)

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Abstract:

The rapid increase in global emphasis on sustainable development has compelled businesses to reassess traditional linear production in favour of circular economy practices. As a result, small and medium-sized enterprises (SMEs) are adopting circular strategies to enhance their sustainability performance while maintaining a competitive advantage. This study adopted a systematic literature review to explore how circular economy strategies enhance competitive advantage among SMEs. The study synthesizes the empirical and conceptual literature, with more emphasis on the influence of circular practices on profitability, resource efficiency, and sustainability reporting. The reviewed literature reveals that the adoption of the circular economy enables SMEs to optimize resource utilization, lower operational costs, and reduce waste generation. The findings further indicate that adopting circular practices fosters innovation through recycling, product redesign, remanufacturing, and sustainable supply integration, which strengthens market differentiation and long-term competitive edge. Contradictory, the findings highlight the challenges faced by SMEs in implementing circular economy practices, including a lack of managerial expertise, regulatory barriers, constrained technological capabilities, and limited financial resources. However, to facilitate successful circular transitions, the study demonstrates the critical role of stakeholder collaboration, institutional support, and digital technologies in the implementation of circular transformation.

Keywords:

Sustainability, SMEs, Circular Economy, Reporting, Competitive Advantage, Efficiency

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Introduction

As a result of escalating environmental degradation, resource constraints, and climate-related risks, sustainability has become critical in contemporary business and economic discourse. According to Geissdoerfer et al. (2017), the traditional linear economic models are increasingly viewed as unsustainable in the long run. However, in response, (Kirchherr et al., 2017) highlight that the circular economy has emerged as a transformative paradigm, placing greater emphasis on recycling, waste minimization, resource efficiency, reuse, and regeneration throughout the product life cycle. Decoupling economic growth from environmental degradation helps businesses achieve sustainability while maintaining economic viability. Small and Medium Enterprises (SMEs) play a vital role in local and international economies, accounting for a significant share of value creation, innovation, and employment (OECD, 2019). Although SMEs are economically important, Rizos et al. (2016) highlight that due to financial constraints, limited technological capacity, and a lack of managerial expertise, SMEs encounter significant sustainability challenges compared to large corporations. However, SMEs are increasingly recognized as crucial actors in the transformation of the circular economy due to their flexibility, proximity to local economies, and entrepreneurial orientation (Shams et al., 2022). The adoption of the circular economy by SMEs may result in several potential advantages, both environmental and economic. This includes benefits such as cost reduction, innovation growth, and enhanced competitive edge.

Maintaining a competitive advantage in a highly dynamic and competitive economy remains critical for SMEs, as firm performance and differentiation are critical for sustainability-oriented strategies. As revealed in prior research studies (Porter & Kramer, 1999) sustainability-oriented strategies, including circular economy initiatives, can serve as key strategic resources that improve firm performance and differentiation. According to Bocken et al. (2016) circular practices such as closed-loop supply chains, waste valorisation, eco-design, and product life extension can enhance the efficient utilisation of resources and reduce operational costs, thereby positively influencing profitability. Additionally, incorporating circular economy principles into business models may help SMEs access new markets, enhance customer loyalty, and respond effectively to stakeholder and regulatory pressures.

Beyond financial and operation benefit, sustainability reporting has gained dominance as a mechanism through which firms report their environmental and social impact to stakeholders. Although large corporations have traditionally engaged in and associated with sustainability reporting, Calabrese et al. (2019) highlight that SMEs are increasingly associated with simplified and voluntary sustainability reporting as part of their strategic positioning. Prior literature, including Hahn and Kühnen (2013), suggests that sustainability reporting can enhance transparency, legitimacy, and stakeholder trust, thereby reinforcing a competitive edge. Within the context of the circular economy, sustainability

reporting enables SMEs to communicate the value created through circular practices. This includes social contributions, emission reductions, and resource savings. Despite growing academic interest in the adoption of the circular economy, the literature on SMEs remains fragmented across geographic contexts, disciplines, and methodologies. (Jaca-García et al., 2019) highlights that studies differ significantly in how circular economy practices are defined, implemented, and measured, and in their impact on profitability and sustainability reporting outcomes. In addition, although several empirical studies examine specific aspects of circular economy implementation, there is a lack of a comprehensive synthesis that incorporates these findings to provide a cohesive understanding of the impact of circular practices on SME competitiveness.

Given the increasing emphasis on sustainable business models and inclusive economic growth, especially in emerging and developing economies, systematic literature reviews are particularly useful in addressing such fragmentation by synthesizing existing knowledge, identifying patterns and gaps, and informing policy development and future research (Tranfield et al., 2003). Following a systematic review approach, this study seeks to incorporate current evidence on the relationship between competitive advantage and circular economy practices in SMEs, with more emphasis on profitability, resource efficiency, and sustainability reporting.

The objectives of this study are:

- To systematically review literature on circular economy practices adopted by SMEs
- To explore how circular economy practices influence competitive advantage, particularly in terms of profitability and resource efficiency.
- To assess the role of sustainability reporting in improving the competitive positioning of SMEs adopting circular economy principles.

Literature Review

This section synthesizes the literature on circular economy practices in SMEs using a thematic approach. The review is structured in three themes derived from the study's objectives: (1) circular economy practices in SMEs, (2) circular economy and competitive advantage through profitability and resource efficiency, and (3) sustainability reporting as a strategic tool within a circular economy context.

Circular Economy Practices in Small and Medium Enterprises

The circular economy is widely conceptualized as an economic system aimed at reducing waste and improving resource efficiency through recycling, reuse, remanufacturing, and regeneration (Kirchherr et al., 2017). Rizos et al. (2016) highlight that within SMEs, circular economy practices are often implemented at an operational and tactical level rather than fully incorporated into corporate strategies

due to limited resources and capability constraints. According to empirical studies (Bocken et al., 2016; Shams et al., 2022), widely adopted circular practices by SMEs include energy efficiency improvements, material reuse, waste reduction initiatives, eco-design, and supply chain collaboration. Jaca-García et al. (2019) highlight that SMEs tend to favour both incremental and low-cost circular initiatives that provide operational benefits, such as reductions in energy consumption and material inputs, rather than capital-intensive technological investments. In production SMEs, initiatives like green human capital development and strategic environmental assessments further champion circularity, especially in emerging economies (Riaz et al., 2024). Thematic analyses reveal clusters of drivers, strategies, and barriers shaping these initiatives.

Despite their significant economic importance, flexibility, and innovative potential, SMEs face significant challenges to circular economy adoption (Geissdoerfer et al., 2017). Significant, persistent barriers identified include financial constraints, insufficient regulatory incentives, a lack of technical expertise, and limited awareness of circular business models. Additionally, SMEs struggle to measure and report the value created from circular economy practices, hindering the long-term strategic integration. Nonetheless, Geissdoerfer et al. (2017) highlights that external drivers, such as regulatory pressures, customer demand for sustainable products, and supply chain requirements, reinforce the adoption of circular economy practices by SMEs. These drivers suggest an increasing institutional push for SMEs to transition towards circularity as part of broader economic development and sustainability agendas. Learning orientations, both intrinsic and extrinsic, play a vital role in connecting circular initiative to competitive advantages.

Circular Economy Practices, Profitability, and Resource Efficiency

A central theme in the literature concerns the relationship between circular economy practices and firm-level economic performance. Studies (Bocken et al., 2016; Porter & Kramer, 1999) generally support the perspective that circular economy adoption can improve profitability through efficient resource utilization, reduced operational costs, and mitigation of supply chain risks. Resource efficiency is consistently identified as the primary economic benefit of implementing the circular economy in SMEs. By reducing material waste, optimizing energy use, and extending the life cycle of products, SMEs can minimize production costs and improve cost competitiveness (Geissdoerfer et al., 2017). Empirical studies such as (Jaca-García et al., 2019) report positive relationship between waste reduction initiatives and improved financial performance, in particular, manufacturing and resource-intensive sectors. Recent evidence from developing markets indicates that circular innovation enhances triple bottom line efficiencies, mediated by economic competitiveness (Rehman et al., 2023)

Beyond cost reduction, circular economy practices are also linked to innovation-driven market dominance. According to Shams et al. (2022), circular business models encourage product and process

innovation, allowing SMEs to distinguish themselves in an increasingly sustainability-conscious economy. This differentiation could result in improved brand value, customer loyalty, and access to a niche economy that prioritizes environmental responsibility. Stakeholder pressures and managerial views mediate these outcomes in production SMEs.

However, the literature shows mixed findings regarding short-term profitability outcomes. Some studies, such as (Rizos et al., 2016) suggest that the financial benefits of the circular economy may materialize only in the medium and long run, particularly for resource-constrained SMEs, and highlight the importance of long-term planning and strategic alignment. Govindan and Hasanagic (2018) highlights that industry trends indicate that strategies such as resource recovery and eco-innovation are key for long-term benefits. Overall, despite the potential benefits of circular economy practices, such as improved SME competitiveness, the extent of economic benefits depends on firm size, sector, institutional context, and the level of circular integration.

Sustainability Reporting and Competitive Advantage in a Circular Economy Context

Sustainability has emerged as a crucial mechanism with organizations to communicate their environmental, social, and economic performance to stakeholders. Although sustainable reporting has been traditionally associated with large corporations, SMEs are increasingly engaging in sustainable reporting and recognizing it as a strategic mechanism, particularly in circular economy initiatives (Hahn & Kühnen, 2013). The literature Calabrese et al. (2019) suggests that communicating the environmental, social, and economic impacts to stakeholders enhances transparency, legitimacy, and stakeholder trust, thereby indirectly contributing to market dominance. For SMEs adopting circular economy practices, disclosure serves as a means of reporting value creation, including resource efficiency, waste minimization, and environmental impact mitigation. This reporting is particularly critical for attracting environmentally conscious customers, investors, and business partners. According to Le et al. (2024) positive correlations between circular initiatives and performance indicators, including financial metrics, are evident in production sectors.

As a result of distinct challenges in sustainability reporting, including a lack of reporting expertise, a lack of standardized frameworks specifically tailored to SMEs, and perceived high reporting costs, SMEs increasingly rely on simplified, voluntary, or narrative-based sustainability reporting rather than comprehensive disclosure frameworks such as the Global Reporting Initiative (GRI) (Hahn & Kühnen, 2013). Recent studies emphasize that digital technologies and integrated reporting tools can lower reporting constraints for SMEs and enhance the credibility of sustainability reporting (Shams et al., 2022). Within a circular economy context, sustainability discloses not only documents past performance but also reinforces strategic commitment to sustainable business practices, enhancing competitive

market dominance. Sustainability-oriented innovations in Colombian SMEs demonstrate how disclosure creates value across the triple bottom lines (Tegethoff et al., 2025). Despite growing interest, the literature reveals an empirical research gap regarding the relationship among circular flow economy practices, sustainability disclosures, and competitive edge in SMEs. Most literature examines these constructs in a fragmented approach, underscoring the necessity for integrative reviews that synthesize their interconnectedness.

Methods and Data

This study follows a systematic review of the literature methodology to synthesize existing research on the impact of circular economy practices on market dominance among SMEs. A systematic review approach was adopted to ensure transparency, replicability, and methodological rigor in identifying, screening, and analysing academic literature (Tranfield et al., 2003).

Data Sources, Search Strategy, and Inclusion and Exclusion Criteria

A comprehensive literature review was conducted using widely used academic databases to ensure a balanced representation of knowledge relevant to the research objective. Key databases included Google Scholar, Scopus, Web of Science, JSTOR, and EBSCOhost. These databases were selected because of their coverage of peer-reviewed articles in sustainability, business, and economics. The search strategy combined keywords related to circular economy, SMEs, competitive advantage, and sustainability outcomes. The primary search terms included “circular economy” AND “small and medium enterprises” OR “SMEs” AND “competitive advantage” OR “performance” AND “sustainability reporting” OR “resource efficiency”. The study included literature: (1) that focused on circular economy practices at a firm's level, (2) examined SMEs as the primary unit of analysis, (3) addressed outcomes related to competitive advantage, profitability, resource efficiency, or sustainability reporting, and (4) was empirical or conceptual, peer-reviewed. Excluded studies: (1) focused exclusively on the public sector or large corporations, (2) addressed sustainability without explicit reference to circular economy principles, (3) were conference papers, book chapters, dissertations, or non-reviewed reports, and (4) lacked sufficient methodological transparency.

Study Selection Process

The study selection process of the literature was conducted in three stages: (1) duplicate records were removed, (2) titles and abstracts were screened to assess relevance to the study's objectives, and (3) full-text articles were assessed against the inclusion and exclusion criteria. A literature review was conducted to resolve any ambiguities during the screening process, ensuring consistency and objectivity. After the screening process, a final set of studies was retained for qualitative synthesis.

Stage	Description	Records(n)
Identification	Records identified through database searching (Google Scholar, Scopus, Web of Science, JSTOR, EBSCOhost)	1,200
	Additional records identified through other sources (manual search, references)	50
Screening	Records after duplicates removed	950
	Titles and abstracts screened	950
	Records excluded (not relevant to SMEs/circular economy)	700
Eligibility	Full-text assessed for eligibility	250
	Full-text articles excluded, with reasons (i.e., large corporations only, non-peer reviewed, lacking circular economy focus)	185
Included	Studies included for qualitative synthesis	65

Table 1: Prisma flow

Data Extraction and Analysis

Data were systematically extracted from each selected study following a structured data extraction form. Information extracted included author(s), publication year, country or origin of the study, research design, circular economy practices examined, key findings, and implications for SMEs' competitive and sustainability disclosure. The study employed a thematic analysis approach to synthesize the findings across studies. This approach enabled the integration of different methodologies and contextual perspectives, consistent with systematic review research (Creswell & Clark, 2011).

Methodological Limitations

Despite the comprehensive synthesis provided by the systematic review of existing literature, certain limitations should be acknowledged. The review was conducted on English-language journal articles, which may have excluded studies published in other languages that could have impacted the study. In addition, variations in research design and performance measurement across studies may affect the comparability. While these limitations have been acknowledged, the systematic approach enhances the reliability and validity of the review outcomes. In addition, themes from recent literature, such as stakeholder pressures and learning orientation, were embedded for depth.

Discussion

The findings of this review suggest that circular economy initiatives can serve as a strategic resource for SMEs, allowing them to achieve sustainability while maintaining competitive advantage. By adopting initiatives like eco-design, waste valorisation, and closed-loop supply chain, SMEs can enhance resource efficiency and reduce operating costs, which directly contributes to profitability (Bocken et al., 2016; Kirchherr et al., 2017). These outcomes align with the resource-based view theory, which posits that the firm's sustainable competitive advantage is derived from its utilization of unique resources (Barney, 1991). In this context, circular practices serve both as an environmental strategy and economic assets that improves SME's market positioning.

However, (Govindan & Hasanagic, 2018; Rizos et al., 2016) highlight that SMEs continue to encounter significant challenges in implementing circular economy practices, including financial constraints, technological limitations, and a lack of managerial expertise. Recent studies suggest that embedding advanced technologies such as blockchain and artificial intelligence can mitigate some of these challenges by improving traceability, enhancing efficiency, and collaboration across supply chains. However, the adoption of advanced technology requires robust capacity-building and institutional support programs tailored to SMEs, particularly in emerging markets where infrastructural constraints are prominent (Bassi & Dias, 2020).

Sustainability disclosure emerges as a complementary tool that fosters the competitive advantages of circular initiatives. By reporting environmental and social impacts, SMEs can enhance legitimacy, transparency, and stakeholder confidence (Calabrese et al., 2019; Hahn & Kühnen, 2013). This is particularly critical in economies where consumers and investors increasingly prioritize sustainability credentials. Recent studies (Dey et al., 2022; Tegethoff et al., 2025) demonstrate that an integrated reporting framework, complemented by digital technology, can reduce reporting costs and improve credibility for SMEs. As a result, sustainability disclosure communicates value creation and strengthens SMEs' reputational capital, allowing them to attract environmentally aware clients and partners.

Finally, the discussion underscores the importance of stakeholder collaboration and complementary policy environments in facilitating circular transitions. Geissdoerfer et al. (2017) and Shams et al. (2022) highlight that institutional drivers like regulatory incentives, customer demand, and supply chain pressures play an important role in motivating SMEs to adopt circular initiatives. Future competitiveness will depend on the effectiveness with which SMEs integrate circular principles into their business models while navigating external pressures. As a result, policymakers must design policies that provide financial support, incentives, training, and technological support for SMEs. This ensures that circular economy adoption translates into not only sustainability but long-term competitive gains (Riaz et al., 2024).

Conclusion

This study set out to systematically review the literature on the impact of circular economy practices in enhancing market dominance among SMEs. By synthesizing findings across sustainability disclosure, business, and economic research, the review explored the role of circular economy adoption in influencing the profitability, resource efficiency, and sustainability disclosure. The findings demonstrate that circular economy practices enable SMEs to achieve sustainability and economic competitiveness. The findings further demonstrate that SMEs adopt circular economy practices that emphasize efficient resource use, waste reduction, and innovation, as these practices contribute to cost savings and operational efficiency, which are critical for market dominance in limited-resource environments. Literature consistently emphasizes the medium to long-term profitability benefits from improved resource efficiency, reduced materials waste, and enhanced resilience to supply chain disruption. Circular economy adoption further enables SMEs to differentiate themselves from competitors in the sustainability market, thereby enhancing their strategic positioning. Evidence from developing markets reinforces these benefits, with circular economy innovation driving efficiencies (Rehman et al., 2023).

Additionally, the review underscores the growing importance of sustainability disclosure as a complementary tool that reinforces the competitive gains of circular-economy practices. Sustainability disclosure enhances transparency, legitimacy, and stakeholder trust, enabling SMEs to report the value created from circular practices effectively. However, these findings also highlight that sustainability disclosure among SMEs remains underdeveloped, primarily due to capacity limitations and the lack of tailored disclosure frameworks. These gaps could be addressed through integrated strategies, including digital tools (Govindan & Hasanagic, 2018).

This study contributes to the circular economy and strategic management theoretical discourse by integrating fragmented research on SMEs into a coherent framework through circular initiatives, competitive advantage, and sustainability disclosure linkage. The findings support the perspective that circular economy initiatives serve as a mechanism for strategic resources that can generate sustained competitive advantage when incorporated into business models. This aligns with the resource-based

view, which links circular economy initiatives to outcomes such as environmental and financial performance (Le et al., 2024). For practitioners, the findings suggest that SMEs should view circular economy adoption not only as a compliance exercise but also as a strategic investment that enhances long-term competitiveness. Policymakers are called upon to design supportive regulatory frameworks, financial incentives, and capacity-building programs tailored to SMEs to accelerate the transformation to circular business models. In emerging contexts, policies should focus on drivers like skill development and collaboration with stakeholders (Bassi & Dias, 2020; Riaz et al., 2024).

Future Research

Future research should adopt empirical investigations in developing markets, longitudinal analyses of financial performance, and the development of SME tailored sustainability disclosure frameworks within a circular economy context. Future research that explores the role of learning orientations and a multi-level perspective can further advance our understanding.

References

- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, 17(1), 99-120.
- Bassi, F., & Dias, J. G. (2020). Sustainable development of small-and medium-sized enterprises in the European Union: A taxonomy of circular economy practices. *Business strategy and the environment*, 29(6), 2528-2541.
- Bocken, N. M., De Pauw, I., Bakker, C., & Van Der Grinten, B. (2016). Product design and business model strategies for a circular economy. *Journal of industrial and production engineering*, 33(5), 308-320.
- Calabrese, A., Costa, R., Leviaidi, N., & Menichini, T. (2019). Integrating sustainability into strategic decision-making: A fuzzy AHP method for the selection of relevant sustainability issues. *Technological forecasting and social change*, 139, 155-168.
- Creswell, J. W., & Clark, V. L. P. (2011). *Designing and Conducting Mixed Methods Research*. SAGE.
- Dey, P. K., Malesios, C., De, D., Budhwar, P., Chowdhury, S., & Cheffi, W. (2022). Circular economy to enhance sustainability of small and medium sized enterprises. In *Supply chain sustainability in small and medium sized enterprises* (pp. 10-45). Routledge.
- Geissdoerfer, M., Savaget, P., Bocken, N. M., & Hultink, E. J. (2017). The Circular Economy—A new sustainability paradigm? *Journal of cleaner production*, 143, 757-768.

Govindan, K., & Hasanagic, M. (2018). A systematic review on drivers, barriers, and practices towards circular economy: a supply chain perspective. *International journal of production research*, 56(1-2), 278-311.

Hahn, R., & Kühnen, M. (2013). Determinants of sustainability reporting: A review of results, trends, theory, and opportunities in an expanding field of research. *Journal of cleaner production*, 59, 5-21.

Jaca-García, C., Ormazabal-Goenaga, M., Baumgartner, R. J., Prieto-Sandoval, V., & Santos, J. (2019). Key strategies, resources, and capabilities for implementing circular economy in industrial small and medium enterprises.

Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, conservation and recycling*, 127, 221-232.

Le, T. T., Behl, A., & Pereira, V. (2024). Establishing linkages between circular economy practices and sustainable performance: the moderating role of circular economy entrepreneurship. *Management Decision*, 62(8), 2340-2363.

OECD. (2019). *OECD SME and Entrepreneurship Outlook 2019*. OECD. Retrieved 10 February from https://www.oecd.org/en/publications/oecd-sme-and-entrepreneurship-outlook-2019_34907e9c-en.html

Porter, M. E., & Kramer, M. R. (1999). Philanthropy's new agenda: Creating value. *Harvard business review*, 77, 121-131.

Rehman, F. U., Gyamfi, S., Rasool, S. F., Akbar, F., Hussain, K., & Prokop, V. (2023). The nexus between circular economy innovation, market competitiveness, and triple bottom lines efficiencies among SMEs: evidence from emerging economies. *Environmental Science and Pollution Research*, 30(58), 122274-122292.

Riaz, A., Al-Okaily, M., Sohail, A., Ashfaq, K., & Rehman, S. U. (2024). Green human resource management and sustainable performance: serial mediating role of green knowledge management and green innovation. *Global Knowledge, Memory and Communication*.

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

Shams, S. R., Vrontis, D., Weber, Y., Tsoukatos, E., & Palladino, R. (2022). Sustainable Development Goals and Business Dynamics.

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Tegethoff, T., Santa, R., Bucheli, J. M., Cabrera, B., & Scavarda, A. (2025). Sustainable development through eco-innovation: A focus on small and medium enterprises in Colombia. *PloS one*, 20(1), e0316620.

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British journal of management*, 14(3), 207-222.