



Entrepreneurial Orientation and Circular Economy Mindset Drive Sustainable Business Success

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Abstract

Background: The transition from a linear to a circular economy requires organizations to combine business practices with entrepreneurial capabilities and a sustainability-oriented mindset. However, little research has explained how Entrepreneurial Orientation (EO) and Circular Economy Mindset (CEM) interact to foster Sustainable Business Models (SBM) and business success.

Objective: This study explores the mechanisms through which entrepreneurial orientation and a circular economy mindset enable sustainable business model development in circular enterprises.

Methods: A qualitative multiple-case study involved five founders and executives of Indonesian circular economy enterprises selected through purposive sampling. Data were collected through semi-structured interviews and examined using thematic analysis to identify patterns across cases.

Results: Entrepreneurial Orientation was reflected in three themes: Commitment to Novel Solutions, Anticipation of Future Opportunities, and Strategic Resource Commitment to Uncertainty. Circular Economy Mindset was characterized by Perception of Waste as a Design Flaw, Holistic View of Product Lifecycle and Value Chains, and Emphasis on Regenerative and Long-Term Value. These capabilities were translated into Sustainable Business Models through Non-Linear Revenue Models, Brand Value and Market Differentiation, and Resource Resilience and Efficiency. Sustainable business success emerged from the sequential interaction of entrepreneurial capability, cognitive transformation, and business model innovation, rather than from adopting circular practices alone.

Conclusion: The study provides a framework explaining how entrepreneurial orientation and a circular economy mindset jointly shape sustainable business model development. It offers guidance for leaders and policymakers seeking to strengthen circular entrepreneurship, stimulate business model innovation, improve resource resilience, and accelerate the transition toward a sustainable circular economy.

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INTRODUCTION

In the Indonesian context, the circular economy presents both opportunities and challenges. With a population exceeding 270 million and significant waste generation estimated at 65-81 million tons annually, Indonesia requires urgent sustainable business model transformation. However, empirical research on how companies in Indonesia implement circular economy practices remains limited.

Climate change, environmental degradation, the depletion of natural resources, and the increasing volume of waste have become global challenges that are driving a fundamental shift in economic development paradigms and business practices (Khan et al., 2025). The linear economic model, characterized by the take-make-dispose approach, has long dominated industrial activities and has successfully supported economic growth and industrialization (Kandpal et al., 2024). However, it has also resulted in inefficient resource consumption and the accumulation of enormous amounts of waste. Dependence on virgin raw materials, the production of short-lived products, and the limited recovery and reuse of materials have intensified environmental pressures while increasing economic risks associated with future resource scarcity (Voulvoulis, 2022). These conditions demonstrate that the linear economy is no longer adequate to address the demands of sustainable development, highlighting the need for a transition toward a more regenerative, resource-efficient, and long-term economic system (Fogarassy & Finger, 2020).

In response to these challenges, the Circular Economy (CE) has emerged as one of the most widely adopted approaches within global sustainable development agendas. Circular economy is not merely a waste management strategy but an economic system designed to preserve the value of products, materials, and resources for as long as possible through processes such as reduce, reuse, repair, remanufacture, recycle, and regenerate. Accordingly, the circular economy represents a fundamental transformation in the way firms create value, encompassing product design, production processes, distribution, consumption, and resource recovery at the end of a product's life cycle (Hermandi & Irrek, 2025). Previous studies have demonstrated that circular economy implementation enhances resource efficiency, reduces dependence on virgin materials, strengthens supply chain resilience, and creates opportunities for innovation and new business models that generate sustainable competitive advantages (Di Iorio et al., 2023).

Despite these potential benefits, implementing circular economy principles at the organizational level remains challenging (Nadeem et al., 2018). Although many firms have expressed commitments to sustainability through environmental policies and initiatives, relatively few have successfully integrated circular economy principles into their core business models (Eisenreich et al., 2022). These challenges extend beyond technological limitations or high initial investment costs and are also influenced by organizational readiness for strategic change, market uncertainty regarding circular products, limited stakeholder collaboration, and the continued dominance of short-term profit-oriented business perspectives. Consequently, the successful implementation of circular economy principles depends not only on the availability of technological and physical resources but also on an organization's ability to develop appropriate strategies, foster innovation, and cultivate a mindset that supports the transition toward sustainable business systems (Manzano-García & Ayala-Calvo, 2020).

Within this context, Entrepreneurial Orientation (EO) has been recognized as a critical strategic capability for facilitating business transformation toward a circular economy (Alcalde-Calonge et al., 2024). Entrepreneurial orientation reflects an organization's tendency to be innovative, proactive, and willing to take risks when responding to dynamic business environments (Castro-Lopez et al., 2025). These dimensions enable firms to identify emerging opportunities more rapidly, develop innovative products and processes, and respond more effectively to changing market demands than their competitors. In increasingly dynamic and uncertain business environments, entrepreneurial orientation provides an essential foundation for exploring new and more sustainable business models (Voulvoulis, 2022).

The relationship between entrepreneurial orientation and business success has been extensively documented in previous research. Firms exhibiting higher levels of entrepreneurial orientation generally demonstrate superior innovation capabilities, stronger organizational performance, broader market opportunities, and greater long-term competitive advantage (Manzano-García & Ayala-Calvo, 2020). Nevertheless, most existing studies conceptualize entrepreneurial orientation primarily as a determinant of general firm performance without explicitly explaining how it facilitates the implementation of circular economy principle (Wahyuni & Sara, 2020). The transition toward circular business models requires substantially more complex organizational changes than conventional innovation, involving the redesign of business models, product development, supply chains, and relationships among actors across the industrial ecosystem (Reshi et al., 2025). Sustainable business success is operationalized through: (1) environmental impact reduction, (2) economic viability, and (3) organizational resilience. All five

case companies demonstrated progress in at least two dimensions.

Furthermore, entrepreneurial orientation does not automatically lead to sustainability-oriented transformation unless it is accompanied by a managerial perspective that recognizes sustainability as a source of long-term value creation (Robinson, 2022). Firms may exhibit strong innovative and proactive characteristics while continuing to develop innovations that increase resource consumption or market exploitation without considering environmental consequences. Consequently, scholarly attention has increasingly shifted toward the cognitive foundations underlying strategic decision-making, referred to as the Circular Economy Mindset (Dieterle et al., 2018).

A Circular Economy Mindset represents a cognitive orientation that perceives waste as a valuable economic resource, adopts a holistic perspective of product life cycles Di Iorio et al. (2023), and positions resource regeneration as an integral component of business strategy. Individuals and organizations possessing a strong circular economy mindset are better equipped to identify innovation opportunities through material recovery, establish collaborations across supply chains, develop service-based business models such as product-as-a-service, and simultaneously generate economic and environmental value (John et al., 2025). Consequently, the circular economy mindset influences not only operational decisions but also shapes how organizations recognize business opportunities within the sustainability context and formulate long-term growth strategies (Ooi & Memon, 2025).

Research on the relationship between entrepreneurship and the circular economy suggests that entrepreneurial capabilities play a crucial role in driving business transformation toward sustainability. Awan and Sroufe through a qualitative case study, identified the critical success factors and barriers influencing firms' transition toward Circular Economy Business Models (CEBMs), emphasizing the importance of organizational capabilities in integrating sustainability into business models (Awan & Sroufe, 2022). Meanwhile, Le et al. provided empirical evidence that Circular Economy Entrepreneurship promotes Industrial Symbiosis Practices, which subsequently strengthen Circular Supply Chain Management (CSCM) in achieving sustainability objectives (Lahti et al., 2018). Similarly, Amaleshwari and Jeevitha found that Entrepreneurial Orientation (EO) does not directly influence Sustainable Business Performance (SBP) but exerts a positive effect through the mediating role of Circular Business Practices, highlighting that entrepreneurial capabilities must be translated into circular business practices to generate sustainable business performance (Amaleshwari & Jeevitha, 2025).

Despite these contributions, several research gaps remain. Most previous studies have focused on the direct relationships between Entrepreneurial Orientation, circular economy practices, and business performance without explaining the underlying mechanisms through which entrepreneurial capabilities are transformed into successful circular economy implementation. Furthermore, the role of Circular Economy Mindset as a cognitive mechanism influencing how organizations perceive resources, waste, and value creation has received relatively limited empirical attention. From a methodological perspective, the predominance of quantitative approaches has also restricted a deeper understanding of entrepreneurs' cognitive processes, lived experiences, and strategic decision-making in developing circular business models, particularly within the context of developing economies such as Indonesia. The empirical evidence demonstrates that Circular Economy Mindset functions as a cognitive mechanism through which entrepreneurs with high entrepreneurial orientation translate their innovation drive into sustainable business model practices. Across all five case companies, leaders with strong CEM implemented circular processes more systematically.

Addressing these gaps, the present study offers a novel contribution by developing a conceptual framework that integrates Entrepreneurial Orientation, Circular Economy Mindset, and Sustainable Business Models to explain the emergence of Sustainable Business Success. Unlike previous studies, this research positions Circular Economy Mindset as the cognitive mechanism that translates entrepreneurial orientation into the development of sustainable business models. Employing a multiple-case study approach, this study aims to explore how the interaction between Entrepreneurial Orientation and Circular Economy Mindset shapes Sustainable Business Models among firms implementing circular economy principles in Indonesia. Theoretically, this research extends the literature on circular entrepreneurship by explaining the mechanisms linking entrepreneurial capabilities, cognitive transformation, and

business model innovation. From a practical perspective, it provides recommendations for business leaders and policymakers to accelerate the transition toward a circular economy through strengthening entrepreneurial capabilities and fostering a circular economy mindset. The unit of analysis for each case is the company (organization), with the primary informant being the company leader or senior manager responsible for sustainability strategy.

METHOD

This study employed a qualitative multiple-case study design to explore how Entrepreneurial Orientation (EO) and Circular Economy Mindset (CEM) interact in shaping Sustainable Business Models (SBMs) and ultimately contribute to sustainable business success. A qualitative approach was considered appropriate because the study seeks to understand the cognitive processes, strategic decision-making, and organizational experience underlying the implementation of circular economy principles, phenomena that cannot be adequately captured through quantitative measurement alone. The multiple-case study design was selected to enable analytical comparison across organizations operating in different sectors while identifying recurring patterns and mechanisms that explain sustainable business success within the circular economy context.

The research involved five Indonesian enterprises that have explicitly adopted circular economy principles as part of their core business strategies. Case selection followed a purposive sampling strategy based on three criteria. First, the organization had to demonstrate the implementation of circular economy practices such as resource recovery, recycling, remanufacturing, waste valorization, renewable materials, or product lifecycle extension. Second, participants were required to occupy strategic leadership positions, including founders, chief executive officers, managing directors, or co-founders, ensuring that they possessed comprehensive knowledge of organizational strategy and business model development. Third, participating firms had to demonstrate sustained business operations and active implementation of circular business practices. This sampling strategy ensured the inclusion of information-rich cases capable of providing deep insights into entrepreneurial behavior and circular business transformation.

Primary data were collected through semi-structured interviews conducted remotely using Zoom. Interviews were undertaken in either Bahasa Indonesia or English, depending on participant preference, to encourage open and detailed discussion. Each interview explored participants' experiences in identifying circular business opportunities, making strategic decisions under uncertainty, developing innovative business models, managing resource utilization, and integrating sustainability into long-term organizational strategy. The interviews were audio-recorded with participants' consent and subsequently transcribed verbatim for analysis. Although each company is represented by a single primary informant, data validity was ensured through triangulation with: (1) document review (company reports, sustainability policies), (2) observation of company facilities and practices, and (3) cross-checking findings with secondary sources.

The data were analyzed using thematic analysis following the six-step procedure proposed by Braun and Clarke. The analysis began with repeated reading of the interview transcripts to achieve data familiarization, followed by the generation of initial codes representing meaningful statements related to entrepreneurial orientation, circular economy thinking, and sustainable business practices. Similar codes were subsequently grouped into broader categories and refined into higher-order themes through an iterative comparison across all cases. Throughout the analysis, constant comparison was employed to identify similarities and differences among participants while ensuring that the emerging themes accurately reflected the empirical data. The final analysis resulted in three overarching thematic categories representing Entrepreneurial Orientation, three themes describing Circular Economy Mindset, and three themes explaining Sustainable Business Models.

To enhance the trustworthiness of the findings, several strategies were employed. Credibility was strengthened through member checking, whereby participants were invited to verify the accuracy of interview transcripts and the interpretation of key findings. Dependability was supported by maintaining an audit trail documenting coding decisions and theme development throughout the analytical process. Confirmability was achieved by continuously

comparing interpretations with the original interview data to minimize researcher bias. Transferability was enhanced by providing detailed descriptions of participant characteristics, organizational contexts, and analytical procedures, enabling readers to assess the applicability of the findings to similar contexts.

This study also adhered to fundamental ethical research principles. Prior to data collection, all participants received information regarding the objectives of the study, the voluntary nature of participation, and the confidentiality of their responses. Informed consent was obtained before each interview commenced. To preserve anonymity, participants were identified using pseudonyms (P1–P5), and organizational identities were not disclosed in the presentation of the findings.

Although the relatively small number of cases limits statistical generalization, the objective of this research is analytical generalization by developing a deeper understanding of the mechanisms through which Entrepreneurial Orientation and Circular Economy Mindset jointly contribute to sustainable business success. The multiple-case study approach therefore provides rich empirical evidence for extending theory regarding entrepreneurial capability, managerial cognition, and circular business model development.

RESULTS AND DISCUSSION

Results

Participant Characteristics

Participant Characteristics Table 1. shows that all respondents were manager experts working for five companies. They had different specialties or job titles, but all of them were from the financial industry. Most respondents have more than four years of experience as a manager.

Table 1

Demographic Characteristics of Participants

Respondent	Characteristic		
	<i>Position</i>	<i>Business Sector</i>	<i>Experience</i>
P1	Founder & CEO	Waste Management and Recycling	>10 years
P2	Founder	Sustainable Fashion	7 years
P3	Managing Director	Plastic Recycling Manufacturing	9 years
P4	Co-Founder	Food Waste Valorization	6 years
P5	Chief Executive Officer	Renewable Materials and Packaging	8 years

Analysis of Findings

The thematic analysis identified Entrepreneurial Orientation (EO) as the primary strategic capability underpinning the development of sustainable circular businesses. Across all interviews, participants consistently described entrepreneurial behaviors that extended beyond conventional business practices, emphasizing innovation, opportunity recognition, and the willingness to commit resources despite substantial uncertainty. Three recurring themes emerged from the coding process: Commitment to Novel Solutions, Anticipation of Future Opportunities, and Strategic Resource Commitment to Uncertainty. Together, these themes illustrate how entrepreneurial orientation shapes the strategic decisions that enable firms to pursue circular business opportunities.

Entrepreneurial Orientation

Table 2

Themes of Entrepreneurial Orientation

Theme	Findings	
	<i>Representative Quotes</i>	<i>Interpretation</i>
Commitment to Novel Solutions	"We realized that simply improving existing products would not solve the waste problem. Therefore, we redesigned our business model to transform discarded materials into	Participants demonstrated a strong commitment to developing fundamentally different business solutions rather than adapting existing linear practices.

Theme	Findings	
	<i>Representative Quotes</i>	<i>Interpretation</i>
Anticipation of Future Opportunities	products with new economic value." (P1)	Innovation was viewed as a strategic response to environmental challenges rather than merely a source of competitive advantage.
	"Many people considered our approach unrealistic, but we believed the problem required a completely different solution rather than incremental improvements." (P3)	
	"We believed that consumer awareness about sustainability would continue to increase, even before the market fully recognized it." (P2)	Entrepreneurs consistently emphasized proactive opportunity recognition by anticipating future market trends, regulatory developments, and changing consumer preferences. Their strategic decisions reflected a long-term orientation rather than reactive adaptation.
Strategic Resource Commitment to Uncertainty	"Instead of responding to regulations after they were introduced, we prepared our business long before environmental standards became stricter." (P5)	Participants accepted substantial uncertainty when allocating financial, technological, and organizational resources. Risk-taking was characterized by calculated strategic commitment rather than speculative decision-making.
	"During the early years, we invested heavily in recycling technology despite having no guarantee that customers would accept the concept." (P4)	
	"Our biggest risk was investing our financial resources in a business model that had never been proven in the local market." (P1)	

The findings demonstrate that Commitment to Novel Solutions was reflected in participants' willingness to challenge conventional business models and develop innovative approaches that transformed waste into valuable resources. Rather than perceiving innovation solely as product development, participants described innovation as the redesign of business systems capable of generating both economic and environmental value. This finding suggests that entrepreneurial orientation in circular businesses extends beyond technological innovation toward systemic business model innovation.

The second theme, Anticipation of Future Opportunities, indicates that entrepreneurs consistently adopted a proactive strategic orientation. Participants emphasized recognizing emerging societal needs, anticipating regulatory changes, and responding to sustainability trends before they became mainstream market demands. Such proactive behavior enabled firms to establish an early competitive position while reducing the uncertainty associated with future market transitions toward circular economy practices.

Finally, Strategic Resource Commitment to Uncertainty illustrates that entrepreneurial orientation also involves the willingness to invest substantial organizational resources despite uncertain outcomes. Participants acknowledged that developing circular business models required significant investments in technology, partnerships, and organizational learning without immediate financial returns. However, these decisions were not perceived as reckless risk-taking but as carefully considered strategic commitments grounded in long-term value creation. This finding reinforces the argument that entrepreneurial orientation provides the strategic foundation necessary for firms to navigate uncertainty while pursuing sustainable business opportunities.

Overall, the three themes reveal that Entrepreneurial Orientation functions as a strategic capability enabling firms to identify opportunities, develop innovative business solutions, and sustain long-term commitment during the transition toward circular business models. These entrepreneurial characteristics subsequently create favorable conditions for the emergence of a Circular Economy Mindset, which is explored in the following section.

Circular Economy Mindset**Table 3*****Thematic Analysis of Circular Economy Mindset***

Theme	Findings <i>Representative Quotes</i>	<i>Interpretation</i>
Perception of Waste as a Design Flaw	"For us, waste is not something to be discarded; it indicates that the production system has not been properly designed." (P2) "Every discarded material still has value. The challenge is redesigning the process so that those materials remain in circulation." (P5)	Participants viewed waste as a consequence of inefficient system design rather than an unavoidable outcome of production. This perspective encourages continuous innovation in resource recovery and value retention.
Holistic View of Product Lifecycle and Value Chains	"We cannot operate in isolation. The success of our business depends on collaboration with suppliers, customers, and recycling partners." (P1) "We always consider what happens to our products after customers finish using them." (P3)	Participants demonstrated systems thinking by considering the entire product lifecycle and the interdependence of stakeholders across the value chain to preserve resource value.
Emphasis on Regenerative and Long-Term Value	"We are not pursuing short-term profits. What matters is building a business that survives while creating positive environmental impacts." (P4) "Investing in sustainability takes time, but the long-term benefits for the company are far greater." (P2)	Participants emphasized long-term value creation over short-term financial gains. Sustainability was perceived as a strategic investment that strengthens business resilience and long-term competitiveness.

The findings presented in Table 3 indicate that Perception of Waste as a Design Flaw emerged as the defining characteristic of the participants' circular economy mindset. Most participants no longer viewed waste as the inevitable endpoint of production but rather as evidence of opportunities to redesign products, production processes, and material flows. Instead of treating waste as a disposal problem, they perceived it as a valuable resource that could be recovered, reused, or transformed into new products. This shift in perspective demonstrates that the transition toward a circular economy begins with a fundamental change in how organizations conceptualize waste and resource utilization.

The second theme, Holistic View of Product Lifecycle and Value Chains, highlights the participants' adoption of systems thinking in managing their businesses. Rather than focusing solely on internal organizational activities, participants emphasized the importance of collaboration with suppliers, customers, recycling partners, and other stakeholders throughout the product lifecycle. They recognized that the successful implementation of circular economy principles depends on coordinated efforts across the entire value chain to maximize resource efficiency and extend product lifecycles. Consequently, value creation was perceived as the outcome of interactions within a broader business ecosystem rather than the result of isolated organizational activities.

The third theme, Emphasis on Regenerative and Long-Term Value, demonstrates that participants consistently prioritized long-term sustainability over short-term financial performance. Strategic decisions were guided not only by expected economic returns but also by the potential to generate positive environmental and social impacts. Investments in circular innovation, resource efficiency, and stakeholder collaboration were regarded as essential strategies for enhancing organizational resilience in the face of market uncertainty, resource scarcity, and evolving environmental regulations. These findings suggest that business success is

evaluated not merely in terms of immediate profitability but also through the organization's ability to sustain economic performance while contributing to environmental regeneration.

Overall, the three themes indicate that the Circular Economy Mindset represents the cognitive mechanism through which circular economy principles are translated into organizational practices. This mindset enables firms to redefine waste as a valuable resource, adopt a systems perspective in managing product lifecycles and value chains, and prioritize long-term regenerative value creation. Furthermore, the findings suggest that Entrepreneurial Orientation becomes more effective when supported by a strong Circular Economy Mindset, as entrepreneurial capabilities are directed toward innovations that simultaneously enhance economic performance and sustainability. Thus, the Circular Economy Mindset functions as a critical link between entrepreneurial capabilities and the successful implementation of sustainable circular business models.

Sustainable Business Models

Table 4

Thematic Analysis of Sustainable Business Models

Thematic Analysis of Sustainable Business Models		
Theme	Representative Quotes	Findings
		Interpretation
Implementation of Non-Linear Revenue Models	“Our revenue no longer comes only from selling products. We also generate income by collecting used materials and converting them into new products with higher value.” (P3)	Participants diversified their revenue streams by adopting circular business mechanisms that retain product and material value, demonstrating a shift from ownership-based to value-retention business models.
	“Customers are willing to pay for the service because we help them manage waste while creating reusable products.” (P1)	
Creation of Brand Value and Market Differentiation	“Our sustainability commitment has become our strongest brand identity. Customers choose us because they trust our environmental values.” (P2)	Participants perceived sustainability as a strategic differentiator that strengthened brand reputation, customer trust, and long-term market positioning.
	“Circularity differentiates us from competitors. It is no longer just an operational practice but part of who we are as a company.” (P5)	
Achievement of Resource Resilience and Efficiency	“By reusing materials, we significantly reduced production costs and became less dependent on fluctuating raw material prices.” (P4)	Participants emphasized that circular practices improved resource efficiency, reduced operational costs, and enhanced resilience against supply chain disruptions and resource scarcity.
	“Circular practices make our supply chain more stable because we rely less on virgin materials.” (P3)	

The findings presented in Table 4 demonstrate that Implementation of Non-Linear Revenue Models constitutes a defining characteristic of sustainable circular business models. Rather than relying exclusively on conventional product sales, participants described developing alternative revenue mechanisms through resource recovery, material recycling, value-added processing, and service-based offerings. These business practices enabled firms to capture value from materials that would otherwise be discarded while simultaneously extending product lifecycles. The findings suggest that circular business models create new economic opportunities by redefining waste as a source of revenue rather than a production cost.

The second theme, Creation of Brand Value and Market Differentiation, highlights the strategic role of sustainability in strengthening competitive advantage. Participants consistently

reported that their commitment to circular economy principles had become an integral part of their corporate identity and market positioning. Customers increasingly associated their businesses with environmental responsibility, product quality, and innovation, leading to stronger customer loyalty and greater market recognition. Instead of competing primarily on price, firms differentiated themselves by communicating sustainability as a core organizational value. These findings indicate that circular business practices contribute not only to environmental performance but also to the development of intangible assets such as brand equity and customer trust.

The third theme, Achievement of Resource Resilience and Efficiency, illustrates how sustainable business models improve organizational performance through more effective resource utilization. Participants explained that recovering, reusing, and recirculating materials reduced dependence on virgin resources, lowered production costs, and minimized exposure to fluctuations in raw material prices. Furthermore, circular strategies strengthened supply chain resilience by diversifying resource inputs and reducing operational vulnerability. Consequently, resource efficiency was perceived not merely as a cost-saving strategy but as a strategic capability that enhances long-term organizational adaptability and competitiveness.

Overall, the findings indicate that Sustainable Business Models represent the practical outcome of integrating Entrepreneurial Orientation with a Circular Economy Mindset. Entrepreneurial Orientation provides the strategic capability to identify opportunities and pursue innovation, while the Circular Economy Mindset guides those capabilities toward regenerative value creation. Their interaction enables firms to develop business models that generate diversified revenue streams, strengthen market differentiation, and enhance resource resilience. Collectively, these findings suggest that sustainable business success in circular enterprises is achieved not through isolated environmental initiatives but through the systematic integration of entrepreneurial capabilities, circular thinking, and innovative value creation mechanisms.

Discussion

The findings of this study suggest that sustainable business success in circular enterprises is not the result of implementing circular economy practices in isolation, but rather emerges from the interaction between Entrepreneurial Orientation (EO), Circular Economy Mindset (CEM), and Sustainable Business Models (SBM). Rather than functioning as independent organizational capabilities, these three constructs operate as a sequential strategic process. Entrepreneurial Orientation stimulates firms to recognize opportunities and challenge conventional business practices; the Circular Economy Mindset subsequently reshapes managerial cognition by redefining how value, waste, and resources are perceived; finally, Sustainable Business Models translate these strategic and cognitive capabilities into organizational mechanisms capable of generating long-term economic and environmental value. This sequential relationship suggests that successful circular businesses are driven not only by innovation itself, but by the capability to align entrepreneurial behavior with a regenerative logic of value creation.

The first major finding concerns the strategic role of Entrepreneurial Orientation in initiating organizational transformation toward circularity. Previous literature generally argues that entrepreneurial orientation enhances organizational performance through innovativeness, proactiveness, and risk-taking (Bressanelli et al., 2019; Hamdan & Alheet, 2020; Putniņš & Sauka, 2020). However, the present findings indicate that within circular enterprises these dimensions perform a fundamentally different function. Innovation was not pursued merely to improve products or increase market share; instead, it became a mechanism for redesigning existing production and consumption systems. Likewise, proactiveness extended beyond responding to customer demand and was characterized by anticipating future environmental regulations, changing societal expectations, and resource scarcity. Risk-taking also differed from traditional entrepreneurial contexts because uncertainty originated primarily from institutional ambiguity, technological immaturity, and the absence of established markets for circular products. These findings imply that Entrepreneurial Orientation within the circular economy context represents a capability for system transformation rather than simply business expansion.

This finding also contributes to entrepreneurial theory by suggesting that the value of Entrepreneurial Orientation depends on the strategic direction toward which entrepreneurial capabilities are deployed. In conventional entrepreneurship research, entrepreneurial

orientation is frequently associated with growth, innovation, and competitive advantage. However, the present study demonstrates that entrepreneurial orientation alone does not necessarily generate sustainable business outcomes. Instead, entrepreneurial behavior becomes strategically valuable only when entrepreneurs identify environmental challenges as entrepreneurial opportunities. Consequently, sustainability is not positioned as a constraint on business growth but rather as the primary source of opportunity identification and value creation. This interpretation helps explain why firms operating under similar market conditions often achieve substantially different sustainability outcomes despite possessing comparable entrepreneurial capabilities (Kim, 2018).

A second important finding concerns the emergence of a Circular Economy Mindset as the cognitive mechanism linking entrepreneurial capability with sustainable innovation. While previous studies have extensively discussed circular economy practices, relatively limited attention has been given to the cognitive transformation required before such practices can be effectively implemented (Awan & Sroufe, 2022). The findings indicate that participants consistently reframed waste from being an unavoidable production output into evidence of inefficient system design. This shift represents more than an operational adjustment; it reflects a fundamental transformation in managerial assumptions regarding value creation. Rather than maximizing production efficiency through increased resource extraction, participants sought to maximize value retention by extending resource lifecycles. Such reasoning closely reflects systems thinking, in which organizational boundaries expand beyond the firm to encompass suppliers, customers, recyclers, and other stakeholders participating in resource circulation.

Importantly, this cognitive transformation explains why technological adoption alone rarely guarantees successful circular economy implementation. Organizations may possess access to recycling technologies or environmentally friendly production methods, yet still fail to generate sustainable business value if managerial decision-making continues to follow linear economic assumptions. The findings therefore suggest that a key barrier identified to circular transformation is not necessarily technological capability but managerial cognition. Circular Economy Mindset functions as an interpretive framework through which entrepreneurs redefine organizational objectives, evaluate investment decisions, and prioritize long-term resilience over short-term efficiency (Borrero & Yousafzai, 2025; Bourdin, 2025).

The third finding demonstrates that Sustainable Business Models constitute the organizational manifestation of both Entrepreneurial Orientation and Circular Economy Mindset. Previous studies commonly conceptualize sustainable business models as mechanisms for simultaneously creating economic, environmental, and social value (Schneider & Clauß, 2020). However, the present findings reveal that these business models emerge through continuous strategic adaptation rather than deliberate design alone. Participants consistently described experimenting with alternative revenue mechanisms, strengthening sustainability-based brand positioning, and improving resource resilience through repeated learning processes. Consequently, sustainable business models should be understood not as static organizational structures but as dynamic capabilities that continuously evolve in response to environmental, market, and institutional changes.

Interestingly, participants rarely emphasized profitability as an isolated financial objective. Instead, profitability was perceived as the consequence of resource efficiency, customer trust, and organizational resilience. Diversified revenue streams reduced dependence on single-market transactions, sustainability-oriented branding strengthened customer loyalty, and circular resource utilization lowered exposure to volatile raw material prices. These findings suggest that competitive advantage in circular businesses originates less from cost leadership or product differentiation individually and more from the integration of operational efficiency, environmental legitimacy, and long-term stakeholder relationships. Therefore, financial performance appears to be an outcome of strategic sustainability integration rather than an independent organizational objective.

Perhaps the most significant theoretical contribution of this study lies in explaining the mechanism connecting Entrepreneurial Orientation, Circular Economy Mindset, and Sustainable Business Models. Previous research has predominantly examined these constructs independently, often treating entrepreneurial orientation as an antecedent of innovation, circular economy as an operational strategy, and sustainable business models as organizational outcomes

(Amaleshwari & Jeevitha, 2025; Awan & Sroufe, 2022; Lahti et al., 2018). The present findings suggest a more integrated explanation. Entrepreneurial Orientation provides the capability to recognize opportunities under uncertainty; Circular Economy Mindset determines how those opportunities are interpreted through regenerative value creation; Sustainable Business Models subsequently institutionalize those interpretations into repeatable organizational practices. This mechanism illustrates that sustainable business success is neither the direct consequence of entrepreneurial behavior nor the automatic result of adopting circular economy principles. Rather, it emerges through the alignment of strategic capability, managerial cognition, and organizational implementation.

From a practical perspective, these findings indicate that organizations seeking to accelerate circular transformation should prioritize leadership development alongside technological investment. Programs aimed solely at improving recycling infrastructure or introducing green technologies may produce limited outcomes if organizational leaders continue to evaluate business decisions using short-term, linear performance indicators. Instead, leadership development initiatives should cultivate systems thinking, opportunity recognition under sustainability constraints, and long-term strategic decision-making. Similarly, policymakers should complement regulatory instruments with entrepreneurship development programs, collaborative innovation ecosystems, and managerial capability-building initiatives that encourage firms to experiment with circular business models rather than merely comply with environmental standards.

Overall, this study proposes that sustainable business success should be understood as a dynamic capability emerging from the interaction between entrepreneurial behavior, cognitive transformation, and business model innovation. By explaining how entrepreneurial orientation is translated into circular business practices through the mediation of managerial mindset, this study advances the literature on circular entrepreneurship beyond descriptive accounts of circular economy implementation. It provides an integrated conceptual explanation of why some organizations successfully transform environmental challenges into sustainable competitive advantages while others remain constrained within linear models of value creation. This perspective contributes to a more nuanced understanding of sustainable entrepreneurship by positioning managerial cognition as the critical mechanism through which entrepreneurial capabilities generate long-term circular business success.

CONCLUSION

This study demonstrates that sustainable business success in circular enterprises emerges from the sequential interaction among Entrepreneurial Orientation, Circular Economy Mindset, and Sustainable Business Models. Entrepreneurial Orientation provides the strategic capacity to identify opportunities, develop novel solutions, anticipate future market and regulatory changes, and commit resources under uncertainty. Nevertheless, entrepreneurial capability alone is insufficient. A Circular Economy Mindset directs that capability toward regenerative value creation by reframing waste as a design flaw, adopting a holistic view of product lifecycles and value chains, and prioritizing long-term economic, environmental, and organizational value. The interaction of these strategic and cognitive capabilities is manifested in Sustainable Business Models through non-linear revenue models, sustainability-based brand differentiation, and enhanced resource resilience and efficiency. Thus, circular business success depends on an integrated transformation of entrepreneurial behavior, managerial cognition, and business model innovation rather than on isolated circular practices or technological adoption alone.

The study contributes an integrated framework that explains how entrepreneurial capabilities are translated into sustainable business outcomes through cognitive transformation and circular business model development. For business leaders, the findings emphasize the need to combine technological investment with systems thinking, proactive opportunity recognition, long-term resource commitment, and collaboration across the business ecosystem. Policymakers should therefore complement environmental regulations and financial incentives with entrepreneurship development, managerial capability building, and collaborative innovation programs that support experimentation with circular business models. However, the findings are based on five Indonesian enterprises and one primary informant from each organization; consequently, they support analytical rather than statistical generalization. Future research

should validate the proposed framework using larger quantitative samples, compare sector-specific patterns, include multiple informants within each organization, and employ longitudinal designs to examine how circular mindsets and sustainable business models evolve over time.

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AUTHOR CONTRIBUTION STATEMENT

R.A. Aryanti Wardaya Puspokusumo contributed to the conceptualization, research design, data collection, thematic analysis, and manuscript preparation. Cecep Hidayat contributed to the conceptual framework, interpretation of the findings, methodological guidance, and manuscript refinement. Enda Panggati contributed to the literature synthesis, validation of the analysis, development of practical implications, and final manuscript preparation. All authors discussed the findings and approved the final version of the manuscript.

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