



The Role of Digital Capabilities and Corporate Social Responsibility on Sustainable Competitive Advantage: The Moderating Effect of Green Entrepreneurship Orientation on MSMEs in Kendari City

Ahmad Zakaria¹, Popy Rufaidah²

^{1,2} Universitas Padjadjaran Bandung, Indonesia

*Corresponding Author, Email: ahmad23047@mail.unpad.ac.id

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Abstract: Amidst increasingly intense competition and growing demands for sustainable business practices, micro, small, and medium enterprises (MSMEs) are faced with the need to build a sustainable competitive advantage over the long term. Several previous studies have highlighted the role of digital capabilities and corporate social responsibility as important factors in creating competitive advantage. However, understanding the conditions that influence the effectiveness of these two factors in driving sustainable competitive advantage remains relatively limited, particularly in the context of MSMEs in developing countries. Based on the resource-based view and stakeholder theory framework, this study aims to analyze the influence of digital capabilities and corporate social responsibility on sustainable competitive advantage. In addition, this study also explores the role of green entrepreneurial orientation as a moderating variable in this relationship. This study uses a quantitative approach with a survey method, involving 205 MSMEs in Kendari City, Indonesia. The collected data were analyzed using the Partial Least Squares Structural Equation Modeling (PLS-SEM) version 4.0. The research findings indicate that digital capabilities have a positive and significant influence on the sustainable competitive advantage of MSMEs. Furthermore, corporate social responsibility has been shown to positively contribute to enhancing sustainable competitive advantage, with this influence being further strengthened when supported by a green entrepreneurial orientation. However, the analysis shows that green entrepreneurial orientation does not act as a moderating variable in the relationship between digital capabilities and sustainable competitive advantage. These findings provide theoretical and practical implications for developing MSME sustainability strategies.

Keywords: digital capability; corporate social responsibility; sustainable competitive advantage; green entrepreneurial orientation; resource-based view.

Introduction

In the global economy, micro, small, and medium enterprises (MSMEs) play a highly strategic role as the main drivers of economic activity. MSMEs not only function as labor absorbers but also as drivers of innovation, income distribution, and support economic stability in various countries. According to a World Economic Forum report, the number of MSMEs worldwide is estimated to reach around 400 million units, covering nearly 90% of the total global business units, absorbing around 70% of the workforce, and contributing approximately 50% to global gross domestic product (World Economic

Forum, 2020). The broad scale and reach of MSMEs make this sector have a significant impact on market balance, economic resilience, and inclusive development in various regions.

As global competition intensifies and the business environment becomes more dynamic, MSMEs are increasingly required to not only survive but also build sustainable competitive advantages. Various studies have shown that the long-term success of MSMEs depends heavily on their ability to develop strategies that are not easily imitated and consistently create added value (Gomez-Trujillo et al., 2024; Vărzaru & Bocean, 2024). Sustainable competitive advantage is key for MSMEs to maintain their business existence, improve performance, and expand their contribution to the economy. Therefore, MSMEs are required to continuously improve internal capacity, optimize business strategies, and adapt effectively to environmental changes to achieve sustainable growth and development (Demir et al., 2025; Setyaningrum et al., 2023).

In Indonesia, the role of MSMEs is even more dominant. By 2024, the number of MSMEs is recorded at more than 66 million units, contributing approximately 61% to the national gross domestic product and absorbing approximately 97% of the workforce. This data confirms that MSMEs are the backbone of the national economy. The number of MSMEs in Indonesia also shows a consistent growth trend from year to year. This increase in the number of business actors indicates high public interest in entrepreneurial activities and reflects the ever-growing economic dynamics. However, despite their significant contribution, MSMEs in Indonesia still face various structural and strategic challenges. MSME performance has not yet fully demonstrated the consistency needed to support long-term business sustainability. A report by the Financial Services Authority (OJK) indicates the high level of vulnerability of MSMEs to economic shocks, declining turnover, and even the cessation of business operations, especially at the regional level. Furthermore, MSMEs' dependence on local markets remains very strong, limiting their ability to expand their markets and face broader competitive pressures (OJK, 2025).

This situation is exacerbated by the low competitiveness of national MSMEs. Empirically, the competitiveness score of Indonesian MSMEs remains at 3.5 on a scale of 1–10, with MSME exports contributing only 15.70% of total national exports. MSME participation in the global value chain is also very limited, at around 4.1%, and the digitalization adoption rate has only reached around 28.8%, or approximately 19 million MSMEs (UKM, 2023). This data indicates that although the number of MSMEs continues to increase, their ability to maintain performance and build sustainable competitive advantage remains relatively weak. A similar phenomenon is also seen at the regional level, particularly in Kendari City. As the center of government, trade, and services in Southeast Sulawesi Province, Kendari City experienced growth in the number of MSMEs from 41,985 units in 2021 to 42,211 units in 2024. This increase reflects increasing economic activity and the density of business competition in urban areas. However, this growth in the number of MSMEs has not been accompanied by structural transformation in business scale. The MSME structure in Kendari City is dominated by micro-enterprises, accounting for approximately 97.16–97.18%, while small businesses remain stagnant at around 2.60–2.65%, and medium-sized enterprises only account for around 0.20%.

The stagnation in the number of small and medium enterprises (SMEs) for several consecutive years indicates a weak business upgrading process. This condition indicates that most MSMEs are still operating at the same scale without increasing their business capacity, thus limiting their ability to create added value and maintain sustainable competitiveness. Initial information from the Kendari City MSME Office indicates that approximately 80% of MSMEs still compete through strategies of low prices, discounts, and personal relationships with consumers. These strategies are short-term, easily imitated, and vulnerable to competitive pressures, both from fellow MSMEs and from foreign products (Al Koliby et al., 2024). This condition indicates that MSMEs in Kendari City have not yet fully developed a sustainable competitive advantage. Limited product innovation, digital marketing, and understanding of the concept of a sustainable economy are key challenges hindering MSMEs' ability to penetrate broader markets (Harjun et al., 2025; Marsalena, 2024). Therefore, a more in-depth study is needed regarding the strategic factors that can strengthen MSMEs' ability to maintain long-term competitiveness.

From the resource-based view (RBV) perspective, sustainable competitive advantage can only be achieved if a company is able to manage internal resources that are valuable, rare, inimitable, and non-substitutable (VRIN) (Barney, 1991). These resources include not only physical assets but also organizational capabilities, knowledge, operational procedures, and internal characteristics

accumulated in business processes (Ahn et al., 2022). However, many MSMEs still face limitations in developing and optimally utilizing these strategic resources (Setyaningrum et al., 2023). One strategic capability that is increasingly important in the context of modern competition is digital capability. Digitalization is no longer an option but a strategic necessity for MSMEs to increase efficiency, innovation, and responsiveness to market changes (Kohtamäki et al., 2025). Digital capability reflects an organization's ability to effectively integrate, manage, and utilize digital technology across all aspects of its business. Research shows that digital capabilities contribute positively to competitive advantage through improved customer experience, operational efficiency, and the development of product and service innovation (Baiyere et al., 2025; Xu et al., 2025).

However, the digital adoption rate among Indonesian MSMEs remains relatively low. Only around 16% of MSMEs have substantially implemented digital solutions (Idrus & Rastina, 2024). In Southeast Sulawesi Province, e-commerce utilization by businesses reached only 26.7% in 2023 (BPS, 2021). In Kendari City, digital technology utilization is still limited to basic operational functions and has not been integrated into strategic decision-making (Marsalena, 2024). In addition to digital capabilities, demands for socially and environmentally responsible business practices are also increasing. Globally, sustainability and corporate social responsibility (CSR) are strategic issues that cannot be ignored. MSMEs are required to focus not only on economic profit but also on social and environmental aspects in accordance with the triple bottom line principle (people, planet, profit). CSR in the MSME context is more informal and contextual, yet plays a crucial role in building legitimacy, trust, and long-term relationships with stakeholders (Achi et al., 2022; Jatin, 2025).

Several studies have shown that CSR positively contributes to the performance, innovation, and competitiveness of MSMEs (Cahyaningati et al., 2023). However, the effectiveness of CSR in creating sustainable competitive advantage is often influenced by the strategic orientation of business actors. In this regard, green entrepreneurial orientation is a crucial factor reflecting a commitment to environmentally friendly innovation, a proactive attitude, and the courage to take risks for sustainability. Previous research generally examines digital capabilities and CSR separately, while the relationship between the two and sustainable competitive advantage remains relatively limited, particularly in the context of MSMEs. Furthermore, the role of moderating variables such as green entrepreneurial orientation has rarely been explored empirically. Therefore, this study is crucial to comprehensively examine how digital capabilities and corporate social responsibility influence the sustainable competitive advantage of MSMEs, and how green entrepreneurial orientation strengthens this relationship. By integrating the resource-based view and stakeholder theory, this research is expected to provide theoretical and practical contributions to the development of MSME sustainability strategies in Indonesia, particularly in Kendari City.

Method

This study uses a quantitative approach that aims to examine the relationship between variables and answer the research questions that have been formulated systematically. The quantitative approach was chosen because it allows testing the relationship between variables through numerical data that can be analyzed statistically, so that the research results are objective and measurable. The research design applied is a causal design, which focuses on analyzing the cause-and-effect relationship between research variables and to explain the extent to which one variable influences another variable (Bougie & Sekaran, 2019). The unit of analysis in this study is micro, small, and medium enterprises (MSMEs) operating in Kendari City. Data collection was carried out using a cross-sectional method, namely data collection carried out over a certain period of time without repetition. This method is used to obtain an empirical picture of the condition of the research variables at a certain time to answer the research objectives (Bougie & Sekaran, 2019).

This study focuses on examining the causal relationship between the independent variables, namely digital capability and corporate social responsibility, and the dependent variable, sustainable competitive advantage, and the moderating role of green entrepreneurial orientation. Data analysis was conducted using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) method with the assistance of SmartPLS software version 4.0. The PLS-SEM method was chosen because it has good capabilities in managing complex research models, moderate sample sizes, and data that is not completely normally distributed (Leguina, 2015). The data collection instrument used in this

study was a structured questionnaire. The questionnaire was compiled based on indicators adapted from previous research and relevant to the context of MSMEs. Analysis using PLS-SEM focused on the model's ability to explain variations in the dependent variable, making it suitable for predictive and explanatory research approaches.

The operationalization of variables was carried out to ensure that each research construct could be measured objectively and consistently. The independent variables consisted of digital capability and corporate social responsibility. Digital capability is defined as a company's dynamic ability to utilize digital technology and data to identify opportunities, respond to environmental changes, and adaptively integrate resources and business processes. Meanwhile, corporate social responsibility is understood as a company's strategic and voluntary commitment to integrating social, ethical, environmental, economic, and governance aspects into business activities to create long-term value and enhance the company's social legitimacy. The dependent variable in this study is sustainable competitive advantage, which refers to a company's ability to maintain a sustainable competitive advantage through the creation of unique value, continuous innovation, stable performance, and the possession of resources or capabilities that are difficult for competitors to imitate. The moderating variable used is green entrepreneurial orientation, namely an entrepreneurial orientation that reflects the commitment of business actors to integrate environmental sustainability principles through green innovation, a proactive attitude, and the courage to take risks in developing environmentally friendly business solutions.

The study population included all 42,210 MSMEs in Kendari City. The sampling technique used was purposive sampling, with the criteria being that MSMEs have a Business Identification Number (NIB), are officially registered with the Kendari City Cooperatives and MSMEs Office, and have been operating for at least one year. Based on these criteria, the target population that met the requirements was 3,018 MSMEs. The questionnaire was distributed online via Google Form with the assistance of MSME facilitators in each sub-district. The measurement scale used was a five-point Likert scale, ranging from strongly disagree to strongly agree. This scale was chosen because it is able to represent the level of intensity of respondents' attitudes and perceptions quantitatively and facilitates further statistical analysis. The collected data were then verified, processed, and analyzed using SmartPLS 4.0 to test validity, reliability, and structural relationships between variables in accordance with the formulated research model.

Results and Discussion

The statistical analysis results show that digital capability has a positive and significant influence on sustainable competitive advantage. This finding is reflected in the path coefficient value of 0.553, the t-statistic value of 9.149, and the p-value of 0.000. This relatively large coefficient value indicates that digital capability is one of the main determinants in building sustainable competitive advantage in MSMEs in Kendari City. The coefficient of 0.553 can be interpreted as every one unit increase in the level of digital capability will drive an increase in sustainable competitive advantage by 55.3%, assuming other variables in the model are held constant. This indicates that the ability of MSMEs to utilize digital technology, manage data, and integrate technology into business processes plays a strategic role in creating superior value that is difficult for competitors to imitate.

The t-statistics values far exceeding the threshold of 1.96 and p-values below 0.05 confirm that the relationship between digital capability and sustainable competitive advantage is statistically significant. Therefore, the first hypothesis (H1), which states that digital capability has a positive effect on sustainable competitive advantage, is accepted. Conceptually, this finding aligns with the resource-based view, which emphasizes the importance of a company's internal capabilities as a source of long-term competitive advantage. Digital capability, as a dynamic capability, enables MSMEs to respond to rapidly changing business environments, improve operational efficiency, expand market access, and create product and service innovations. In the context of MSMEs, the use of digital technology serves not only as an operational support tool but also as a strategic foundation for maintaining sustainable competitiveness amidst increasingly fierce competition.

The second hypothesis test aims to analyze the influence of corporate social responsibility (CSR) on sustainable competitive advantage. Based on the data processing results, a path coefficient value of 0.298, a t-statistic value of 3.840, and a p-value of 0.000 were obtained. These results indicate

that CSR has a positive and significant influence on sustainable competitive advantage. A coefficient value of 0.298 indicates that a one-unit increase in CSR implementation will increase sustainable competitive advantage by 29.8%. Although the magnitude of the effect is smaller than that of digital capability, CSR still plays a significant role in building long-term competitive advantage for MSMEs.

A t-statistic value greater than 1.96 and a p-value less than 0.05 confirm that the relationship between CSR and sustainable competitive advantage is statistically significant. Therefore, the second hypothesis (H2), which states that corporate social responsibility has a positive effect on sustainable competitive advantage, is accepted. This finding supports stakeholder theory, which emphasizes that companies that manage relationships with stakeholders responsibly will gain social legitimacy and higher public trust. For MSMEs, CSR practices such as environmental awareness, social contributions, fair treatment of employees, and involvement in local communities can improve corporate image and customer loyalty. This ultimately contributes to sustainable business performance and a more stable competitive advantage in the long term.

The third hypothesis examines the role of green entrepreneurial orientation (GEO) as a moderating variable in the relationship between digital capability and sustainable competitive advantage. The analysis results show that the interaction between digital capability and green entrepreneurial orientation does not significantly influence sustainable competitive advantage. This is indicated by the interaction coefficient ($GEO \times DC$) of -0.043, the t-statistics value of 0.641, and the p-value of 0.521. The negative interaction coefficient indicates that increasing green entrepreneurial orientation in combination with digital capability tends to decrease the level of sustainable competitive advantage. However, this effect is very weak and not statistically significant. T-statistics values smaller than 1.96 and p-values greater than 0.05 indicate that green entrepreneurial orientation is unable to strengthen or weaken the influence of digital capability on sustainable competitive advantage. Therefore, the third hypothesis (H3), which states that green entrepreneurial orientation moderates the relationship between digital capability and sustainable competitive advantage, is rejected.

Empirically, these results indicate that the utilization of digital capabilities by MSMEs has not been fully integrated with a green entrepreneurial orientation. Digitalization undertaken by MSMEs tends to focus on operational efficiency, marketing, and increasing sales, without directly addressing the creation of added value based on environmental sustainability. Consequently, a green entrepreneurial orientation has not yet been able to play a strategic role in strengthening the contribution of digital capability to sustainable competitive advantage. These findings suggest that the implementation of digital capability and a green entrepreneurial orientation are two strategies that can be implemented separately. Without strong integration between digital transformation and an environmental sustainability orientation, the expected synergistic impact on sustainable competitive advantage cannot be optimally realized.

The fourth hypothesis aims to test whether green entrepreneurial orientation can moderate the relationship between corporate social responsibility and sustainable competitive advantage. Based on the analysis results, the interaction coefficient value was obtained at 0.229, the t-statistic value was 3.138, and the p-value was 0.002. These results indicate that green entrepreneurial orientation plays a significant role in strengthening the influence of CSR on sustainable competitive advantage. The coefficient value of 0.229 indicates that increasing green entrepreneurial orientation will strengthen the contribution of CSR to sustainable competitive advantage by 22.9%. The t-statistic value is greater than 1.96 and the p-value is smaller than 0.05 confirms that the moderating effect is statistically significant. Thus, the fourth hypothesis (H4) is declared accepted. These results indicate that CSR will have a stronger impact on sustainable competitive advantage when MSMEs have a high green entrepreneurial orientation. This orientation encourages business actors to implement CSR not only as a social obligation, but as part of a business strategy oriented towards environmental sustainability and green innovation. Theoretically, these findings reinforce the view that integrating social responsibility and a green entrepreneurial orientation can create greater strategic value for companies. In the context of MSMEs, CSR supported by a green entrepreneurial orientation can enhance business differentiation, strengthen the company's reputation, and build long-term trust with consumers and other stakeholders. This ultimately contributes to the creation of a competitive advantage that is not merely temporary but also sustainable.

The Influence of Digital Capability on Sustainable Competitive Advantage

The results of the study indicate that digital capability has a positive and significant effect on sustainable competitive advantage ($\beta = 0.553$; $p = 0.000$). This finding indicates that differences in the level of sustainable competitive advantage across units of analysis can be significantly explained by variations in digital capabilities. In this study, digital capability is constructed by three dimensions: digital perception capability, digital operation capability, and digital integration capability, while sustainable competitive advantage is represented by seven dimensions: value, service delivery system, growth and performance, market share, innovation practices, rareness, and imperfectly non-imitable. With this operationalization, the relationship found cannot be explained solely as the impact of technology use on performance, but rather reflects a more fundamental link between organizational capabilities and sustainable competitive advantage.

Within the Resource-Based View (RBV) framework, competitive advantage stems from the control and utilization of valuable resources and capabilities to create value. RBV also emphasizes that sustainable advantage does not arise from the possession of resources in isolation, but rather from an organization's ability to combine and exploit resources through effective processes, routines, and coordination. In a digital context, technology can be viewed as a resource, but its competitive impact depends on complementary capabilities that enable organizations to transform technological potential into value. Therefore, digital capability in this study is more relevant than simply technology adoption, as it reflects an organization's ability to manage information, execute processes, and systematically integrate digital activities.

The findings of this study reinforce those of the RBV, which initially positioned IT/digital capabilities as a critical determinant of competitive advantage, particularly when conceptualized as an integrated organizational capability (Cuthbertson & Furseth, 2022; Okorie et al., 2023). Within this framework, technology is treated as an enabling resource, while its competitive effects emerge when organizations are able to orchestrate digital assets through cross-functional integration, information management, and process alignment (Liao et al., 2024). The findings of this study are consistent with previous research that positions digital capabilities as a more substantive determinant of competitive advantage (Al-Omush et al., 2023; Hoang et al., 2025; Liao et al., 2024). The results of this study indicate that variations in competitive advantage are primarily related to differences in organizational capabilities in integrating digital resources into routines, processes, and cross-functional coordination, thereby converting technology into long-term advantages.

These results imply that a digital strategy relevant to sustainable excellence should be positioned as a capability development program, rather than as a discrete digital activity. The primary focus is on ensuring that digital capabilities develop as a system embedded in work processes, resulting in consistent increases in value and quality of execution. This approach is important because capabilities based on routines and learning are cumulative, resulting in increasingly specific and difficult-to-imitate configurations, which aligns with the RBV logic of sustainable excellence. For industry, the implication is the need to position digital capabilities as a strategic component in business process design and digital resource governance. Industries that are able to build integrated digital capabilities tend to be better able to maintain their competitive position because the value generated comes not only from technology but also from the process configuration, coordination, and learning that shape differentiation. In an ecosystem context (e.g., a supply chain involving MSMEs), strengthening partners' digital capabilities through standardization and integration can also strengthen aggregate advantage by increasing quality consistency and coordination efficiency at the network level.

Academically, these findings add to the empirical evidence for the RBV in the digital context by demonstrating that the source of sustained competitive advantage is better explained by the organizational capabilities that orchestrate digital resources, rather than by the digital resources themselves. Further research could enhance the RBV's contribution by examining the role of other complementary capabilities (e.g., innovation capabilities, marketing capabilities, or managerial capabilities) in strengthening the influence of digital capabilities, as well as conducting cross-sector replications to assess the consistency of the relationship across different industry conditions.

The Influence of Corporate Social Responsibility on Sustainable Competitive Advantage Capability

The results of the study indicate that Corporate Social Responsibility (CSR) has a positive and significant effect on Sustainable Competitive Advantage with a coefficient of $\beta = 0.298$ and a significance level of $p = 0.000$, so H2 is accepted. This finding indicates that variations in sustainable competitive advantage can be explained by the level of CSR initiatives in the research analysis unit. This means that Corporate Social Responsibility (CSR) is an important factor in creating Sustainable Competitive Advantage. When companies are more consistent in implementing CSR, companies tend to be more able to build a sustainable advantage over competitors. Furthermore, the findings of this study highlight the strategic importance of CSR for MSMEs, by showing a significant and positive impact of CSR on SCA. This result is consistent with (Maheshwari et al., 2025; Xuetong et al., 2024) who found a significant and positive effect of CSR on sustainable competitive advantage. MSMEs that are active in CSR initiatives, for example, promoting environmental sustainability, and upholding ethical business practices not only fulfill ethical and regulatory responsibilities but also increase their competitive advantage.

These findings align with resource-based theory, which suggests that developing unique and inimitable resources drives organizational performance and provides sustainable competitive advantage (SCA) within an industry (Maheshwari et al., 2025). The positive perceptions fostered by effective CSR can lead to stronger relationships, increased customer retention, and higher employee engagement. The positive impact of CSR on SCA underscores the long-term benefits of socially responsible behavior (Gazi et al., 2024). Unlike short-term approaches, CSR can build lasting relationships and goodwill, which are essential for sustained success (Alshukri et al., 2024; Naufal Arif Maulana, 2023). This is particularly crucial in the MSME sector, where trust and reliability are paramount. Consumers are more likely to be loyal to MSMEs that demonstrate a commitment to social responsibility and ethical behavior, thus strengthening their ability to maintain a competitive advantage. Research evidence suggests that CSR is a strategic tool that enables MSMEs to gain and maintain a competitive advantage, beyond simply fulfilling legal or ethical obligations (Aftab et al., 2025; Maheshwari et al., 2025). By prioritizing stakeholder needs and implementing socially responsible activities, MSMEs can enhance their reputation, foster employee and consumer loyalty, and increase long-term profitability.

For MSMEs, these findings imply that CSR should be positioned as part of a business strategy to strengthen long-term competitive advantage, not merely as an additional activity. The most relevant CSR initiatives for MSMEs are those that directly impact key stakeholders, such as maintaining product quality and safety, treating employees fairly, engaging with the surrounding community, and managing environmental impacts simply but consistently. When CSR is implemented sustainably and communicated appropriately (not excessively), MSMEs have the opportunity to build trust, reputation, and loyalty that are likely difficult for competitors to replicate, thus strengthening their competitive position in the long term. For academics, these findings strengthen the argument that CSR can act as a mechanism for building sustainable competitive advantage through the creation of intangible assets (such as reputation and legitimacy) and strengthening relationships with stakeholders. The theoretical implication is that CSR deserves to be treated not merely as an “ethical” variable, but as a strategic variable that contributes to competitive outcomes. In the future, research can deepen the explanation by examining the mechanism pathways (e.g., stakeholder reputation/trust as a mediator) and boundary conditions (e.g., MSME size, industry sector, competitive intensity, or innovation capacity) to explain when and under what conditions CSR is most effective in producing truly sustainable advantages.

The Influence of Digital Capability on Sustainable Competitive Advantage Moderated by Green Entrepreneurial Orientation

The results of the study indicate that Green Entrepreneurial Orientation (GEO) does not significantly moderate the relationship between Digital Capability (DC) and Sustainable Competitive Advantage (SCA). This finding is reflected in the $GEO \times DC$ interaction coefficient = -0.043 with $p = 0.521$, thus rejecting H3. Substantively, the negative direction of the coefficient indicates a weakening trend in the relationship between DC and SCA, but the magnitude of the effect is small and statistically

indistinguishable from zero. Within the Resource-Based View (RBV) framework, this finding implies that the contribution of DC to SCA in the context of this study is relatively direct and independent of the level of green entrepreneurial orientation. DC appears to operate through internal mechanisms such as distinctive digital routines, process integration, and accumulated organizational learning, which are not materially affected by variations in GEO. Conversely, GEO does not emerge as a complementary capability that strengthens its value and exploitation, possibly because this orientation has not been fully institutionalized into investments, systems, and operational practices that support the utilization of digital capabilities.

These findings are consistent with the literature showing that simultaneously implementing a digital strategy and an environmental orientation does not always generate additional synergies for strategic outcomes (Ardito et al., 2021), and that the effectiveness of an environmental orientation as a boundary condition depends heavily on the depth and substance of its implementation mentasinya (He, 2024). Furthermore, in line with the RBV argument, environmental strategy more often acts as a mechanism for delivering the value of digital capabilities, for example through innovation or green practices, rather than as a direct moderator of the relationship, explaining why the interaction effect may be insignificant (Benítez-Amado & Walczuch, 2012). In the context of small and medium-sized enterprises (SMEs), these findings align with a number of studies showing that digitalization initiatives and sustainability agendas do not always operate synergistically. When these two agendas are implemented simultaneously, they have the potential to form competing growth paths for the utilization of limited organizational resources. This situation is especially relevant for SMEs, given the limitations in financial capital, human resources, and managerial capacity they typically face.

Implementing digitalization requires technology investment, digital competency development, and business process adjustments, while the sustainability agenda demands resource allocation for green innovation, environmental compliance, and social programs. If these two priorities are not managed in an integrated manner, the risk of resource dilution increases, with the organization's attention and resources being fragmented across various strategic initiatives. Consequently, the effectiveness of each agenda can decline, including weakening the impact of the interaction between digitalization and sustainability on performance and competitive advantage. Therefore, these results indicate the importance of strategic prioritization and capability alignment within SMEs, so that digitalization and sustainability do not undermine each other but can instead be directed in a gradual and complementary manner, in accordance with the organization's capacity (Denicolai et al., 2021).

The capability configuration-based approach emphasizes that the formation of sustainable competitive advantage cannot be explained by the existence of a single strategic orientation or a single reinforcing factor in isolation. Rather, such advantage arises from the interaction and combination of various complementary and integrated organizational capabilities. Within this framework, each capability, whether digital, organizational, or environmentally oriented, plays a role that depends on the context and overall configuration of a company's resources. Therefore, a green orientation does not necessarily serve as a boundary condition determining the strength or weakness of the relationship between digitalization and Sustainable Competitive Advantage (SCA). Digital capabilities can contribute directly to SCA by increasing efficiency, flexibility, and market responsiveness, regardless of an organization's level of green orientation. Meanwhile, a green orientation will provide strategic added value when appropriately combined with other capabilities, such as innovation, organizational learning, and adaptive internal governance. Therefore, the failure of a green orientation to moderate the relationship between digitalization and SCA should not be viewed as a conceptual weakness, but rather as a reflection of the complexity of the capability configuration required to build a sustainable competitive advantage (Du et al., 2025). This finding is also in line with evidence that the impact of digital transformation on sustainability dimensions is contextual and non-linear, and can even be negatively correlated under certain market conditions, indicating that green initiatives do not always strengthen the influence of digital strategies on sustainable outcomes (Li, 2022).

In the context of MSMEs, the findings of this study indicate that the contribution of Digital Capability (DC) to Sustainable Competitive Advantage (SCA) tends to be relatively direct and is not always influenced by the level of Green Entrepreneurial Orientation (GEO). However, this finding does not negate the potential role of GEO in certain contexts or configurations. Therefore, MSMEs can consider prioritizing strengthening digital capabilities that support core processes such as operational system integration, data utilization, and the development of digital routines as a first step

in building competitiveness. At the same time, a green entrepreneurial orientation has the potential to provide added value when translated into more institutionalized practices, for example through the integration of resource efficiency targets into digital systems, aligning the investment sequence between digital and sustainability agendas, and strengthening internal competencies that enable the two to interact more productively. With a phased and contextual approach, MSMEs have room to adjust the combination of digital and green strategies according to their capacity, market dynamics, and stage of organizational development.

For research development, these results indicate that the role of GEO as a moderating variable in the relationship between Digital Capability and Sustainable Competitive Advantage is not universal and is likely dependent on the empirical context, the level of institutionalization of green orientation, and the configuration of other accompanying capabilities. Therefore, future research could explore alternative placements of GEO in conceptual models, for example, as a direct antecedent, a mediating variable through green innovation or sustainability practices, or as part of a more complex configuration of capabilities. Furthermore, methodological approaches that capture non-linear relationships and competing pathways could be used to test the possibility that the interaction between digitalization and environmental orientation changes with market conditions, levels of turbulence, or resource constraints. This approach allows for a more flexible and comprehensive understanding of how digital capabilities and sustainability orientation contribute to competitive advantage in various organizational contexts.

The Influence of Corporate Social Responsibility on Sustainable Competitive Advantage Moderated by Green Entrepreneurial Orientation

The results of the study indicate that Green Entrepreneurial Orientation (GEO) positively and significantly moderates the relationship between Corporate Social Responsibility (CSR) and Sustainable Competitive Advantage (SCA). This is indicated by the interaction coefficient of $\beta = 0.229$ with $p = 0.002$, thus H4 is accepted. Substantively, the positive interaction coefficient indicates that the influence of CSR on SCA is stronger when the level of GEO is higher; in other words, the effectiveness of CSR in generating sustainable competitive advantage is conditional on the organization's green entrepreneurial orientation. The results of this study indicate that the influence of Corporate Social Responsibility (CSR) on Sustainable Competitive Advantage (SCA) is conditional and strengthened by Green Entrepreneurial Orientation (GEO). This finding is in line with empirical evidence that Environmental CSR can drive process and product innovation when supported by appropriate internal mechanisms, where GEO acts as a capability that facilitates the translation of CSR into strategic innovation (Ahmad et al., 2023).

In the context of small and medium enterprises (SMEs), corporate social responsibility (CSR) practices and green entrepreneurial orientation (GEO) have been widely identified as important factors driving environmentally friendly innovation and improving sustainable performance. The implementation of CSR in SMEs not only serves as a form of concern for social and environmental aspects, but also serves as a strategy that can drive operational efficiency, enhance reputation, and strengthen relationships with stakeholders. Furthermore, GEO reflects the commitment of business actors to integrate environmental values into the entrepreneurial decision-making process, including in product development, production processes, and business models. The combination of CSR and GEO encourages SMEs to be more proactive in producing green innovations, such as the use of environmentally friendly technologies, better waste management, and efficient resource utilization. These innovations contribute directly to improving sustainable performance, from both economic, social, and environmental perspectives. Ultimately, this sustainable performance serves as an important foundation for the long-term competitiveness of SMEs. However, in several studies the relationship between CSR and GEO has not always been explicitly analyzed as a moderating variable, but the role of both has been proven to be significant in strengthening business sustainability and competitiveness (Hennart, 2012).

From a Resource-Based View (RBV) perspective, corporate social responsibility (CSR) is understood as a source of intangible strategic assets, such as organizational reputation, social legitimacy, and stakeholder trust. These assets possess characteristics that are difficult to imitate and have the potential to provide long-term value to a company. However, the existence of these intangible resources does not automatically create a sustainable competitive advantage. CSR will only provide strategic

benefits if supported by adequate internal capabilities to manage, integrate, and utilize them effectively. Within the RBV framework, internal capabilities act as a connecting mechanism that enables companies to transform CSR resources into tangible competitive advantages. Without an organization's ability to coordinate activities, manage knowledge, and adapt strategies to environmental dynamics, the potential value of CSR tends to be suboptimal. Therefore, CSR needs to be combined with dynamic capabilities, such as the ability to innovate, adapt to market changes, and reconfigure resources continuously. Thus, sustainable competitive advantage is not only determined by the ownership of intangible resources alone, but also by the extent to which a company is able to orchestrate these resources strategically and consistently in the long term (Kraus et al., 2020; Shahzad et al., 2020).

In this context, Green Entrepreneurial Orientation (GEO) can be understood as a strategic capability reflecting innovative behavior, proactive attitudes, and the courage to take risks based on the principles of environmental sustainability. The existence of GEO enables companies to not only carry out Corporate Social Responsibility (CSR) practices normatively, but also transform them into a source of green innovation and environmentally friendly business practices that have economic value. With a strong green entrepreneurial orientation, CSR initiatives can be integrated into value creation processes, product development, and operational strategies that support both sustainability and competitiveness. The findings regarding the moderating role of GEO are in line with recent literature that confirms that the strategic impact of CSR will be more optimal when an organization has an adequate green entrepreneurial orientation. This orientation functions as a driving mechanism that converts social and environmental activities into unique business advantages that are difficult for competitors to imitate. In other words, CSR is no longer viewed merely as an ethical obligation or social legitimacy, but as an integral part of an entrepreneurial strategy oriented towards innovation and sustainability. The combination of CSR and GEO enables companies to build sustainable differentiation by leveraging environmental value as a source of long-term competitive advantage (Mondal et al., 2024; Singh & Misra, 2021), and with evidence that CSR drives environmental strategy change and innovation as a more sustainable value creation pathway (Le, 2023).

Meta-analytic findings reinforce the view that Green Entrepreneurial Orientation (GEO) has a consistent positive relationship with corporate sustainability performance. In general, green entrepreneurial orientation has been shown to contribute to improved sustainability outcomes, across environmental, social, and economic dimensions. This suggests that companies that adopt an innovative, proactive, and risk-taking entrepreneurial attitude within a sustainability framework tend to perform better in managing the long-term impacts of their business activities. In addition to its direct association with sustainability performance, GEO also acts as a reinforcing factor in driving the success of various sustainability initiatives. Numerous empirical findings demonstrate that green entrepreneurial orientation serves as a catalyst that enhances the effectiveness of sustainability-oriented organizational strategies and practices, such as green innovation, resource efficiency, and social responsibility. With GEO, these efforts are no longer merely reactive to external demands but become part of an integrated, long-term business strategy. Therefore, meta-analytic support confirms that GEO is a crucial element in strengthening the achievement of sustainability outcomes and enhancing an organization's capacity to build sustainable competitive advantage (Kura & Lukman, 2025).

Mechanistically, a high level of Green Entrepreneurial Orientation (GEO) enables Corporate Social Responsibility (CSR) practices to expand beyond simply fulfilling formal obligations or enhancing corporate image. Under these conditions, CSR triggers a continuous organizational learning process, fostering green innovation and facilitating continuous improvement of business processes. This process is path-dependent, where experience, knowledge, and competencies accumulated over time shape the organization's unique capabilities. Through a green entrepreneurial orientation, companies tend to internalize social and environmental values into their core strategies, transforming CSR activities into a source of strategically valuable capability development. The resulting green innovations not only improve operational efficiency and sustainability but also strengthen the company's differentiation in the market. Consequently, CSR's contribution to Sustainable Competitive Advantage (SCA) becomes more stable in the long term. The path-dependent nature of this process makes the resulting advantage difficult for competitors to imitate, as it is built through a combination of historical experience, internal learning, and a consistent strategic orientation. Thus, GEO plays an important role in deepening and strengthening the impact of CSR on the formation of sustainable competitive advantage (Baquero, 2024).

For MSMEs, these findings indicate that the impact of CSR on sustainable competitive advantage tends to be stronger when MSMEs also have a higher green entrepreneurial orientation. In other words, CSR has the potential to be more effective in driving sustainable competitive advantage when accompanied by a green entrepreneurial orientation, such as a tendency to be more innovative, proactive in identifying green opportunities, and daring to try new, environmentally friendly approaches. The practical implication is that MSMEs can consider not only implementing CSR as a relational activity with stakeholders, but also linking it with efforts to develop greener products, processes, or services so that CSR benefits are more easily converted into competitive differentiation and efficiency. For academics, these findings enrich the RBV-based discussion by showing that the relationship between CSR and sustainable competitive advantage appears to be contextual and can be influenced by certain internal capabilities, in this case green entrepreneurial orientation. The theoretical implication is that CSR research is not only relevant in testing direct effects but also needs to allow for contingency approaches, for example, by positioning green orientation/capabilities as factors that can strengthen or weaken CSR's ability to generate sustainable competitive advantage. In the future, these findings can serve as a basis for testing other mechanisms (e.g., green innovation, organizational learning, or reputation) as well as boundary conditions (industry type, MSME size, competitive dynamics) to further comprehensively understand when CSR is most effective in shaping SCA.

Conclusion

This study concludes that digital capability and corporate social responsibility have a positive and significant impact on sustainable competitive advantage in micro, small, and medium enterprises. These findings confirm that the ability of MSMEs to utilize digital technology and a commitment to social responsibility are strategic factors in building long-term competitiveness. Digital capability has a direct impact on sustainable competitive advantage, indicating that the use of technology, data, and digital integration can increase business efficiency, effectiveness, and added value sustainably without requiring reinforcement from other variables. Digital capability in this study is shaped by three main dimensions: digital perception capability, digital operations, and digital integration. The digital perception dimension emphasizes the importance of organizational sensitivity to technological developments and understanding the business's digital position as a foundation for digital transformation. In the digital operations dimension, data-driven decision-making is a key element in supporting operational performance, while digital integration emphasizes the need to align internal and external resources to support sustainable and innovative digital transformation. Furthermore, corporate social responsibility also contributes significantly to sustainable competitive advantage, especially when reinforced by a green entrepreneurial orientation. Green entrepreneurial orientation is proven to act as a moderating variable that strengthens the relationship between corporate social responsibility and sustainable competitive advantage. This indicates that the implementation of social responsibility practices will be more effective in creating competitive advantage if supported by a proactive, innovative, and risk-taking attitude oriented towards environmental sustainability. Sustainable competitive advantage variables are reflected through various key dimensions, such as relevant value for customers, reliable service systems, sustainable business performance, integration of innovation in business strategy, stable market position, unique resources, and knowledge-based advantages that are difficult to imitate. Overall, this study confirms that the synergy between internal capabilities, social responsibility, and green entrepreneurial orientation is a strategic key in strengthening the competitiveness of MSMEs in a sustainable manner.

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