TEFMJ TRENDS IN ECONOMICS, FINANCE AND MANAGEMENT JOURNAL

Circular Business Models: Drivers and Barriers to SMEs in North Macedonia

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DOI: https://doi.org//10.69648/VMCO6161

Trends in Economics, Finance and Management (TEFMJ), 2024; 6(1): 35-50

ijtns.ibupress.com

Online ISSN: 2671-3365

Application : 10.04.2024

Revision : 01.06.2024

Acceptance : 16.06.2024

Publication : 25.06.2024

Ademi, A. (2024). Circular Business Models: Drivers and Barriers to SMEs in North Macedonia. Trends in Economics, Finance and Management Journal, 6(1), 35-50

https://doi.org//10.69648/VMCO6161

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Abstract

Running a business in an era increasingly concerned with climate change poses challenges for all stakeholders. Governments and intergovernmental organizations are enacting new regulations, compelling businesses to adapt. While some companies have proactively shifted to eco-friendly production systems, others face pressure to change. To meet these evolving demands, businesses are exploring models that align with the circular economy. This study is aimed at exploring the drivers and barriers to circular business models as well as the challenges small and medium sized companies face to achieve the environmental and business objectives. Through a survey conducted among small and medium-sized enterprises in North Macedonia, both closed and open-ended questions were utilized to gather insights. The findings reveal a spectrum of engagement, ranging from incorporating circular principles in product design to active involvement in material recycling. These results underscore a growing willingness within the business community to embrace sustainable and circular business models.

Keywords: Circular economy, business model, SMEs, drivers, barriers

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Introduction

The idea of a circular economy has been in discussion since the 1970s when the limitations of the traditional linear economic models began to be recognized. The linear model, also known as "take, make, use, and dispose" implies extracting resources, producing goods and services, consuming them, and then disposing of the waste and by-products. However, as the world's population and economy have grown, this model has become unsustainable, leading to the emergence of the circular economy as a new economic model. According to Antikainen et al. (2018), the first conceptualizations of a circular economy were based on the idea of industrial ecology and the principles of closed-loop systems. These early ideas were further developed in the 1990s and 2000s, with the introduction of new concepts such as "cradle-to-cradle" and "closed-loop supply chains." The circular economy is characterized by its restorative and regenerative design, which is aimed at keeping products, components, and materials at their highest utility and value for as long as possible. To meet these evolving demands, businesses are exploring models that align with the circular economy. Thus, the purpose of this study has been to explore the drivers and barriers to circular business models as well as the challenges small and medium sized companies in North Macedonia face to achieve environmental and business objectives.

Literature Review

The literature offers a wide range of definitions regarding circular economy and drivers as well as challenges for a shift to an eco-friendly production system. For instance, Kirchherr et al. (2017) analyze 114 definitions of the circular economy from various sources to identify the main elements and features of the circular economy concept. They found that many of the definitions emphasize the importance of resource efficiency and closed-loop systems, as well as the need to move away from the traditional linear economy model. They also found that definitions often stress the importance of designing products and systems that can be easily repaired, reused, and recycled, as well as the development of new business models that prioritize sharing and rental of products rather than ownership. Additionally, the authors found that the definitions often highlight the need for systemic change and collaboration across sectors to achieve a circular economy. Several other researchers have highlighted that the circular economy is not only an economic model but also a new sustainability paradigm. According to a study, circular economy

is aimed at preserving and enhancing natural capital, optimizing resource yields, and fostering system effectiveness (Gardetti, 2019). Furthermore, another study emphasizes that circular economy is a holistic and systemic approach that goes beyond traditional recycling, and is aimed at creating economic growth, jobs, and business opportunities while reducing environmental impacts (MacArthur, 2013).

Geissdoerfer et al. (2017) highlight that circular economy is not only an economic model but also a new sustainability paradigm, whose purpose is to keep products, components, and materials at their highest utility and value at all times, and to minimize waste and pollution through the use of closed-loop systems. Circular business models are becoming increasingly relevant as the world's population and economy continue to grow and the traditional linear economic model becomes unsustainable. However, the implementation of circular business models is not without challenges. Utilizing a structured comparative literature review and a multi-case study of 21 organizations, Geissdoerfer et al. (2022) developed a theoretical framework of drivers and barriers, identifying 25 barriers and 10 drivers categorized into seven clusters, providing valuable insights into the distinctive effects on different innovation types and offering novel empirical data to validate and enhance previous research, thus contributing to the transition towards a more sustainable and circular economy. Many other scholars have reviewed studies on drivers and challenges to circular economy, while some others have investigated them specifically (Hart, et al., 2019; Tan, et al., 2022). Through an empirical study of 183 consumer responses, a research study conducted in an emerging economy context, establishes a validated model for circular economy adoption, underscoring the substantial influence of consumer behaviour on acceptance of remanufactured products and embracing products as service models in these economies (Patwa, et al., 2021). Despite the challenges, companies should think about implementing circular business models since they have the potential to be resource-efficient, cost-effective, and ethical.

Research Methodology

To understand and get insight into drivers and barriers to circular business models of SMEs in North Macedonia, a survey was conducted by use of self-completion questionnaires as research instruments. This enabled collection of detailed data from the SME owners and managers, and gaining a better understanding of their experiences, opinions, and perspectives referring to circular business models. Ad-

ditionally, the survey enabled uncovering and exploring the factors that influence the adoption and implementation of circular business models in the North Macedonian context.

Purposive sampling approach was used in the selection process of companies, considering constraints of time and cost. This method allowed for a purposive selection of companies willing to participate in the study. The use of personal connections expedited the process, allowing efficient engagement of companies of different sizes and operational scopes. This approach ensured a balanced representation and enriched the study with insights from companies at different levels of circular practices.

For data collection, a comprehensive questionnaire was employed to extract personalized opinions from participants. The survey targeted 60 companies, however, only 37 responded to the request to fill out the questionnaire. The survey was carried out in Google forms and a link was sent to the participants, who agreed to take part in this research. Respondents were strategically chosen from among senior-level executives, including senior managers, directors, and owners. The questionnaire design adhered to the best practices for explorative studies, encompassing sections on company details, general information, circular economy activities, barriers, drivers of circular business models. The data analysis process involved extracting and interpreting descriptive results obtained from the Google forms, providing a quantitative overview of various aspects covered in the questionnaire.

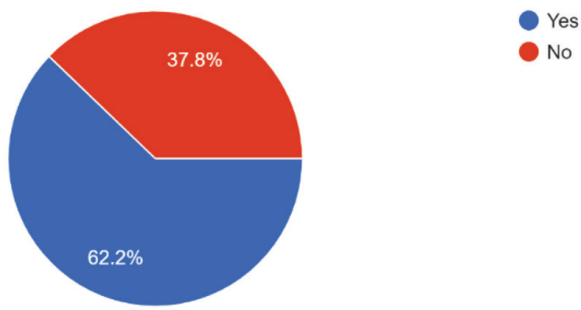
Results and Discussion

In this section, the results and discussion of findings are presented from an extensive exploration of companies across diverse sectors and industries. Most of the sampled companies were engaged in services and constituted 27% of the participants. Manufacturing played a significant role, accounting for 16.2% of the companies, reflecting a substantial presence of production-oriented businesses. The construction sector made up 13.5% of the profiled companies, highlighting the inclusion of firms contributing to the built environment. Wholesale and retail trade sectors collectively comprised 35.1%, emphasizing the significance of the distribution chain within the sampled cohort. Accommodation and food services accounted for 10.8%, reflecting a segment of companies associated with hospitality and dining. Transportation constituted 5.4%, representing businesses involved in logistics and movement of goods.

The survey revealed a notable engagement with circular economy practices among the participating businesses, with 62.2% affirming their active involvement in circular economy initiatives (see Figure 1). This positive response emphasizes a growing disposition within the business community toward embracing sustainable and circular business models. However, it is noteworthy that a significant proportion, comprising 37.8% of the respondents, indicated a lack of involvement in circular economy activities.

Figure 1

Rate of participants involved in circular economy (Q: Is your business/organization involved in circular economy?)

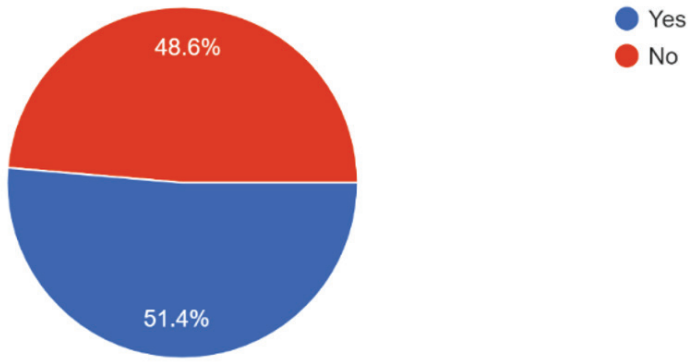


Source: Own research

Another result revealed from the survey is a near-even split in responses to the question "Does your company design products according to circular economy principles?". Figure 2 shows that 51.4% of the companies affirm, while 48.6% deny their commitment to circular design. This distribution underscores a noteworthy trend, indicating that a significant portion of companies are actively incorporating circular economy principles into their product design processes. This finding reflects a growing awareness and implementation of sustainable design practices within the business community.

Figure 2

Rate of companies designing products according to circular economy principles (Q: Does your company design products according to circular economy principles?)

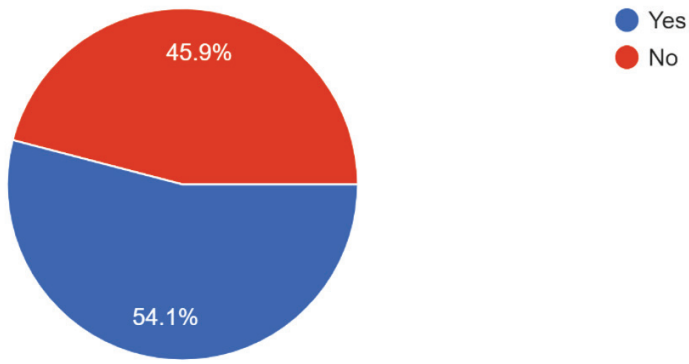


Source: Own research

The previous result regarding the adoption of circular economy principles in product design is further substantiated by another notable finding. According to (Figure 3), 54.1% of the surveyed companies affirmatively reported their participation in a sharing platform for goods and services, underscoring a significant portion of businesses actively engaging in collaborative consumption models. This aligns with the broader trend towards circular practices, emphasizing resource optimization and extended product utility. The connection between product design and participation in sharing platforms reflects a comprehensive adoption of the circular economy principles, highlighting the approaches businesses are taking to integrate sustainability into their operations.

Figure 3

Companies participating in a sharing platform of goods and services (Q: Does your company participate in a sharing platform of goods and services?)

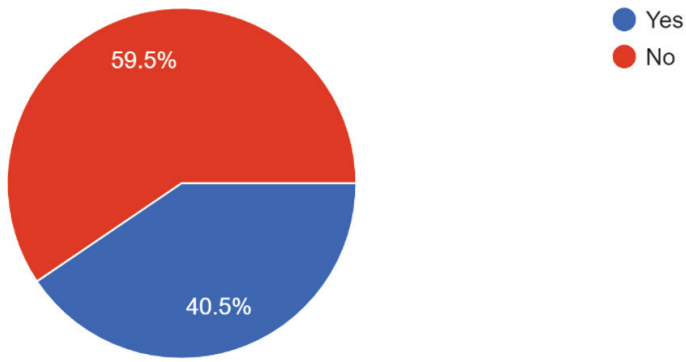


Source: Own research

In contrast to the affirmative responses observed in the preceding questions, the survey reveals a notable distinction in the practice of buying back or taking back goods for reuse among the surveyed companies. In Figure 4, approximately 59.5% of the respondents indicate that their companies do not engage in this practice, while 40.5% affirmatively report participation in the buyback or take-back of goods for reuse. This divergence underscores a varying degree of adoption and integration of circular economy practices, signalling that a substantial majority of companies, although active in certain circular activities, may not be extensively involved in the closed-loop systems of reclaiming and reusing products.

Figure 4

Companies involved in getting back goods and reusing products (Q: Does your company buy back or take back goods and reuse the products?)

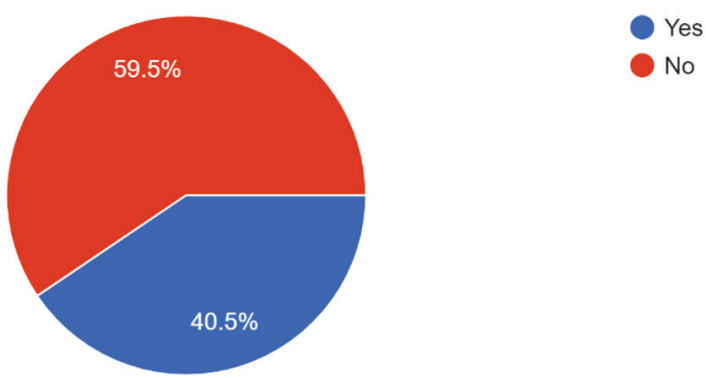


Source: Own research

The survey delved into the recycling and/or recovery of materials, revealing that a majority of companies, constituting 59.5%, do not engage in these circular practices. In contrast, 40.5% of the surveyed businesses affirmatively reported participation in material recycling and/or recovery. This outcome, depicted in Figure 5, underscores the prevailing gap in material circularity practices among the surveyed companies.

Figure 5

Companies involved in recycling (Q: Does your company recycle and/or recover material?)

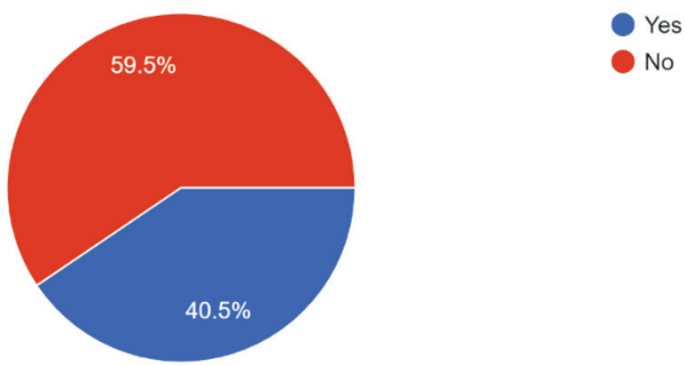


Source: Own research

Similarly, aligned with the previous question on recycling and/or recovering materials, the survey found that 59.5% of the companies do not employ recovered materials in the production of new products, while 40.5% do engage in this circular practice. These congruent patterns, illustrated in Figure 6, underscore the continuity of a substantial portion of companies not integrating recycled materials into their production processes. This observation accentuates potential areas for intervention and strategies to enhance the circularity of material usage in the surveyed businesses, suggesting a need for targeted initiatives towards promotion of the incorporation of recovered materials into new product manufacturing.

Figure 6

Companies involved in reusing recovered materials for new products (Q: Does your company use recovered material to produce new products?)



Source: Own research

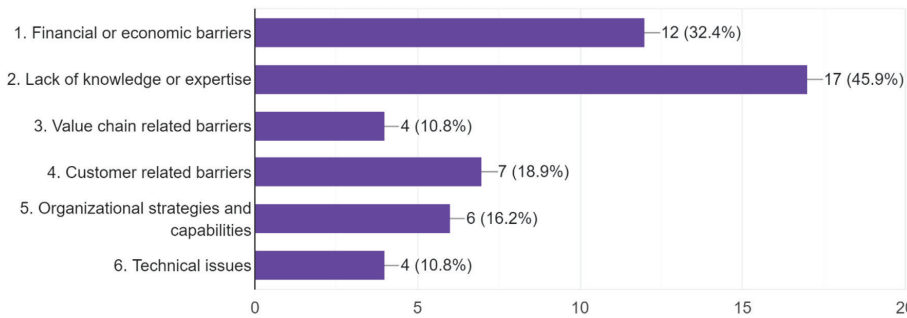
The exploration of barriers to circular business models reveals critical insights into the challenges impeding widespread adoption. As companies consider the terrain of circularity, understanding these obstacles becomes vital for informed decision-making and strategic planning. This section delves into the identified barriers, shedding light on the factors influencing companies' engagement with circular business models.

The internal barriers to companies attempting to transition to circular economy models is marked by distinct challenges. A significant 45.9% consider a lack of knowledge or expertise as a formidable internal barrier, underscoring the importance of awareness and education in fostering circular practices. Financial and economic barriers closely follow at 32.4%, indicating the fundamental role of eco-

nomic considerations in shaping the adoption of circular business models. As illustrated in Figure 7, these top two barriers explain key areas for intervention and support as companies struggle with internal difficulties in their circularity. Other barriers were identified in lower scores.

Figure 7

Companies' perceptions of internal barriers in shifting to circular economy (Q: What internal barriers do you face when trying to innovate or shift to circular economy business models?)

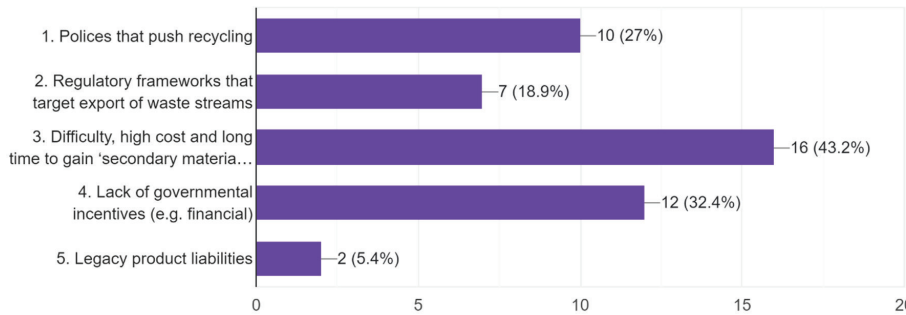


Source: Own research

Companies navigating the transition to circular business models encounter a range of external barriers that shape their strategies. As shown in Figure 8, a noteworthy 43.2% highlight the challenge of gaining 'secondary material' status over 'waste' status under the current environmental permit system, emphasizing bureaucratic hurdles as a substantial external constraint. Additionally, 32.4% express concerns about the absence of governmental incentives, shedding light on the role of supportive policies and financial stimuli in promoting circular initiatives. Policies influencing recycling efforts claim 27%, indicating the interplay between governmental frameworks and corporate circularity endeavours.

Figure 8

Companies' perceptions of external barriers in shifting to circular economy (Q: What external barriers do you face when trying to innovate or shift to circular economy business models?)



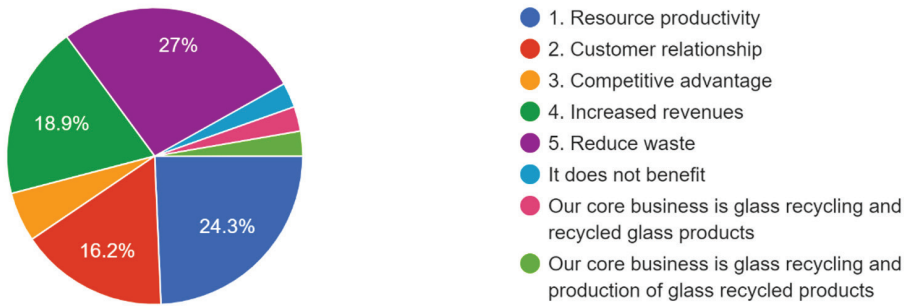
Source: Own research

These internal and external challenges clarify the complicated dynamics surrounding the implementation of circular practices in response to broader contextual factors. These results invite for institutional intervention in reshaping the circular business doing in North Macedonia. Transitioning from the challenges outlined in the previous section, companies embracing circular business models also draw strength from a range of drivers forcing their sustainable initiatives. Understanding these motivating factors becomes vital in crafting effective strategies that align with both internal organizational goals and external environmental imperatives.

The adoption of circular economy business models yields many benefits for companies as shown in Figure 9. While 24.3% emphasize enhanced resource productivity, 27% underline the crucial role of waste reduction. Moreover, 18.9% link circular practices to increased revenues, emphasizing both economic viability and environmental responsibility. On the contrary, a minority of 5.4% attribute the benefits to competitive advantage while only 2.7% see no tangible benefits, raising intriguing questions about the factors hindering their perception of advantages.

Figure 9.

Companies' benefits perceptions (Q: How does your company benefit from circular economy business models?)

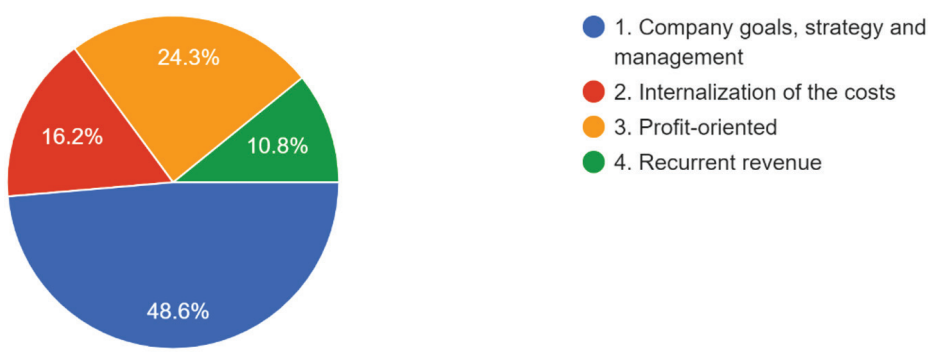


Source: Own research

When analysing the key economic and financial drivers pushing companies toward circular business models, a predominant 48.6% align their pursuits with overarching company goals, strategies, and management principles. This underscores the centrality of internal organizational dynamics in steering the circular transition. Additionally, a noteworthy 24.3% attribute their engagement in circular practices to profit-oriented motives, emphasizing the economic viability associated with sustainable approaches. As illustrated in Figure 10, only 16.2 % of the respondents attributed their answers to internalization of the costs and 10.8% to recurrent revenue.

Figure 10

Companies' perceptions on economic/financial drivers (Q: What does your company consider as a key economic / financial driver to circular business models?)

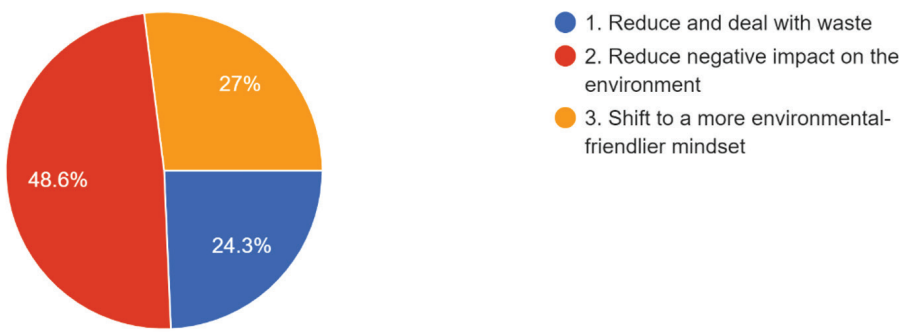


Source: Own research

In plotting the environmental issues of circular business models, an influential 48.6% highlight a commitment to reduce the negative impact on the environment as a pivotal driver (Figure 11). This confirms a collective shift toward an eco-friendlier mindset, underscored by 27% of respondents. Additionally, 24.3% emphasize the importance of addressing and minimizing waste, reaffirming the environmental imperative associated with embracing circular practices.

Figure 11

Companies' perceptions on environmental drivers (Q: What does your company consider as a key environmental driver to circular business models?)

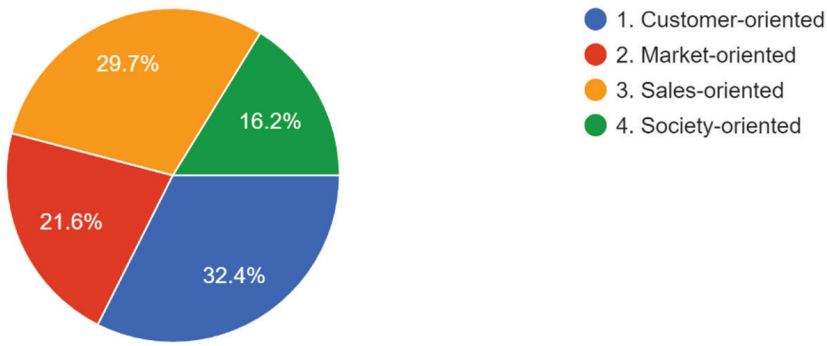


Source: Own research

Delving into the social and market dynamics, a noteworthy 32.4% align with customer-centric approaches as a key driver for circular business models, reflecting a market-responsive strategy. Fascinatingly, 29.7% lean towards a sales-oriented perspective, emphasizing the business potential within circular practices. In contrast, as shown in Figure 12, society-oriented focus stands at 16.2%, suggesting a nuanced interplay between market-driven forces and societal responsibility in steering companies toward circular endeavours.

Figure 12

Companies' perceptions on social and market drivers (Q: What does your company consider as a key social and market driver to circular business models?)



Source: Own research

The examination of circular business models has revealed a spectrum of both internal and external barriers influencing their adoption. Financial constraints, lack of expertise, and organizational limitations emerge as significant internal hurdles, while external factors such as policy frameworks and regulatory complexities present additional challenges. On the positive side, resource productivity, customer relationships, and waste reduction emerge as key drivers motivating companies to embrace circular practices. This analysis highlights the complicated path for businesses to direct the difficulties of integrating circular economic models.

Conclusion

In this comprehensive examination of small and medium sized companies of North Macedonia, an obvious and encouraging trend towards circular economy practices emerges. The diverse engagement observed, spanning from integration of circular principles in product design to active participation in material recycling and sharing platforms, shows a promising predisposition within the business community towards sustainable and circular business models. The analysis of internal and external barriers highlights the challenges companies face in adopting circular business models. The unsuitability between awareness and adoption suggests a difficult setting, highlighting the need for deeper educational efforts. On the positive side,

the identified drivers, ranging from economic benefits to environmental commitments, reveal a substantial willingness among companies to transition toward circular business models.

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