









“The determinants of business performance among small and medium enterprise owners: Evidence from Indonesia”

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THE DETERMINANTS OF BUSINESS PERFORMANCE AMONG SMALL AND MEDIUM ENTERPRISE OWNERS: EVIDENCE FROM INDONESIA

Abstract

Small and medium-sized enterprises (SMEs) play a pivotal role in driving economic growth, employment generation, and regional competitiveness in emerging economies such as Indonesia. Yet, they face increasing pressure to enhance innovation and performance amid dynamic market and sustainability demands. This study investigates the impact of supply chain management, corporate social responsibility, and intellectual capital on performance mediated by innovation. Data were collected through an online survey conducted in 2025 involving 453 SME owners across Indonesia and analyzed using a quantitative approach with structural equation modeling (SEM) through Smart PLS 4.0. The results demonstrate that supply chain management (t-statistic = 8.83, $p = 0.004$), corporate social responsibility (t-statistic = 5.15, $p = 0.000$), and intellectual capital (t-statistic = 5.64, $p = 0.000$) exert significant positive effects on innovation. Furthermore, SME performance is strongly influenced by supply chain management (t-statistic = 9.04, $p = 0.000$), directly affecting innovation. However, corporate social responsibility (t-statistic = 8.83, $p = 0.004$) and intellectual capital (t-statistic = 1.80, $p = 0.070$) do not affect innovation. Additionally, innovation partially mediates the relationship between supply chain management (t-statistic = 2.14, $p = 0.030$), corporate social responsibility (t-statistic = 2.14, $p = 0.030$), and intellectual capital (t-statistic = 2.36, $p = 0.010$) to performance. These findings highlight innovation as a critical transformational mechanism that converts strategic and intangible organizational resources into measurable performance gains within the SME context.

Keywords

supply chain management, corporate sustainable performance, intellectual capital, innovation, SME

JEL Classification

L26, O31, M11, M14

INTRODUCTION

Small and medium-sized enterprises (SMEs) play a pivotal role in Indonesia's economic structure, serving as the backbone of employment, innovation, and national income growth (OECD, 2018). Beyond their economic contribution, SMEs also play a strategic role in achieving sustainable development goals by fostering inclusive innovation and regional competitiveness (IESR, 2025; Aprilia et al., 2025). Based on the data from the Coordinating Ministry for Economic Affairs of Indonesia (2025), SMEs numbered approximately 65.5 million units in 2025, contributing 61.9% to the national gross domestic product (GDP) and employing more than 119 million workers, accounting for about 97% of the total national workforce. However, the contribution of SMEs to national exports remains relatively limited, only around 15.7% of total exports, despite their substantial role in the domestic economy. This relatively low export contribution indicates existing gaps in competitiveness, market access, product quality, and the utilization of technology and digitalization. Besides, in the current era of

digitalization, global integration has intensified business competition, transforming rivalry from isolated firms into interconnected business networks driven by supply chain collaboration (Babajide et al., 2021). Firms that effectively manage their supply chain activities can create both short- and long-term benefits through efficiency, profitability, and sustained partnerships (Zimon et al., 2019; Bartolacci et al., 2020). Referring to the recommendation of Pusung et al. (2023) to examine the antecedents of SMEs performance in developing countries due to complex challenges, this study investigated the antecedents of SMEs performance in Indonesia as a developing country.

1. LITERATURE REVIEW AND HYPOTHESES

Stakeholder theory provides a theoretical framework for understanding that business success depends on how effectively a company manages its broad range of stakeholders, which in turn affects SME performance. Accordingly, stakeholders are individuals or groups who can affect, or are affected by, the actions and results of an organization (Freeman, 1984). The primary focus of stakeholder theory is that organizations should address a wider range of stakeholder interests rather than concentrating solely on maximizing shareholder wealth. Rather than emphasizing only financial outcomes, firms are encouraged to also consider their social responsibilities and overall societal impact (Cennamo et al., 2009). In this study, intellectual capital reflects an organization's ability to manage knowledge, expertise, and competencies to meet stakeholder needs and expectations. Meanwhile, supply chain management illustrates how firms build collaborative relationships with external stakeholders, such as suppliers and business partners, to create shared value.

The link between stakeholder theory and intellectual capital, CSR, supply chain management, and performance reflects the firm's strategic efforts to meet stakeholder expectations and build long-term trust. For instance, Waheed and Zhang (2022) identify the antecedents of sustainable competitive advantage in emerging markets such as China and Pakistan, including CSR and ethical practices. Córdova-Aguirre and Ramón-Jerónimo (2024) employed stakeholder theory as the foundation for designing a sustainability assessment framework for manufacturing SMEs in Peru. Furthermore, stakeholder theory extends beyond traditional corporate environments. It is increasingly recognized in domains such as governance, social responsibility practices, and sus-

tainable development initiatives (Burritt & Christ, 2023; Ibrahim et al., 2024). For example, when addressing societal issues like modern slavery, a comprehensive stakeholder analysis reveals the critical roles various stakeholders play, thus illuminating pathways for more effective corporate responsibility practices (McLaren et al., 2024). This has significant implications for how organizations communicate their values and ethical commitments to gain stakeholder trust and alignment during crises or societal challenges (Hossain et al., 2023). Building on this foundation, this study investigates the role of intellectual capital, CSR, and supply chain management through innovation on SME performance.

To sustain performance under these dynamic conditions, SMEs must adopt strategies that leverage intangible assets such as intellectual capital, CSR practices, and innovation capability, while ensuring effective supply chain management (Ur Rehman et al., 2021; Martinez-Conesa et al., 2017; Miswanto et al., 2024). Innovation has long been recognized as a key driver of firm competitiveness and sustainability (Du Plessis, 2007; Thornhill, 2006). It arises from the integration of knowledge, technology, and strategic decision-making, which together shape firms' adaptive capacity (Cassiman & Veugelers, 2006; Liao et al., 2008; Vaccaro et al., 2010). Numerous studies have consistently demonstrated a strong association between innovation and firm performance (Hsu & Wang, 2012). However, despite abundant studies exploring corporate social responsibility, supply chain management, and intellectual capital individually, limited research has investigated how these factors interact collectively to drive innovation and performance, particularly within SMEs operating in emerging economies. Addressing this gap, the present study develops and empirically tests an integrated framework to explain SME innovation and performance from a stakeholder theory perspective.

Intellectual capital, comprising knowledge, experience, and competencies, is viewed as more valuable than traditional physical assets in achieving competitive advantage (Wang et al., 2021; Wang et al., 2016). Prior research indicates that intellectual capital significantly influences firm performance (Ling, 2011; Wang et al., 2021). Nevertheless, some scholars argue that intellectual capital does not automatically translate into superior performance unless effectively transformed into innovative outputs (Hsu & Wang, 2012). At the same time, corporate social responsibility has been identified as a catalyst for innovation and performance improvement (Martinez-Conesa et al., 2017), while adaptive supply chain management strengthens SMEs' resilience to environmental turbulence (Zimon et al., 2019; Nikookar & Yanadori, 2021). In addition, intellectual capital, defined as collective knowledge and skills for long-term advantage (Triatmanto et al., 2023), originated from the observed gap between book and market value. Edvinsson (1997) expanded on this by including intangible assets that are excluded from financial statements. Ur Rehman et al. (2021) classified intellectual capital into six categories: human, relational, structural, renewal, social, and organizational. These assets support innovation and policy development (Secundo et al., 2020). The relationship between intellectual capital and innovation has been a subject of extensive research, reflecting its critical role as a driver of competitive advantage in various industries. For instance, Hu et al. (2024) highlight that in small and micro enterprises (SMEs), human capital acts as a catalyst for innovation by leveraging dynamic capabilities, thereby facilitating the development of new products and processes. Similarly, Karaca and Marşap (2021) emphasize that investments in human capital directly enhance innovative capacity in enterprises, particularly through engaged and skilled personnel. Furthermore, Effendi et al. (2024) demonstrate that market orientation mediates the relationship between intellectual capital and innovation in the Indonesian film industry, underscoring the critical role of human capital. This suggests that equipping employees with adequate knowledge and competencies is vital for stimulating new ideas and solutions.

Empirical evidence shows that corporate social responsibility is positively linked to technological and green innovation. Corporate social responsi-

bility can act as a catalyst for sustainable innovation by reducing environmental externalities (Gao et al., 2023), although its impact may vary depending on implementation, as increased operational costs can sometimes constrain R&D (Y. Wang & B. Wang, 2024). Corporate social responsibility also supports technological innovation and competitive sustainability by strengthening stakeholder relationships and shaping innovation strategies (Wu et al., 2024). Innovation within supply chain management further enhances performance. Proactive supplier collaboration improves new product development and market responsiveness (Liu et al., 2024). Supply chain management practices also strengthen operational performance through greater innovation capability (Elfawal et al., 2021). Leadership in supply chain management drives process improvement and IT-driven innovation (Purwoko & Fikri, 2024), while strong supplier-buyer relationships significantly affect product innovation and business performance (Gunawan et al., 2024).

Green intellectual capital may enhance green supply chain management practices, subsequently improving organizational performance (Maaz et al., 2021). This underscores the necessity for organizations to leverage their intellectual capital to optimize supply chain operations. Furthermore, Xu et al. (2022) assert that relational capital, a subcategory of intellectual capital, moderates the relationship between corporate social responsibility and operational performance, suggesting that the strength and quality of stakeholder relationships can amplify the benefits of corporate social responsibility initiatives.

Recent literature provides robust evidence that innovation, whether in the form of product, process, or service improvements, consistently enhances operational and financial performance. Frugal innovation has gained attention for its impact on operational performance, particularly in capital-constrained environments. Berndt et al. (2023) indicate that the direct link between frugal innovation and operational performance is significant and positive, suggesting that such innovations help organizations streamline processes and reduce delivery times, thereby boosting performance metrics during challenging capital conditions. Furthermore, Fatema and Islam (2021)

emphasize that both technological and non-technological innovations boost performance in the Indian manufacturing sector, with technological advancements demonstrating a notably direct correlation to overall organizational performance. Further supporting this notion, Jamai et al. (2021) conducted a scoping review on the impact of innovation types on SME performance, indicating that innovative practices are essential for enhancing various performance aspects across different industries. Similarly, in the context of service industries, Islam (2022) highlights the significant effects of service innovation on both financial and non-financial outcomes, asserting that innovations in services yield performance gains similar to those of technological advancements. Moreover, technological innovation has been rigorously linked to financial performance. Kumera et al. (2024) provide empirical support showing that technological advancements significantly influence a firm's performance metrics, specifically highlighting their relationship to competitive advantage. This is echoed by Helmi and Widiastuty (2023), who provide evidence that both green and process innovations contribute positively to firm performance, signaling a broader understanding of innovation's impact beyond traditional scopes.

In their critical analysis, Fatema and Islam (2021) reveal that while technological innovations directly affect overall performance, non-technological improvements rely on mediating factors, such as innovative performance, to have a substantial impact. Such dynamics are essential for firms aiming to develop comprehensive innovation strategies that account for varying types of innovations and their associated impacts on organizational outcomes. Importantly, organizational innovativeness dimensions, such as process and product innovations, are consistently shown to facilitate superior performance outcomes, as observed by Thakur et al. (2022). The emphasis on integrating innovation management within organizational practices is illustrated by Arslan et al. (2024), who advocate for standardized innovation management systems to enhance innovation ambidexterity and improve firm performance. This interplay between systematic innovation management and outcomes underlines the necessity for organizations to cultivate robust innovation capabilities.

Innovation serves as a critical mediating factor in the relationships among several variables and organizational outcomes, particularly in small and medium enterprises (SMEs) across various industries. Research indicates that innovation mediates the link between competitive strategy and SME performance, suggesting that an effective competitive strategy enhances the innovative capacities of SMEs, ultimately leading to improved performance outcomes (Pusung et al., 2023). This aligns with findings demonstrating the importance of innovation in accessing and maintaining competitive advantages, thereby playing a vital role in organizational sustainability and effectiveness (Abasido et al., 2023). Moreover, skills and experience contribute to innovation capacity; as such, SMEs that invest in human capital development tend to experience better innovation outcomes (Yadewani et al., 2023).

The purpose of this study is to provide insights into how intellectual capital, corporate social responsibility, and supply chain management foster performance among SMEs in Indonesia, emphasizing the mediating role of innovation (Figure 1). In addition, this paper adopts stakeholder theory as the foundation for positioning stakeholders, both internal (intellectual capital) and external (social responsibility and supply chain management), as a key factor in enhancing SME performance.

Based on the literature review, the following hypotheses are proposed:

- H1: *Intellectual capital has a positive effect on innovation.*
- H2: *Corporate social responsibility has a positive effect on innovation.*
- H3: *Supply chain management has a positive effect on innovation.*
- H4: *Intellectual capital has a positive effect on performance.*
- H5: *Corporate social responsibility has a positive effect on performance.*
- H6: *Supply chain management has a positive effect on performance.*

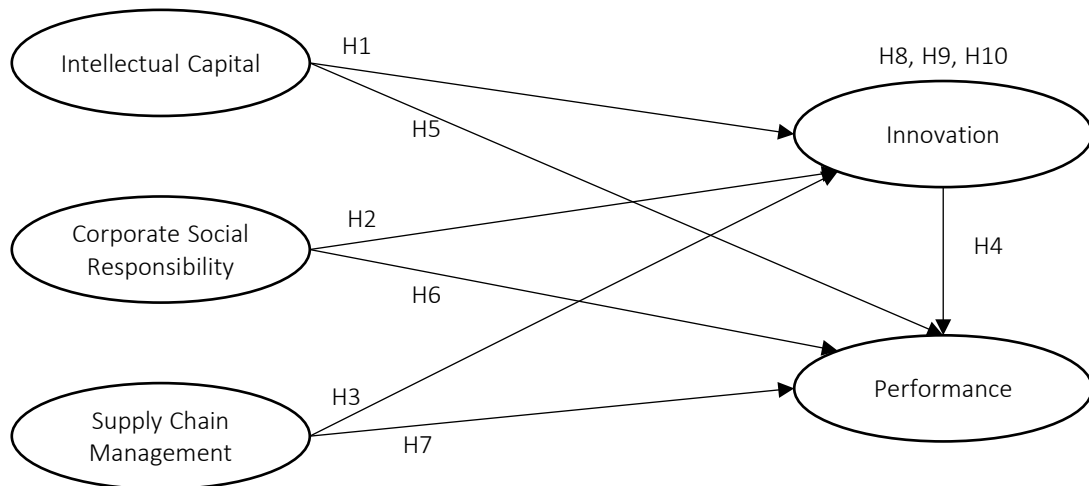


Figure 1. Conceptual framework

- H7: Innovation has a positive effect on performance.*
- H8: Innovation mediates the effect of intellectual capital and performance.*
- H9: Innovation mediates the effect of corporate social responsibility and performance.*
- H10: Innovation mediates the effect of supply chain management and performance.*

across Indonesia, which is considered infinite or of an unknown exact size. Following the guidelines of Hair et al. (2017), the sample size was determined by multiplying the number of indicators by five to ten. With 45 parameter items in the measurement model, the minimum sample size required was 225 respondents. Utilizing an online quantitative survey approach, 453 small and medium enterprise owners in Indonesia provided data for this study in 2025. Non-probability sampling is employed.

2. METHODOLOGY

This study involved owners of small and medium enterprises (SMEs) in Indonesia who met the following criteria:

- 1) actively operating SMEs as of 2025;
- 2) officially registered under Indonesia's SME classification; and
- 3) having a minimum of one year of business operation experience.

SMEs were selected because they represent a vital economic sector that contributes significantly to Indonesia's employment and innovation growth. The analysis was conducted nationwide, focusing on diverse industrial sectors to capture variations in innovation and sustainability practices. The population of this study comprised SME owners

Supply chain management, corporate social responsibility, and intellectual resources are exogenous factors in this study; innovation and performance are endogenous variables. Intellectual capital used four items (Wang et al., 2021). Corporate social responsibility concerns people, planet, and profit, using the three items adapted from Gallego-Álvarez et al. (2011). Respondents were asked about supply chain management with respect to costs, speed/reliability, flexibility, and product quality. Subsequently, eleven items were adapted from Bourlakis et al. (2012). Respondents were asked about innovation regarding products, processes, and services (Rideg et al., 2023). The SMEs' performance was measured using four items adapted from Wang et al. (2021). All measurements were on a five-point Likert scale ranging from 1 (very disagree) to 5 (very agree). Subsequently, we employed SEM-PLS procedures, beginning with the development of research instruments based on theoretical constructs, followed by content validity checks and data collection in accordance with

the sampling criteria. The cleaned dataset was then analyzed using SmartPLS through two main stages: evaluation of the measurement model and the structural model (Hair et al., 2019).

3. RESULTS AND DISCUSSION

The validity test revealed that all latent variables had outer loading values above 0.70, confirming their validity (Sarstedt et al., 2021). Moreover, the discriminant validity assessment indicated that the average variance extracted (AVE) values exceeded 0.50 (Table 1). In addition, the reliability analysis showed that intellectual capital, corporate social responsibility, supply chain management, innovation, and performance achieved Cronbach's alpha values exceeding 0.70 (Hair et al., 2017), thereby meeting the minimum reliability criteria.

Table 1. Convergent validity

Construct	Outer Loading	Average Variance Extracted	Composite Reliability
Intellectual Capital			
X1.1	0.818	0.662	0.887
X1.2	0.840		
X1.3	0.850		
X1.4	0.743		
Corporate Social Responsibility			
X2.1	0.836	0.757	0.903
X2.2	0.917		
X2.3	0.855		
Supply Chain Management			
X3.1	0.711	0.606	0.860
X3.2	0.752		
X3.3	0.831		
X3.4	0.813		
Innovation			
Y1.1	0.828	0.742	0.896
Y1.2	0.894		
Y1.3	0.862		
Performance			
Y2.1	0.805	0.657	0.884
Y2.2	0.881		
Y2.3	0.799		
Y2.4	0.753		

Table 1 presents the results of validity testing for convergent validity using outer loadings. The findings show that all indicators have outer loading values above 0.70, consistent with the recommendation of Hair et al. (2019). Subsequently, dis-

criminant validity was assessed using the Fornell-Larcker criterion. The diagonal Fornell-Larcker values are higher than those in the corresponding rows and columns, following the guideline of Fornell and Larcker (1981). In addition, reliability testing was conducted using composite reliability (CR) and the average variance extracted (AVE). The results indicate that all latent variables exhibit CR values exceeding 0.70 and AVE values above 0.50, as recommended by Hair et al. (2019). Therefore, based on these validity and reliability assessments, all latent variables meet the established standards.

To verify the suitability of the research model with the data, a model fit assessment was conducted (Table 2) using the SRMR, NFI, and Chi-Square indices. The analysis showed that the SRMR value was 0.08, below the recommended threshold of 0.80 (Hair et al., 2017). Furthermore, the NFI value reached 0.92, surpassing the minimum acceptable level of 0.90, while the Chi-Square value was 15.25, which is below 5. These results confirm that the proposed model adequately fits the data (Hair et al., 2017). The *R*-squared values for performance and innovation were 0.68 and 0.58, respectively, indicating that performance is explained by intellectual capital, corporate social responsibility, and supply chain management, along with innovation, by 68%. Meanwhile, innovation is explained by intellectual capital, corporate social responsibility, and supply chain management, accounting for 58% of the variance, with the remaining variance accounted for by factors outside the research model.

Table 2. Model fit

Fit Index	Threshold Criteria	Saturated Model	Interpretation
SRMR	< .08	0.06	Good Fit
NFI	> .90	0.92	Good Fit
Chi-Square	< 5	15.25	Good Fit

The structural model results (Table 3) reveal that intellectual capital, corporate social responsibility, and supply chain management significantly influence innovation, with *t*-values of 5.64, 5.15, and 8.83, respectively ($p < 0.05$). These findings indicate that firms with stronger intellectual capital, responsible social initiatives, and effective supply chain management are more capable of foster-

ing innovation. Furthermore, innovation exerts a significant positive effect on firm performance ($t = 2.33, p = 0.02$), emphasizing its strategic role as a performance driver. Conversely, the direct effects of intellectual capital ($t = 1.80, p = 0.07$) and corporate social responsibility ($t = 1.47, p = 0.14$) on performance are not significant, implying that these factors enhance performance indirectly through innovation. In contrast, supply chain management shows a strong direct impact on performance ($t = 9.04, p = 0.00$), highlighting its operational significance. The mediation analysis further confirms that innovation mediates the relationships between intellectual capital, corporate social responsibility, and supply chain management with performance (all t -values $> 2, p < 0.05$). This suggests that innovation acts as a critical transmission mechanism, transforming firms' intangible capital and social initiatives into superior performance outcomes.

This paper develops and examines a framework to explain the role of intellectual capital in enhancing innovation within SMEs. The findings indicate that intellectual capital is positively associated with innovation performance, thereby supporting Hypothesis 1 (H1), although the magnitude of the relationship varies across its components. This result is consistent with Wang et al. (2021), Ur Rehman et al. (2021), and Allameh (2018), who emphasize that the expansion of intellectual capital significantly contributes to organizational innovation, particularly in knowledge-intensive sectors such as hospitality. Compared to previous studies, this paper not only reaffirms the multidimensional impact of intellectual capital on innovation but also extends the evidence to the SME context, where resource constraints make the effective utilization of intangible assets even more

crucial. A notable distinction from prior research is that while earlier studies often focused on large or knowledge-intensive organizations, this study demonstrates that similar mechanisms operate within SMEs, emphasizing the scalability and relevance of intellectual capital across different organizational settings.

The significant effect of corporate social responsibility in promoting innovation within SMEs is observed. The findings reveal that corporate social responsibility is positively associated with innovation performance, thereby supporting Hypothesis 2 (H2), although the strength of this relationship depends on how it is strategically implemented. This result aligns with Bocquet et al. (2013), Sharma and Vredenburg (1998), and Martinez-Conesa et al. (2017), who argue that corporate social responsibility-oriented strategies stimulate firms' innovative capabilities. Furthermore, consistent with recent empirical studies, the findings indicate that corporate social responsibility practices contribute to multiple forms of innovation, including green and technological innovation (Gao et al., 2023; Wu et al., 2024). In line with Gao et al. (2023), the results suggest that strong corporate social responsibility performance encourages green innovation by mitigating negative externalities and promoting sustainable practices. At the same time, the findings support Y. Wang and B. Wang (2024), who highlight the dual role of corporate social responsibility, where its strategic implementation can either enhance or constrain innovation depending on how firms allocate resources and integrate stakeholder interests. Compared to previous studies, this paper not only confirms the positive link between corporate social responsibility and innovation but also extends the discussion to the SME context, where resource constraints

Table 3. Hypothesis test results

Hypothesis	Path	T Statistic	p-value	Result
H1	Intellectual capital → Innovation	5.64	0.000	Supported
H2	Corporate social responsibility → Innovation	5.15	0.000	Supported
H3	Supply chain management → Innovation	8.83	0.040	Supported
H4	Innovation → Performance	2.33	0.020	Supported
H5	Intellectual capital → Performance	1.80	0.070	Rejected
H6	Corporate social responsibility → Performance	1.47	0.140	Rejected
H7	Supply chain management → Performance	9.04	0.000	Supported
H8	Intellectual capital → Innovation → Performance	2.36	0.010	Supported Mediation
H9	Corporate social responsibility → Innovation → Performance	2.14	0.030	Supported Mediation
H10	Supply chain management → Innovation → Performance	2.14	0.030	Supported Mediation

necessitate closer alignment between social responsibility initiatives and innovation strategies. A notable difference from prior research is that while earlier studies primarily focused on large corporations, this study demonstrates that corporate social responsibility-driven innovation is also evident in SMEs, particularly when firms leverage corporate social responsibility to strengthen stakeholder relationships and enhance competitiveness.

The significant effect of supply chain management on innovation, as demonstrated by the empirical results, supports Hypothesis 3 (*H3*). This finding corresponds to the studies of Assumpção et al. (2022), Liu et al. (2024), Elfawal et al. (2021), and Purwoko and Fikri (2024), which emphasize the critical role of integrated and proactive supply chain management practices in enhancing firms' innovative capabilities. Similar to the present study, these prior works highlight that effective supplier collaboration, process integration, and technological support contribute to improved innovation and operational performance. This study further extends the discussion by demonstrating that supply chain management not only facilitates process efficiency but also acts as a strategic driver of innovation within the SME context. In particular, the findings reinforce Liu et al. (2024), who argue that supplier collaboration enhances innovation through responsiveness to market dynamics, while also aligning with Elfawal et al. (2021) and Purwoko and Fikri (2024), who underline the importance of leadership and technology in strengthening supply chain management practices. Moreover, consistent with Gunawan et al. (2024), this study highlights that strong supplier-buyer relationships are a key mechanism for fostering product innovation and overall business performance. Collectively, these insights contribute to the literature by offering a more comprehensive understanding of how supply chain management functions not merely as an operational tool but as a strategic enabler of innovation, particularly in SMEs where coordination, flexibility, and external collaboration are essential for sustaining competitiveness.

Surprisingly, the current study revealed that intellectual capital and corporate social responsibility do not have a direct significant effect on SME performance. Consequently, Hypothesis 4 (*H4*) and

Hypothesis 5 (*H5*) were rejected. There are several possible explanations for these unexpected findings. Intellectual capital and corporate social responsibility are primarily intangible and strategic resources whose value is often realized indirectly rather than immediately reflected in firm performance. Without effective transformation into innovative outputs, such resources may remain latent and fail to generate measurable performance outcomes. This result is consistent with Andreeva et al. (2021) and Cahyaningati et al. (2023), who argue that intangible assets and responsible practices contribute to firm value through innovation-driven mechanisms rather than direct effects. In other words, innovation acts as a critical pathway that converts intellectual capital and corporate social responsibility into tangible organizational performance.

However, the significant effect of supply chain management on SME performance was confirmed, thereby supporting Hypothesis 6 (*H6*). This finding aligns with M. Reddy and P. Reddy (2021) and Linda and Fauzi (2021), who emphasize that effective supply chain management serves as a strategic driver of productivity, customer satisfaction, and profitability. By ensuring efficient coordination of resources, timely delivery, and responsiveness to market demands, supply chain management directly enhances operational and financial outcomes. Furthermore, integrating sustainability principles within supply chain management has been shown to strengthen organizational performance, as highlighted by Maaz et al. (2021) and Aylak (2022). In the same vein, the combination of sustainable supply chain management practices with corporate social responsibility initiatives further reinforces firm performance by enhancing stakeholder trust and improving market reputation (Munir & Wang, 2021; Bai & Astvansh, 2024). Collectively, these findings suggest that while intellectual capital and corporate social responsibility require innovation as a mediating mechanism to influence performance, supply chain management possesses both direct and complementary effects, making it a more immediate and impactful driver of SME performance.

In terms of the mediating role of innovation, the current study revealed that innovation significantly mediates the relationship between intellec-

tual capital, corporate social responsibility, supply chain management, and SME performance. This finding suggests that innovation serves as a crucial mechanism that translates intangible resources and responsible practices into tangible performance outcomes. In other words, intellectual capital, corporate social responsibility, and supply chain management contribute to performance more effectively when they are channeled through innovation activities. This result aligns with Pusung et al. (2023) and Abasido et al. (2023), who emphasize that innovation functions as a strategic conduit linking organizational resources to firm performance. Furthermore, consistent with Berndt et al. (2023), Fatema and Islam (2021), and Kumera et al. (2024), the findings confirm that innovation, whether in the

form of product, process, or service innovation, plays a significant role in enhancing both operational and financial performance. Moreover, this study supports the findings of Jamai et al. (2021) and Islam (2022), who highlight the critical importance of innovation in sustaining competitiveness across industries. When SMEs effectively leverage their intellectual capital, including human, relational, and technological dimensions, into innovation initiatives, they are better positioned to achieve higher productivity, improved efficiency, and greater responsiveness to market changes, as also noted by Chen et al. (2021) and Wang et al. (2016). Collectively, these findings reinforce the central role of innovation as a mediating variable that bridges strategic resources and organizational performance.

CONCLUSION

The purpose of this study was to examine how intellectual capital, corporate social responsibility, and supply chain management influence SME performance through innovation, grounded in stakeholder theory. The findings demonstrate that SME performance is primarily enhanced through innovation as a mediating mechanism, where intellectual capital and corporate social responsibility contribute indirectly. At the same time, supply chain management exerts both direct and indirect effects. These results suggest that value creation for multiple stakeholders through knowledge assets, responsible practices, and collaborative supply chain strategies plays a crucial role in fostering innovation and sustainable competitiveness, particularly in developing economy contexts.

Overall, this study underscores the importance of innovation as a central mechanism linking strategic resources and SME performance within a stakeholder-oriented framework. While the findings provide meaningful theoretical and practical contributions, the study is limited by its focus on SMEs in a single developing country and the use of a cross-sectional design, which may restrict generalizability and causal interpretation. Future research should extend the model across different industries and regions, incorporate longitudinal and qualitative approaches, and explore contextual factors such as digital transformation and environmental dynamism. Such efforts will enhance the understanding of sustainable SME growth and support the development of more adaptive and context-sensitive managerial strategies.

AUTHOR CONTRIBUTION

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Validation: Retno Cahyaningati.

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Writing – original draft: Retno Cahyaningati, Masyhuri.

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