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Analysis Customer Relationship Orientation and Sustainability Marketing: The Mediating Role of Co-Creation Value in MSMEs

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Abstract: Growing pressure to adopt sustainable business practices has not been accompanied by comparable progress among Micro and Small Enterprises (MSMEs), despite high levels of digital adoption. This gap highlights the need to understand how customer-oriented relational strategies can be translated into concrete sustainability marketing practices. This study examines the effect of Customer Relationship Orientation (CRO) on Sustainability Marketing across the Product Lifecycle (SMLC), with Co-Creation Value (CCV) serving as a mediating mechanism.A quantitative causal survey was conducted involving 168 Food and Beverage MSMEs in West Java, selected through purposive sampling based on active digital marketing usage and business maturity. Data were collected between July 2024 and April 2025 and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings reveal that CRO significantly enhances Co-Creation Value, which in turn strengthens sustainability marketing practices across the product lifecycle. However, CRO does not directly influence sustainability marketing outcomes, confirming the presence of full mediation. These results demonstrate that relational orientation alone is insufficient to generate sustainability impact unless activated through collaborative value-creation processes. Co-Creation Value functions as a strategic mechanism that enables resource-constrained MSMEs to convert relational strength into practical sustainability initiatives, including environmentally responsible packaging and improved waste management. This study clarifies the relational mechanism through which customer orientation supports life-cycle-based sustainability marketing in resource-constrained MSMEs.

Keywords: Co-Creation Value, Customer Relationship Orientation, Sustainability Marketing, Product Life Cycle, Food and Beverage MSMEs

INTRODUCTION

The growing pressure to adopt responsible and sustainable business practices has placed Micro and Small Enterprises (MSMEs) under increasing scrutiny. MSMEs contribute more than 61 percent to Indonesia's GDP and remain central to national economic resilience (BPS, 2023). Despite their economic importance, their transition toward sustainability has not progressed in line with global expectations. Many MSMEs struggle to translate digital adoption into environmentally responsible practices because managerial systems remain fragmented and resources are tightly constrained. This tension reflects what Grunwald (2022) describes as the digital–sustainability paradox, in which high levels of digital uptake, reported at 73 percent among Indonesian MSMEs (UNDP Indonesia, 2023)- do not automatically generate stronger sustainability commitments. These conditions highlight the need for practical and low-cost managerial mechanisms that enable MSMEs to balance business growth with ethical and environmental responsibilities.

The Food and Beverage (F&B) sector in West Java provides a particularly relevant context to examine these challenges. Sustainability concerns in this sector are embedded in daily operations, including raw material sourcing, food waste management, and disposable packaging practices. With more than 250,000 food-related business units (BPS Provinsi Jawa Barat, 2023, 2024) West Java represents a dense entrepreneurial ecosystem where competitive pressures intersect with environmental constraints. At the same time, regional social norms emphasize long-term interaction, trust, and mutual understanding—conditions conducive to the development of Customer Relationship Orientation (CRO). Such orientation facilitates information exchange and collaborative dialogue with customers, creating opportunities for Co-Creation Value (CCV) to emerge through shared problem-solving, including sustainability-related solutions. This perspective aligns with Morgan and Hunt (1994), who argue that trust and commitment are central to shaping cooperative behaviors that enable more meaningful customer–firm interactions. Frías-Jamilena et al. (2024) further reinforce this logic, demonstrating that strong relational ties reduce uncertainty and enhance stakeholder commitment—conditions that are particularly salient in collectivist cultural contexts like West Java.

This study focuses on three interrelated constructions: Customer Relationship Orientation (CRO), Co-Creation Value (CCV), and Sustainability Marketing across the Product Lifecycle (SMLC). CRO reflects a relational mindset characterized by trust, continuity, and long-term investment in customer relationships (Tuominen et al., 2023). When viewed through the lens of Resource-Advantage (R-A) Theory (Hunt and Morgan, 1995)- relational capital constitutes a heterogeneous and intangible resource whose value depends on effective deployment. Contemporary marketing capability research further emphasizes that relational resources must be combined with interactional capabilities to generate superior performance outcomes (N. A. Morgan and Feng, 2024). In this context, CCV serves as the mechanism that activates CRO by enabling firms and customers to jointly explore ideas, refine solutions, and generate actionable insights. Through collaborative dialogue, relational assets are transformed from passive goodwill into strategic knowledge. This argument resonates with Prahalad and Ramaswamy (2004), who argue that value increasingly arises from collaborative dialogue rather than unilateral production. Meanwhile, SMLC captures the extent to which sustainability considerations are embedded across the product's life cycle—from upstream sourcing to disposal—reflecting the broader shift toward life cycle thinking within Sustainability Marketing (Kumari et al., 2023; Pandey et al., 2012). When combined, these concepts form a logical sequence: relational power (CRO) is activated through collaborative mechanisms (CCV) to influence sustainability-oriented marketing practices (SMLC).

Although the relationships among relational strength, co-creation, and sustainability outcomes are widely discussed, empirical evidence remains limited, especially in MSMEs with resource constraints. Prior studies show that co-creation can enhance sustainable consumption and service experiences (Rachão et al., 2021; Rita et al., 2024), but most of this evidence comes from more established and well-resourced settings, making its relevance for MSMEs still uncertain.

In addition, sustainability awareness does not always lead to environmentally responsible behavior (Innocent et al., 2024), which points to a gap between intention and actual practice. A similar pattern appears in West Java, where only 27 percent of F&B MSMEs consistently use eco-friendly packaging despite having strong relationships with customers (Nurhayati, 2023).

These conditions suggest two related gaps. First, it is still unclear how Customer Relationship Orientation contributes to sustainability outcomes, particularly when co-creation is involved. Second, strong relational ties do not always result in consistent sustainability practices across the product lifecycle.

To respond to this issue, this study examines how Co-Creation Value connects Customer Relationship Orientation with Sustainability Marketing across the Product Lifecycle. The focus is on whether this relationship works through a mediating process that enables relational orientation to be translated into sustainability outcomes.

This study makes three contributions. First, it provides empirical evidence on the mediating role of Co-Creation Value in MSMEs with limited resources. Second, it shows that relational resources do not automatically create value unless they are activated through co-creation, offering refinement to Resource-Advantage Theory. Third, it highlights that sustainability can be developed through customer collaboration, not only through financial investment.

Based on this, the study aims to: (1) analyze the effect of Customer Relationship Orientation on Co-Creation Value; (2) examine the impact of Co-Creation Value on Sustainability Marketing; (3) evaluate the direct effect of Customer Relationship Orientation on Sustainability Marketing; and (4) test the mediating role of Co-Creation Value.

Literature Review

Customer Relationship Orientation

Customer Relationship Orientation (CRO) is rooted in Relationship Marketing Theory (Morgan and Hunt, 1994), which emphasizes trust and commitment as key drivers of long-term relational exchange. These relational elements reduce uncertainty and foster cooperative behavior, creating conditions for sustained interaction between firms and customers. From the Resource-Advantage (R-A) Theory perspective (Hunt and Morgan, 1995), such relational qualities represent strategic assets that are valuable, heterogeneous, and difficult to imitate, enabling firms to achieve competitive advantage (Hunt and Madhavaram, 2012). Operationally, CRO is reflected in organizational practices that emphasize shared values and top management support for customer relationship management(Jayachandran et al., 2005).

Recent scholarship extends the role of CRO beyond customer-facing interactions to broader stakeholder engagement. Matarazzo et al. (2025) demonstrate that in SMEs, relational orientation enables distinct levels of stakeholder engagement—from open dialog to deep cooperation—which are essential for achieving circular value co-creation. Similarly, Frías-Jamilena et al. (2024) show that strong relational ties reduce uncertainty and enhance stakeholder commitment to sustainability initiatives, reinforcing the importance of CRO as a foundational condition for collaborative processes. From a value chain perspective, Grunwald (2022) emphasizes that CRO facilitates resource mobilization across interconnected actors, transforming relational capabilities into coordinated sustainability practices.

Empirical studies in Indonesia show that relationally oriented practices, including digital CRM, significantly enhance customer engagement and loyalty in the F&B sector (Annahli et al. 2023) Similarly, relationship marketing practices have been found to strengthen long-term customer loyalty in Indonesian business settings (Salim et al., 2021). Taken together, these findings indicate that Customer Relationship Orientation establishes a trust-based foundation that facilitates customer participation in collaborative processes, a key condition for value co-creation.

Co-Creation Value

Co-Creation Value (CCV) refers to value generated through active collaboration between firms and customers (Prahalad and Ramaswamy, 2004). This concept is grounded in Service-Dominant Logic (Vargo and Lusch, 2008), which views value as co-created through interaction and resource integration rather than delivered unilaterally. The DART framework highlights key conditions—dialogue, access, risk sharing, and transparency- that enable customers to actively contribute to value creation.

Recent scholarship highlights that CRO extends beyond transactional interactions to encompass relational capabilities that facilitate stakeholder engagement and sustainability outcomes. Matarazzo et al. (2025) demonstrate that in SMEs, relational orientation enables distinct levels of stakeholder engagement—from open dialog to deep cooperation—which are essential for translating relational resources into tangible sustainability practices. Frías-Jamilena et al. (2024) further show that strong relational ties reduce uncertainty and enhance stakeholder commitment to sustainability initiatives, reinforcing CRO as a foundational condition for collaborative processes.

From a Dynamic Capabilities perspective, CCV can be understood as a capability that allows firms to integrate external knowledge, sense opportunities, and adapt to changing environments (Ramaswamy and Ozcan, 2016). Recent studies further position CCV as a mechanism for generating not only economic value but also social and environmental value, particularly in sustainability-oriented contexts (Ansell et al., 2022) In MSMEs, where internal resources are often limited, co-creation becomes especially important as it enables firms to leverage customer knowledge and participation to support innovation and operational improvements (Munawar et al., 2023).

Sustainability Marketing across the Product Lifecycle

Sustainability Marketing across the Product Lifecycle (SMLC) refers to the integration of environmental, social, and economic considerations across all stages of a product's life cycle, from raw material sourcing to post-consumption management (Maxwell and Van der Vorst, 2003). This approach is grounded in Life Cycle Thinking, which emphasizes the need to manage sustainability impacts holistically across the value chain (Vila et al., 2015).

In the context of F&B MSMEs, this approach is particularly relevant due to challenges such as packaging waste, food spoilage, and supply chain constraints. Focusing on sustainability at a single stage—for instance, using eco-friendly packaging—often leads to fragmented outcomes if upstream and downstream processes are not addressed. A lifecycle perspective, therefore, provides a more integrated framework for sustainability implementation. Matarazzo et al. (2025) reinforce this logic, demonstrating that in food sector SMEs, circular value co-creation across product lifecycles—particularly in packaging and waste management—enables firms to achieve more comprehensive sustainability outcomes. Moreover, a meta-analysis by Matarazzo et al. (2024) confirms that green marketing initiatives in SMEs yield positive outcomes across multiple contexts, reinforcing the strategic importance of sustainability-oriented practices even in resource-constrained settings.

From the Dynamic Capabilities View, implementing SMLC requires firms to continuously adapt and reconfigure their processes in response to environmental pressures and changing market demands (Barbosa et al., 2021). At the same time, Service-Dominant Logic highlights the importance of external resource integration, suggesting that sustainability outcomes depend on collaboration with customers and other stakeholders (Islam et al., 2024). Grunwald (2022) extends this perspective by showing that sustainability across the lifecycle requires coordination across value chain actors—a process facilitated by co-creation mechanisms that integrate diverse knowledge resources.

The role of collaborative engagement in SMLC is further supported by Frías-Jamilena et al. (2024), who demonstrate that co-creation reduces uncertainty and enhances stakeholder commitment to sustainability initiatives. Their findings suggest that when stakeholders participate in co-creating sustainability practices, implementation across the lifecycle becomes more feasible and less prone to resistance.

In this study, SMLC is operationalized across five key phases: raw materials, production, distribution, consumption, and waste management. This approach allows for a more comprehensive assessment of sustainability practices across the product lifecycle in MSME F&B settings.

Hypothesis Development

Customer Relationship Orientation and Co-Creation Value

A strong Customer Relationship Orientation (CRO) provides the relational and cultural foundation necessary for Co-Creation Value (CCV) to develop. Relationship Marketing Theory posits that trust and commitment reduce relational uncertainty and foster cooperative behaviors (Morgan and Hunt, 1994). These conditions encourage customers to share knowledge, experiences, and ideas—critical inputs for co-creation processes. Frías-Jamilena et al. (2024) reinforce this logic, demonstrating that strong relational ties reduce uncertainty and enhance stakeholder commitment, thereby creating conditions conducive to collaborative engagement.

Empirical evidence from Indonesia further supports this mechanism, showing that relationally oriented digital CRM enhances customer engagement and loyalty (Annahli et al., 2023). In a broader context, relationship marketing practices have also been found to strengthen long-term customer loyalty in Indonesian business settings (Salim et al., 2021). Higher levels of engagement, in turn, increase the likelihood of customer participation in collaborative activities.

From a Service-Dominant Logic perspective, strong relational ties facilitate dialogue and resource integration between firms and customers, both of which are central to value co-creation. Matarazzo et al. (2025) extend this view by demonstrating that in SMEs, relational orientation enables distinct levels of stakeholder engagement—from open dialog to deep cooperation—which are essential for activating co-creation processes. Grunwald (2022) further emphasizes that relational orientation serves as the foundation for sustainability co-creation across value chain actors, enabling firms to mobilize relational resources into coordinated collaborative practices.

Therefore, firms with stronger relational orientation are more likely to develop higher levels of Co-Creation Value.

H_1: Customer Relationship Orientation positively influences Co-Creation Value.

Co-Creation Value and Sustainability Marketing across the Product Lifecycle

Co-Creation Value (CCV) is theorized as the mechanism that enables firms to implement Sustainability Marketing across the Product Lifecycle (SMLC). Because SMLC requires systemic adjustments across raw materials, production, distribution, consumption, and waste management, firms need access to diverse knowledge and input. CCV provides such knowledge by integrating external resources—including customer insights, preferences, and feedback—into the firm's decision-making processes, consistent with SDL (Vargo and Lusch, 2008).

As a dynamic capability (Ramaswamy and Ozcan, 2016), CCV helps firms sense sustainability opportunities and adapt business models accordingly, a process highlighted in Indonesian MSMEs by Fitriani and Sultan (2019). Co-Creation for sustainability also produces shared environmental value, enabling firms to translate collaborative learning into life-cycle improvements(Ansell et al., 2022). Grunwald (2022) extends this perspective by demonstrating that sustainability co-creation enables resource mobilization across value chain actors, facilitating coordinated implementation of lifecycle-based practices—a critical requirement for SMLC that spans multiple stages and stakeholders.

Empirical evidence from the food sector reinforces this relationship. Matarazzo et al. (2025) show that stakeholder engagement—a manifestation of CCV—enables circular value co-creation across product lifecycles, particularly in packaging and waste management. Their findings from Italian SMEs demonstrate that collaborative exploration of biodegradable materials, reusable containers, and waste-minimizing designs allows firms to align environmental goals with market expectations across the lifecycle.

Furthermore, Frías-Jamilena et al. (2024) demonstrate that co-creation reduces the perceived risk associated with sustainability investments. By involving stakeholders in the design and evaluation of sustainability initiatives, firms can validate market acceptance before committing scarce resources—a function particularly critical for MSMEs with limited financial buffers. This risk reduction mechanism enables firms to implement lifecycle-based sustainability practices more confidently.

Collectively, these studies suggest that co-creation processes help translate shared knowledge into practical improvements across the product lifecycle.

H_2: Co-Creation Value positively influences Sustainability Marketing across the Product Lifecycle.

Customer Relationship Orientation and Sustainability Marketing across the Product Lifecycle

From the perspective of Resource-Advantage (R-A) Theory (Hunt and Morgan, 1995), Customer Relationship Orientation (CRO) enhances a firm's ethical stance, sensitivity to stakeholders, and reputational strength, which can support sustainability implementation. Empirical evidence suggests that customer orientation acts as a foundational mindset (Rudawska, 2018) nd contributes to sustainability performance in SMEs and emerging markets, including Indonesia (D'Souza et al., 2025; Lee et al., 2021).

However, prior findings indicate that relational intent alone does not guarantee the operational knowledge or coordination required for comprehensive lifecycle-based sustainability practices, particularly among resource-constrained MSMEs. This limitation is also evident in digital contexts, where customer orientation does not always translate into concrete environmental actions (Lima et al., 2024). Matarazzo et al. (2025) confirm this pattern, demonstrating that in SMEs, relational orientation alone is insufficient to produce sustainability outcomes; rather, it requires activation through structured engagement mechanisms. Similarly, Frías-Jamilena et al. (2024) show that without collaborative processes, even strong relational ties may not automatically translate into sustainability commitment.

Despite these constraints, CRO may still influence sustainability by shaping firms' strategic orientation toward stakeholder expectations. Grunwald (2022) adds that relational orientation serves as the foundation for coordinating sustainability efforts across value chain actors, suggesting that while CRO alone may not directly produce outcomes, it creates the necessary preconditions for collaborative sustainability practices.

H_3: Customer Relationship Orientation positively influences Sustainability Marketing across the Product Lifecycle.

Co-Creation Value as the Mediating Mechanism

This study proposes that Co-Creation Value (CCV) mediates the relationship between Customer Relationship Orientation (CRO) and Sustainability Marketing across the Product Lifecycle (SMLC). CRO establishes the relational conditions—trust, commitment, shared values—that encourage customer participation and activate collaborative channels (Rahman et al., 2018). These relational conditions then enable CCV, which functions as the dynamic capability that gathers joint knowledge, integrates resources, and supports innovation aligned with sustainability (Ansell et al., 2022).

Empirical evidence supports this mediating role. Matarazzo et al. (2025) demonstrate that Italian SMEs achieve circular value co-creation only through distinct levels of stakeholder engagement—ranging from open dialog and involvement to cooperation—rather than through relational orientation alone. This finding directly illustrates that CCV serves as the necessary intermediary mechanism. Frías-Jamilena et al. (2024) further show that co-creation functions as the mechanism through which stakeholder commitment translates into sustainability outcomes, reducing uncertainty and enhancing shared commitment across stakeholders.

From a value chain perspective, Grunwald (2022) reinforces this logic by illustrating how sustainability co-creation enables resource deployment across actors, transforming relational resources into tangible environmental outcomes. In MSMEs, where internal resources are often limited, CCV plays an important role in translating relational intent into practical improvements, such as packaging and waste management (Munawar et al., 2023).

This suggests that sustainability outcomes are more likely to emerge when relational orientation is activated through co-creation processes.

H_4: Co-Creation Value mediates the relationship between Customer Relationship Orientation and Sustainability Marketing across the Product Lifecycle

METHOD

This study employed a quantitative approach using a causal survey design to examine the relationships among Customer Relationship Orientation (CRO), Co-Creation Value (CCV), and Sustainability Marketing across the Product Lifecycle (SMLC). The unit of analysis was Food and Beverage (F&B) Micro, Small, and Medium Enterprises (MSMEs) in West Java, Indonesia, selected due to the high concentration of MSMEs and active customer–business interactions in this region.

The population consisted of F&B MSMEs operating in West Java. A purposive sampling technique was applied using two criteria: (1) MSMEs that actively use social media for marketing and customer interaction, and (2) MSMEs established before 2022 to ensure business stability and established customer relationships. A total of 220 questionnaires were collected. After data screening, 13 responses were excluded due to inactive social media usage, and 39 were removed because the businesses were established after 2022. The final sample consisted of 168 valid MSMEs, which is considered adequate for structural analysis.

All constructs were measured using previously validated scales adapted to the MSME context. Customer Relationship Orientation (CRO) was defined as the organizational commitment to building long-term customer relationships and was measured using indicators of organizational values and top management support (Jayachandran et al., 2005; Tuominen et al., 2023). Co-Creation Value (CCV) refers to the extent of customer involvement in value creation processes and was measured through customer processes, encounter processes, and collaborative interactions (Munawar et al., 2023). Sustainability Marketing across the Product Lifecycle (SMLC) reflects the implementation of sustainability-oriented marketing practices across the product life cycle and was operationalized based on the Life Cycle Thinking framework (Maxwell & Van der Vorst, 2003), covering raw materials, production and distribution, consumption, and waste management stages (Barbosa et al., 2021). All measurement items were assessed using a seven-point semantic differential scale ranging from 1 to 7.

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0, which is suitable for predictive models, mediation analysis, and moderate sample sizes (Hair et al., 2019). The analysis was conducted in two stages: evaluation of the measurement model, including convergent validity, discriminant validity, and internal consistency reliability; and evaluation of the structural model, including path coefficients, coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). Mediation effects were tested using bootstrapping with 5,000 resamples to assess the significance of indirect relationships. Model fit was evaluated using the Standardized Root Mean Square Residual (SRMR), and multicollinearity was assessed using the Variance Inflation Factor (VIF). The sample size exceeded the minimum requirement based on the 10-times rule and was considered sufficient given the model complexity.

RESULTS AND DISCUSSION

Respondent Profile and F&B MSEM Characteristics

Table 1: Summary of Respondent Profile and F&B MSME Characteristics

Characteristic Dominant Category	**Dominant Category**	**Percentage (%)**
I. Respondent Profile (N=168)		
Position	Business Owner	95%
Gender	Female	> 50%
Age	≥ 41-year-old	≈ 66.67%
Experience	> 5 years	> 60%
II. MSME Characteristics (N=168)		
Area	Greater Bandung Area	≈ 80%
Type	Packaged Food Products	42%
Scale	Micro (Revenue > IDR 300 Mi	94%
Primary Digital Channel	WhatsApp	87%
Digital Channel	Instagram	76%

Source: Processed Data (2025)

Table 2 shows that 95% of respondents are business owners, indicating centralized decision-making in MSMEs. This suggests that strategic orientations, including relationship management and sustainability practices, are directly controlled by entrepreneurs. Most respondents are female, aged 41 years or older, and have more than five years of experience, indicating a relatively mature and experienced sample.

Most MSMEs are located in the Greater Bandung area and operate at a micro scale. Despite this, they demonstrate high digital adoption, particularly through WhatsApp and Instagram. This indicates that MSMEs possess sufficient digital readiness to support customer interaction and co-creation activities, which are essential for implementing sustainability-oriented practices.

Measurement Model Assessment

Measurement quality was evaluated using standard PLS-SEM procedures, beginning with convergent validity. Table 3 shows that individual indicator loadings ranged from 0.75 to 0.85, all exceeding the 0.70 threshold, indicating that the items adequately captured the intended constructs. Internal consistency was strong across all three constructs, with Composite Reliability (CR) values of 0.90 or higher and Cronbach's Alpha coefficients between 0.86 and 0.88—both well above the 0.70 threshold (Hair et al., 2017). Average Variance Extracted (AVE) values ranged from 0.60 to 0.69, indicating that each construct explained more variance in its indicators than could be attributed to measurement error.

Table 2. Measurement Model Assessment: Convergent Validity and Reliability

Variable	Item	Loading	CR	A	AVE
CRO	CRO1	0.85	0.90	0.87	0.69
	CRO2	0.82			
	CRO3	0.84			
	CRO4	0.81			
CCV	CCV1	0.79	0.90	0.86	0.65
	CCV2	0.81			
	CCV3	0.83			
	CCV4	0.82			
	CCV5	0.78			
SMLC	SMLC1	0.77	0.91	0.88	0.60
	SMLC2	0.75			
	SMLC3	0.78			
	SMLC4	0.80			
	SMLC5	0.76			
	SMLC6	0.79			

Note:
CRO = Customer Relationship Orientation; CCV = Co-Creation Value; SMLC = Sustainability Marketing across the Product Lifecycle.
CR = Composite Reliability; α = Cronbach's Alpha; AVE = Average Variance Extracted. All loadings > 0.70; CR > 0.70; α > 0.70; AVE > 0.50, meeting recommended thresholds (Hair et al., 2017).

Source: Processed Data (2025)

The results in Table 3 show that all indicator loadings range from 0.75 to 0.85, exceeding the recommended threshold of 0.70, indicating that each indicator adequately represents its construct. Composite Reliability values (≥ 0.90) and Cronbach’s Alpha (0.86–0.88) confirm strong internal consistency. In addition, AVE values (0.60–0.69) are above the 0.50 threshold, indicating that each construct explains more variance in its indicators than measurement error. Overall, these findings confirm that the constructs of Customer Relationship Orientation (CRO), Co-Creation Value (CCV), and Sustainability Marketing across the Product Lifecycle (SMLC) demonstrate adequate convergent validity and reliability.

Discriminant validity was further assessed using multiple criteria, with results presented in Table 4..

Table 3. Discriminant Validity Assessment: HTMT Ratio

Variable	CRO	CCV	SMLC
CRO	-		
CCV	0.67		
SMLC	0.42	0.58	

Note:
CRO = Customer Relationship Orientation; CCV = Co-Creation Value; SMLC = Sustainability Marketing across the Product Lifecycle.
HTMT = Heterotrait-Monotrait Ratio. All values below the conservative threshold of 0.85, confirming discriminant validity (Henseler et al., 2015).

Source: Processed Data (2025)

As shown in Table 4, all HTMT values are below the conservative threshold of 0.85, with the highest value being 0.67 (between CRO and CCV), indicating that the constructs are empirically distinct. This result is supported by the Fornell-Larcker criterion and cross-loading analysis, where each indicator loads more strongly on its intended construct than on others. These findings confirm that there is no conceptual overlap among CRO, CCV, and SMLC.

Overall, the measurement model demonstrates satisfactory validity and reliability. Importantly, respondents were able to clearly distinguish between relational orientation, co-creation processes, and sustainability practices, indicating that the constructs capture distinct conceptual domains.

Structural Model Evaluation

The structural model shows moderate explanatory power. Customer Relationship Orientation (CRO) explains 31% of the variance in Co-Creation Value ($R^2 = 0.31$), indicating that relational orientation plays a meaningful role in shaping customer involvement. Furthermore, CRO and CCV jointly explain 20% of the variance in Sustainability Marketing across the Product Lifecycle ($R^2 = 0.20$), suggesting that the model captures a relevant, although not exhaustive, explanation of sustainability practices in MSMEs.

Effect size analysis provides further insight into these relationships. CRO has a large effect on CCV ($f^2 = 0.45$), indicating that relational orientation is a key driver of co-creation activities. In contrast, CCV has a moderate effect on SMLC ($f^2 = 0.21$), suggesting that co-creation contributes significantly to sustainability practices. Meanwhile, the direct effect of CRO on SMLC is negligible ($f^2 = 0.01$), indicating that relational orientation alone is insufficient to directly influence sustainability outcomes.

Model fit evaluation shows an SRMR value of 0.095, which falls within the acceptable range for predictive-oriented PLS-SEM models. Additionally, all Variance Inflation Factor (VIF) values are below 5.0, indicating no multicollinearity issues. These results confirm that the structural model is statistically adequate for hypothesis testing

Hypothesis Testing Results

The empirical findings provide strong support for the proposed indirect structural model. The results indicate that Customer Relationship Orientation significantly influences Co-Creation Value, which subsequently affects Sustainability Marketing across the Product Lifecycle.

The first hypothesis proposed that Customer Relationship Orientation has a positive effect on Co-Creation Value. The analysis confirms this relationship, with a substantial path coefficient ($\beta = 0.56$), high statistical significance ($t = 6.12$, $p < 0.001$), and a large effect size. This finding suggests that MSMEs emphasizing trust, long-term commitment, and relational norms create favorable conditions for collaborative value creation. In line with Resource-Advantage Theory, relational orientation functions as a strategic intangible resource that enhances a firm's ability to engage customers in joint value-creating activities.

The second hypothesis predicted that Co-Creation Value positively affects Sustainability Marketing across the Product Lifecycle. This hypothesis is also supported, with a significant path coefficient ($\beta = 0.49$; $t = 5.33$; $p < 0.001$) and a moderate effect size. The result demonstrates that collaborative engagement with customers contributes meaningfully to the integration of sustainability practices across raw material sourcing, distribution, consumption, and waste management stages. Co-creation enables MSMEs to incorporate customer input into sustainability-related decisions, thereby strengthening implementation feasibility.

The third hypothesis examined whether Customer Relationship Orientation directly influences Sustainability Marketing across the Product Lifecycle. The analysis did not find empirical support for this relationship. The path coefficient was negative and statistically insignificant ($\beta = –0.09$; $t = 1.12$; $p = 0.26$). This result indicates that relational orientation alone does not directly generate sustainability outcomes.

The mediation analysis provides further clarification. The indirect effect of Customer Relationship Orientation on Sustainability Marketing through Co-Creation Value was statistically significant ($\beta = 0.27$; $t = 4.14$; $p < 0.001$). Given the absence of a significant direct effect and the presence of a significant indirect effect, full mediation is established. This finding suggests that the sustainability impact of relational capabilities is realized only when those capabilities are mobilized through collaborative processes.

From a Resource-Advantage perspective, the results reinforce the proposition that resources do not automatically create competitive or strategic outcomes. Instead, they must be effectively deployed and combined through strategic actions. In this study, Co-Creation Value operates as the mechanism that transforms relational orientation into sustainability-oriented marketing practices across the product lifecycle. Thus, relational capabilities remain latent unless activated through structured customer collaboration.

Discussion

Customer Relationship Orientation Enables Co-Creation Value

The positive relationship between Customer Relationship Orientation (CRO) and Co-Creation Value (CCV) indicates that relational orientation functions as a key enabling mechanism for customer participation in MSMEs. Rather than reflecting an internal strategic posture, CRO facilitates ongoing interaction, trust-building, and mutual engagement that are essential for co-creation processes.

This finding aligns with prior research suggesting that customer-oriented firms are better positioned to identify and respond to evolving customer needs (Tuominen et al., 2023). Matarazzo et al. (2025) further reinforce this by demonstrating that in SMEs, relational orientation enables distinct levels of stakeholder engagement—from open dialog to deep cooperation—which are essential for activating co-creation processes. Firms that treat customers as strategic partners rather than transactional counterparts tend to develop stronger sensing and adaptive capabilities. In the West Java context, this relational mechanism operates largely through informal yet continuous interaction, particularly via social media platforms.

Firms that treat customers as strategic partners rather than transactional counterparts tend to develop stronger sensing and adaptive capabilities. In the West Java context, this relational mechanism operates largely through informal yet continuous interaction, particularly via social media platforms.

Cultural context further strengthens this relationship. Studies in collectivist societies suggest that relationship orientation is embedded in norms of reciprocity and long-term obligation, naturally supporting collaborative engagement (Ngo et al., 2024). The Indonesian setting, particularly West Java, reflects these relational norms, potentially explaining the strong effect of CRO on co-creation activities. Frías-Jamilena et al. (2024) add that strong relational ties reduce uncertainty and enhance stakeholder commitment, conditions that are particularly salient in collectivist cultural contexts where trust-based relationships are highly valued.

Demographic characteristics provide additional interpretive insight. The dominance of women entrepreneurs and mature business owners indicates that interpersonal capability and experiential knowledge may enhance collaborative interaction. Prior research on Indonesian women-owned F&B businesses highlights how relational strengths can compensate for limited access to capital and technology (Tobing et al., 2024). The present findings align with this view, showing that experience-based relational skills combined with digital tools create favorable conditions for co-creation.

Finally, the concentration of respondents in Greater Bandung, a recognized creative economy hub, may provide an ecosystem conducive to participatory innovation. Customers in such environments may be more accustomed to interactive and collaborative business models, reinforcing the observed relational pathways. Taken together, these contextual and demographic factors highlight how CRO shapes not just engagement, but the very conditions that enable effective co-creation.

Overall, the findings demonstrate that within Indonesian MSMEs, CRO serves as a strategic relational resource that enables co-creation not through sophisticated systems, but through culturally embedded interaction patterns and digitally facilitated dialogue.

Co-Creation Value Drives Sustainability Marketing Across Product Lifecycles

The significant positive effect of Co-Creation Value (CCV) on Sustainability Marketing across the Product Lifecycle (SMLC) demonstrates that collaborative engagement serves as a practical mechanism through which resource-constrained MSMEs implement environmental initiatives. This finding challenges the common assumption that sustainability adoption primarily depends on financial capacity, technological sophistication, or regulatory pressure.

Prior research indicates that sustainability co-creation requires stakeholder participation, transparent communication, and shared responsibility (Brown et al., 2024). The present study extends this logic to micro and small enterprises operating in B2C contexts, showing that even firms with limited formal structures can leverage customer collaboration to advance sustainability practices.

The mechanism appears to operate through risk reduction and market validation. Sustainability initiatives—such as eco-friendly packaging, waste separation, or reduced plastic use—often involve additional costs and operational adjustments. Involving customers in the design and evaluation of these initiatives helps ensure acceptance and reduces resistance to change. Studies have shown that customer participation increases willingness to support environmentally responsible offerings (Rita et al., 2024). Frías-Jamilena et al. (2024) reinforce this mechanism, demonstrating that co-creation reduces the perceived risk associated with sustainability investments, a critical function for MSMEs with limited financial buffers. For MSMEs with limited financial buffers.

The predominantly micro-scale nature of the sample reinforces this interpretation. With most firms operating at low revenue levels, sustainability investments represent proportionally higher risks than in larger firms. Co-creation, therefore, functions as a strategic safeguard, transforming sustainability from a speculative expense into a jointly supported initiative. This aligns with evidence from Italian SMEs, where open dialogue with customers and local communities serves as a mechanism to validate sustainability initiatives before full-scale implementation (Matarazzo et al., 2025).

The dominance of packaged food businesses further highlights the relevance of this mechanism. Packaging represents both an environmental concern and a visible brand element. Collaborative exploration of biodegradable materials, reusable containers, or waste-minimizing designs offers tangible opportunities for aligning environmental goals with market expectations. Matarazzo et al. (2025) corroborate this logic, demonstrating that in the food sector, stakeholder engagement—particularly around packaging and waste management—enables SMEs to achieve circular value co-creation while maintaining brand visibility.

Importantly, the findings suggest that co-creation is not merely a complementary pathway but a central mechanism for translating sustainability intentions into lifecycle-based practices. In highly resource-constrained contexts, relational goodwill alone does not automatically produce environmental action. Instead, sustainability outcomes emerge when relational capabilities are activated through structured customer participation. Frías-Jamilena et al. (2024) and Matarazzo et al. (2025) provide cross-context evidence that co-creation functions as an essential intermediary process that transforms stakeholder orientation into tangible sustainability outcomes.

Overall, the results indicate that within Indonesian F&B MSMEs, co-creation operates as a strategic enabler of sustainability marketing—reducing uncertainty, enhancing legitimacy, and facilitating practical implementation across the product lifecycle. From a Resource-Advantage perspective, this suggests that collaborative capabilities represent a critical mechanism through which relational resources are transformed into sustainability-based competitive positioning.

Relationship Orientation Requires Co-Creation Mediation to Yield Sustainability Outcomes

The full mediation finding, where Customer Relationship Orientation (CRO) influences Sustainability Marketing across the Product Lifecycle (SMLC) entirely through Co-Creation Value (CCV), represents the primary theoretical contribution of this study. The absence of a significant direct effect suggests that relational orientation alone is insufficient to generate sustainability outcomes within Indonesian MSMEs.

While prior research in developed contexts often reports direct positive associations between relational orientation and sustainability practices (Mena et al., 2019), empirical evidence also indicates that sustainability success in SMEs depends strongly on stakeholder involvement and collaborative mechanisms (Matarazzo et al., 2024). The present findings, therefore, highlight the importance of intermediary processes in resource-constrained environments. Matarazzo et al. (2025) further substantiate this pattern, demonstrating that Italian SMEs achieve circular value co-creation only through distinct levels of stakeholder engagement—ranging from open dialog and involvement to cooperation—rather than through relational orientation alone.

Several contextual factors help explain this pattern. Sustainability knowledge diffusion remains limited among micro and small enterprises, institutional infrastructure is underdeveloped, and financial vulnerability increases risk aversion. Under such conditions, co-creation functions as a risk-reduction mechanism by providing customer validation before firms commit scarce resources. Studies have shown that co-creation enhances stakeholder commitment and supports responsible consumption initiatives (Palakshappa & Dodds, 2021). Frías-Jamilena et al. (2024) extend this logic, demonstrating that co-creation reduces uncertainty for firms adopting sustainable practices by transforming potential resistance into shared commitment through collaborative negotiation.

The negative but non-significant direct coefficient further suggests potential tension between maintaining stable customer expectations and introducing sustainability-related changes. Through co-creation, such tensions can be negotiated collaboratively, transforming potential resistance into shared commitment. This finding resonates with evidence from tourism contexts, where co-creating a "slow destination" image enables stakeholders to align expectations and commit to sustainability goals that might otherwise face resistance (Frías-Jamilena et al., 2024)

From a Resource-Advantage perspective (Hunt & Madhavaram, 2012), competitive advantage arises not merely from possessing valuable resources but from effectively deploying them. CRO represents a relational resource; however, its sustainability value materializes only when activated through co-creation processes that translate customer engagement into concrete lifecycle practices. Matarazzo et al. (2025) further specify this mechanism by demonstrating that SMEs deploy stakeholder engagement across multiple levels—dialog, involvement, and cooperation—to transform relational resources into circular value co-creation.

CONCLUSION

The conclusions of this study are used to address the previously established objectives. First, Customer Relationship Orientation (CRO) has been shown to have a positive and significant influence on Co-Creation Value (CCV). This confirms that a fundamental commitment to building long-term trust and confidence results in active collaboration with customers, a crucial relational prerequisite for Co-Creation Value activities in F&B MSMEs. This finding highlights that relational orientation serves as a foundational capability for enabling customer participation in value creation.

Second, Co-Creation Value (CCV) can contribute to sustainable marketing throughout the Product Life Cycle (SMLC). This suggests that collaborative problem-solving mechanisms are a crucial capability that enables MSMEs with limited resources to successfully adopt and implement the systemic and complex changes required by a life cycle thinking approach to sustainability. Thus, co-creation provides a practical pathway for translating sustainability intentions into actionable practices.

Finally, the role of Co-Creation Value (CCV) as a mediator between Customer Relationship Orientation (CRO) and Sustainable Marketing Across the Product Lifecycle (SMLC) is examined. Key findings suggest that relationship strategies alone (CRO) are insufficient to drive complex sustainability outcomes (SMLC). These strategies must be actively operationalized through collaborative processes (CCV) that transform relational goodwill into measurable, actionable, sustainable innovation. This emphasizes the critical role of co-creation as the mechanism that converts relational capabilities into sustainability outcomes.

Implications

Theoretical Implications

This study contributes to marketing and sustainability literature in three ways. First, the findings extend Resource-Advantage (R-A) Theory by demonstrating that relational resources embedded in Customer Relationship Orientation (CRO) do not directly produce sustainability outcomes. Instead, these resources must be mobilized through Co-Creation Value (CCV). This clarifies that competitive advantage in sustainability emerges not merely from possessing relational strengths, but from activating them through collaborative processes.

Second, the results suggest that CCV functions as an adaptive mechanism in resource-constrained MSMEs. Through customer interaction and feedback, firms are able to adjust product design, packaging, and waste practices in response to sustainability expectations.

Although dynamic capability was not explicitly modeled, the findings indicate that co-creation enables learning and adaptation within lifecycle-based sustainability practices.

Third, the study reinforces the Service-Dominant Logic perspective by showing that value co-creation extends beyond economic outcomes and contributes to environmental practices across multiple stages of the product lifecycle. In emerging market MSMEs, customers play a key role in shaping sustainability-oriented decisions.

Practical Implications

For MSME owners, the findings highlight that maintaining customer relationships is insufficient to advance sustainability. Firms should move beyond loyalty-building strategies and actively involve customers in product development and sustainability initiatives. Simple mechanisms such as structured feedback channels, social media polls, or collaborative packaging trials can facilitate this process.

For policymakers, support programs should focus not only on digital literacy or regulatory compliance but also on building collaborative capabilities. Training initiatives can help MSMEs systematically collect and utilize customer input when testing sustainability practices such as eco-friendly packaging or waste reduction.

Importantly, co-creation reduces the financial uncertainty associated with sustainability investments. Early customer involvement increases acceptance of changes and enhances the likelihood of successful implementation.

Limitations And Future Research

This study has several limitations. First, the cross-sectional design limits the ability to observe the dynamic evolution of CRO and CCV over time. Second, the sample is restricted to F&B MSMEs in West Java, which may limit generalizability to other sectors or regions. Third, reliance on self-reported data raises the possibility of common method bias.

Recommendations

Future studies are encouraged to employ longitudinal designs to better capture how relational orientation develops into collaborative capability and subsequently supports lifecycle sustainability practices. Researchers may also examine moderating factors such as digital sophistication or technological infrastructure, which could strengthen or weaken the CRO–CCV relationship. Comparative studies across sectors and regions would further validate the mediation model and clarify the role of co-creation in broader MSME sustainability contexts

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