

## THE MEDIATING ROLE OF COMPETITIVE ADVANTAGE IN THE RELATIONSHIP BETWEEN CAPABILITIES AND MSME SUSTAINABILITY IN BALI

I Gusti Agung Prabandari Tri Putri<sup>1\*</sup>, Desak Putu Nitya Dewi<sup>2</sup>, I Gst. Agung Pramesti Dwi Putri<sup>3</sup>,  
Gusti Ayu Ratnawati<sup>1</sup>, I Made Dwitya Rastiawan<sup>2</sup>

<sup>1</sup>Program Study of Management, Faculty of Economics and Business, Universitas Primakara  
Jl. Tukad Badung No. 135 Renon, Denpasar Selatan Bali, 80226, Indonesia

<sup>2</sup>Program Study of Accounting, Faculty of Economics and Business, Universitas Primakara  
Jl. Tukad Badung No. 135 Renon, Denpasar Selatan Bali, 80226, Indonesia

<sup>3</sup>Program Study of Accounting Information System, Faculty of Information Technology and Design, Universitas Primakara  
Jl. Tukad Badung No. 135 Renon, Denpasar Selatan Bali, 80226, Indonesia

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### ABSTRACT

**Background:** MSME sustainability is a critical for regional resilience in Bali. However, prior studies have not adequately explained how different dimensions of capabilities influence sustainability outcomes through competitive advantage as a mediating.

**Purpose:** This research aims to examine the role of competitive advantage as a mediating variable in the influence of dynamic, management, technological, and innovation capabilities on MSME sustainability in various sectors.

**Design/methodology/approach:** Quantitative data were collected using a questionnaire, with a sample size determined based on a minimum SEM calculation of 5-10 times the number of indicators and research variables. The total sample consisted of 168 MSME owners in Bali, respondents namely MSME owners in Bali, selected through purposive sampling based on predetermined criteria. Data were analyzed using PLS-SEM to examine complex relationship and mediating effects.

**Findings/Result:** Innovation capability and competitive advantage have a direct and significant effect on MSME sustainability, whereas dynamic, management, and technological capability do not show a significant direct effect. Management and innovation capabilities significantly influence competitive advantage, but only management capability contributes to sustainability through mediation. These findings suggest MSME sustainability is driven more by innovation and competitive positioning than by the development of other capabilities.

**Conclusion:** Sustainable MSMEs can be achieved by improving innovation capabilities and competitive advantage. Competitive advantage functions as a specific mechanism that links management capability to sustainability, suggesting that not all internal capabilities are effectively translated into sustainability outcomes.

**Originality/value (State of the art):** The findings indicate that the impact of capabilities on MSME sustainability is selective, highlighting competitive advantage as a key mediating mechanism in supporting the development of a local product-based economy.

**Keywords:** sustainable MSME, competitive advantage, capabilities, strategic management

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\* Corresponding author:

Email: [prabantriputri@primakara.ac.id](mailto:prabantriputri@primakara.ac.id)

## INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in supporting economic resilience, particularly in Bali, where economic activities are closely linked to tourism. Their presence remained stable and even strengthened during the COVID-19 pandemic, as MSMEs sustained local economic activities amid disruptions. Recent data indicate that Bali hosts more than 442,000 MSMEs (Dinas Koperasi, 2023), reflecting their significant contribution to economic activity. Through diverse products and services, MSMEs contribute to local value creation. Despite this potential, ensuring the long-term sustainability of MSMEs remains a key concern for regional economic stability. Their diverse products indicate strong market potential, but MSMEs continue to face pressures from cheaper imported goods, low consumer awareness of local products, and competitor offering distinctive items at lower prices. Consequently, the ability to adapt to shifting market dynamics and evolving consumer behavior remains a central challenge for ensuring their long-term resilience.

Preliminary observations of 25 MSMEs located in the city of Denpasar, Badung, Gianyar and Klungkung Regency, further reveal that many businesses struggle to operating sustainably, despite having market potential. Although MSMEs offer products with competitive potential, this advantage does not necessarily lead to sustained long-term performance. A sustainable MSME demonstrates capabilities to perform effective, efficient, and adaptable business management (Budiarto et al. 2024) towards changes in the external environment, including meeting consumer needs (Wibowo et al. 2023). Internal organizations are key factors to sustainable business achievements through improving its performance with effective and adaptable work systems. Sustainability can lead to MSMEs' improved reputation, brand image, business value, and competitiveness through capabilities enhancement (Supramono et al. 2025).

Resource Based View Theory (RBV) delineates the importance of an explicit Competitive Advantage (CA) in establishing business value that forms growth patterns (Djiu et al. 2024) through utilization of resources and capabilities (Agrawal et al. 2024). An MSME with CA build a capacity to recognize themselves, and thus distinguishable from their

competitors (Parnell et al. 2015). A study by Putri et al. (2024) found that MSMEs in Jembrana Regency (Bali) exhibit unique characteristic rooted in local wisdom and cultural values, which serve as strategic resources. However, this condition does not fully align with RBV, which posits that resources and capabilities should lead to the development of CA and improved performance. In practices, many MSMEs are unable to achieve sustainability targets despite possessing such resources. This suggest that the relationship between internal capabilities and sustainability does not automatically.

This research aims to extend existing findings on CA about capability, a key internal factor, which refers to an ability of organizational elements to grow their business. While Dynamic Capability (DC) is often stated as an ability to remain competitive when responding to changes in the business environment (Dejardin et al. 2023) and affects CA determination (Mutsvanga, 2021), a study by Hadi (2023) emphasized that DC did not influence business sustainability. Management Capabilities (MC) are another factor which influences CA (Akther et al. 2024; Niode, 2022). MC gestures towards the ability of leaders in shaping organizations to be more resilient in responding to changes in the business environment (Akther et al. 2024). The next factor is the Innovation Capability (IC) that is identified as influencing CA (Bekata & Kero, 2025), which refers to the ability of the business to explore new ideas to generate added value for the business. Innovation does not only focus on the product but also the process, marketing, and organizational management (Hameed et al. 2025). The final determining factor of CA is Technological Capabilities (TC) (Owuori et al. 2020). TC is described as the ability to adopt and utilize technological developments in creating business advantages, including in predicting possible technological changes in the industry (Donbesuur et al. 2020). However, the study reported inconsistent findings regarding both direct and indirect effect of capabilities on sustainability. This inconsistency reveals a research gap, suggesting that an important mechanism-the mediating role of CA-has not been adequately examined in MSMEs Bali.

To address the identified research gap, this study adopts the RBV to examine how internal capabilities influence MSME sustainability. It focuses on dynamic, management, technological, and innovation capabilities as key determinants of CA. This research

also considers varied results of empirical studies, including those which found TC as a non-contributing factor to sustainable practices (Kurnianingrum et al. 2025). Rather than emphasizing direct relationship, this study positions CA as a central mediating mechanism that links capabilities to sustainability outcomes. By integrating both direct and indirect effect, this study provides a more comprehensive explanation of the capability-sustainability relationship and contributes to resolving inconsistencies in prior research.

This research aims to examine the role of competitive advantage as a mediating variable in the influence of capabilities on sustainable business activities. This study contributes by providing empirical evidence on how MSME capabilities influence sustainability through competitive advantage. In addition, the findings provide a deeper understanding that not all capabilities directly contribute to sustainability outcomes. The results are expected to support the strengthening of the MSME ecosystem in Bali Province through the development of competitive advantage strategies. Furthermore, this research will also generate insights which can be implemented as the basis for incubation and development programs for MSMEs in Bali province by relevant government institutions.

## METHODS

This study utilized primary data collected through structured questionnaires administered to MSME owners in Bali Province. The quantitative data in this study was obtained using a questionnaire which derived from measurements of the exogenous variables (i.e., DC as X1, MC as X2, IC as X3, and TC as X4), endogenous variable (i.e., sustainable MSMEs as Y), and the mediation variable (i.e., CA as Z). Each variable was measured using several indicators from previous studies (Akther et al. 2024; Dejardin et al. 2023; DeSarbo et al. 2005; Djiu et al. 2024; Donbesuur et al. 2020; Hameed et al. 2025; Supramono et al. 2025). All indicators were assessed using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). To maximize respondent comprehension and data reliability, the questionnaire was constructed in Indonesian using unambiguous terminology.

This study conducted MSME owners located in Bali Province with a population of 442,848 units (Dinas Koperasi, 2023). A purposive sampling technique

was employed to select respondents based on several predetermined criteria: (1) actively operating MSMEs; (2) the business had been operating for a minimum of one year; (3) the products were self-produced by the MSMEs; and (4) business management and decision making were conducted directly by the owners without the business consultants. These criteria were established to obtain relevant insight from MSME owners regarding business capabilities, competitive strategies, and sustainability practices. The sample size was determined based on the recommendation for PLS-SEM analysis developed by Hair et al. (2021) probability sampling method. The number of research samples ranges from 150-300 respondents, as follows:  
Number of samples = (number of indicators + number of variables) × (5 – 10 times)  
Minimum sample count = (24 + 6) × (5) = 150 respondents  
Maximum sample count = (24+6) × (10) = 300 respondents

A total of 168 valid responses were successfully collected through questionnaire distribution and subsequently analyzed in this study.

The data analysis was based on PLS-SEM analysis by using WarpPLS 7.0 software. The PLS-SEM approach was adopted because it is highly robust in handling complex structural models, as evidenced by the substantial number of measurement indicators involved in this study. Consistent with standard PLS-SEM procedures, the use of WarpPLS necessitates the evaluation of both the outer (measurement) and inner (structural) models. Model evaluation involved assessing measurement criteria—specifically reliability and convergent validity (AVE)—as well as structural model metrics, including coefficient determination (R-squared), predictive validity (Q-squared), and full collinearity test (VIF). The accepted standard Q-squared value is above zero (Sholihin & Ratmono, 2021). The hypothesis will be accepted if the p-values < 0,05, indicating a significant effect of exogenous and mediation variables to endogenous (Hair et al. 2021).

## The Influence of Capabilities on Sustainable MSMEs

The concept of business sustainability comprises a complex relationship between various factors including stakeholder satisfaction, energy consumption, environmental conservation, and financial outputs

(Antwi-Boateng et al. 2025). This understanding of sustainability aligns with the triple bottom line (Ahmad & Wong, 2019) perspective encompassing economic, social, and environmental sustainability. In this MSME research, sustainability is reflected not only in financial performance but also in environmentally responsible practices and people-oriented business activities (Akther et al. 2024). To clarify the measurement of sustainable MSMEs, this research used three indicators, including financial performance, environmentally friendly behavior, and people orientation, in accordance with (Supramono et al. 2025)'s empirical study. These dimensions capture the capacity of MSME to sustain business operation while responding to stakeholder expectations and environmental challenges.

From RBV perspective, capabilities represent strategic resource that enable organizations to build competitive advantage and sustain long-term performance. Internal organizational factors were used as determinants of sustainable MSMEs, such as DC (Supramono et al. 2025), MC (Mishra & K.B., 2025), IC (Esen et al. 2023), and TC (Lee et al. 2024; Owuori et al. 2020). Continuous improvements are feasible and recommended for MSMEs through internal capabilities enhancement. DC enables MSME to sense and respond to environmental changes (Teece, 2018), MC supports effective coordination and strategic decision-making. IC drives value creation through new product, new processes, and new marketing method. TC enhances operational efficiency and technology utilization (Yun., 2022). Through these roles, each capability contributes differently to how MSMEs manage resources and adapt to competitive business environments.

The determination of capability as a sustainable factor in this research foregrounds RBV theory which highlights the important aspects of business i.e., people, profits, and sustainability (Freeman et al. 2021), as well as management strategies to accomplish it. Well-formed internal capabilities will help businesses discover their CA. CA not only equips businesses to become more resilient but also encourages MSMEs to be more innovative (Budiarto et al. 2024). To overcome competition, MSMEs must have willingness to try new strategies such as increasing collaboration to produce creative ideas and products, accelerating product delivery to the market, and becoming more flexible and adaptable to market changes (Nakash, 2025). Nevertheless, not all capabilities necessarily translate directly into sustainable outcomes, indicating the need

for empirical examination of their partial effect. Based on this reasoning, the hypotheses of this research are formulated as follows:

H1: DC have a positive and significant effect on sustainable MSMEs

H2: MC have a positive and significant effect on sustainable MSMEs

H3: IC have a positive and significant effect on sustainable MSMEs

H4: TC have a positive and significant effect on sustainable MSMEs

H5: CA has a positive and significant effect on sustainable MSMEs

### **The Influence of Capabilities on CA**

MSMEs often overlook their organizational strategies, which leads to undesirable, long term impact. From RBV perspective, CA is achieved when business effectively utilize resources to create value that differentiates them from competitors, thereby making their product difficult to imitate. This means MSMEs might be less sensitive in assessing their CA (the uniqueness of their products) and unable to avoid replication by their competitors (Parnell et al. 2015). In this case, CA is emphasized as the creation of business value for MSMEs to perform better than their competitors, referring to (1) the indicators of condition factor, (2) demand conditions, (3) related and supporting industries, (4) firm strategy, structure, and rivalry, and (5) government and culture (Djiu et al. 2024). In tackling competitions MSMEs should take risks to apply innovative strategies, for example by improving collaborative endeavors, engaging with creativity, increasing product expedition, and becoming more adaptable to market changes (Nakash, 2025).

DC enables MSMEs to sense and respond to environmental changes, which may enhance their ability to compete in dynamic markets. Previous research by (Chukwuemeka & Onuoha, 2018) reported that DC involves employees' participation in assessing changes within the business environment, which will support companies to become more competitive in the market. Adaptability to changes in the business environment is not only measured by the ability to see opportunities for improvement but also on MC to create added value (Kearney et al. 2013). At the same time, MC supports the coordination of resources and strategic decision-making processes that contribute to organizational effectiveness and competitive

positioning. On the contrary, IC further support the formation of CA (Bekata & Kero, 2025; Ferreira et al. 2021) as everyone in the organization is accountable for novel products and experiences for consumers (Otache, 2024). Meanwhile, TC facilitates the adoption and how the management team optimizes digital technology to support business effectiveness as a response to market changes (Yun, 2022).

Although these capabilities are theoretically associated with competitive advantage, their effect may not be equally strong across different organizational context. The contribution of each capability depends on how it is integrated into business strategies and operational practices. This suggests that competitive advantage is not merely driven by the presence of capabilities, but by effectiveness of their deployment in competitive environments. Previous research (Bekata & Kero, 2025; Chukwuemeka & Onuoha, 2018; Kearney et al. 2013; Yun, 2022) outlines the determinants of CA, and shapes the following hypotheses:

H6: DC have a positive and significant effect on CA

H7: MC have a positive and significant effect on CA

H8: IC have a positive and significant effect on CA

H9: TC have a positive and significant effect on CA

### **The Influence of Capabilities on Sustainable MSMEs with CA as a Mediating Variable**

RBV describe MSME sustainability is not solely determined by the possession of internal capabilities, but by how these capabilities are effectively deployed to generate competitive advantage. While internal capabilities such as DC, MC, IC, and TC represent strategic resources. Fundamentally, DC denotes a business's ability to integrate, build, and reconfigure internal strengths to address changing external environments. DC is measured by sensing (detecting opportunities and threats) and conceptualizing (ideas development) (Dejardin et al. 2023). In addition to DC, learning capability is another indicator that can demonstrate how a company processes repetitive activities, enabling efficiency (Rashidirad & Salimian, 2020; Teece et al. 1997). Measurement of integrating capability serves as a culmination of knowledge of company members with infrastructure, particularly technology, for an optimized operation (Rashidirad & Salimian, 2020; Supramono et al. 2025).

Similarly, MC has a significant role in driving management functions to achieve sustainability targets.

The art of managing can be measured through (1) process planning, either upstream or downstream approaches, of the business; (2) functional planning that is related to resource evaluation; (3) instrumental element that reflects business ability to predict its performance; and (4) resources management that includes capabilities to provide resources for business operations. Higher skills and knowledge in business management is indicative of the clearer a company's future direction and goals (Supramono et al. 2025; Akther et al. 2024;).

IC facilitates the development of ideas and product generation. Ideas development of a business does not solely focus on its product uniqueness, but also involve its processes, marketing, and organization (Hameed et al. 2025). These diverse aspects of innovation are a working method to retain customers, especially when complemented with offers to new experiences (Sari et al. 2022). Nevertheless, its impact on sustainability becomes meaningful when these innovations create differentiated value that reinforce competitive advantage (Shahzad et al. 2024). In the same vein, TC enhances operational efficiency and responsiveness, such as the skills of MSMEs' owners in utilizing technology for new product development, manufacturing processes (Donbesuur et al. 2020), and technology development; these skills also include an ability to predict technology changes in the industry (DeSarbo et al. 2005), yet its contribution to sustainability depend on how technology is utilized to support competitive differentiation rather than mere adoption. These sustainable business practices will indirectly increase business value from the perspective of stakeholder assessment (Owuori et al. 2020; Putri et al. 2024).

These arguments suggest that competitive advantage function as a critical mediating mechanism through which internal capabilities influence sustainability outcomes. Capabilities alone are insufficient to ensure sustainability unless they are effectively converted into a competitive advantage. This perspective addresses the inconsistency in prior empirical findings. Therefore, this study proposes that the relationship between capabilities and MSME sustainability is indirect and operates through competitive advantage as mediating variable. Previous research findings have informed the formulation of the following hypotheses:

H10: CA acts as a mediator of the influence of DC on MSMEs sustainability

H11: CA acts as a mediator of the influence of MC on MSMEs sustainability

H12: CA acts as a mediator of the influence of IC on MSMEs sustainability

H13: CA acts as a mediator of the influence of TC on MSMEs sustainability

The conceptual framework is presented in Figure 1, which illustrates direct and indirect effects. As seen in the figure, the direct influence on sustainable MSMEs is shown by H1-H5, while the direct influence on CA is shown by H6-H9. Following the evaluation of direct effect, the subsequent phases involved analysing the mediating variables. As a mediating construct, CA denotes the capacity of MSMEs to generate added value, which is driven by core business capabilities and fundamentally supports sustainable MSMEs. The mediation testing hypothesis is shown by H10-H13.

## RESULTS

The descriptive analysis of the respondents' characteristics is shown in Table 1. The Table illustrates the most dominant field of business is Food and Beverage (F&B) with 65 respondents equivalent to 39%. The craft field followed, comprising 33 respondents equivalent to 20%, while the farm field represented the smallest demographic, only three respondents equivalent to 2%. Although Bali is administratively divided into eight regencies dan one municipality, the distribution of business activities

across these regions remains uneven. The production and commercialization of MSME products are concentrated in three regions-Denpasar City (27%), Badung Regency (24%), and Gianyar Regency (13%). However, it is common practice for these commercial hubs to source products manufactured in Tabanan Regency, Karangasem Regency, and Bangli Regency.

The outer model results have shown that the convergent validity for the reflective construct met the requirements of a loading value above 0.70 and a significant p value (<0.05) (Hair et al. 2021) (see Table 2). The coefficient of determination using R-Squared obtained a value of 0.61 for the MSME sustainability construct, showing that 61% of sustainability variance was explained by the capability variance and competitive advantage. The remaining 39% of the variance in MSME sustainability is explained by factors not included in the research model. Meanwhile, CA obtained an R-Squared value of 0.55 or 55%, which was explained by capability variance. The remaining 45% of the variance in CA is explained by factors not included in the research model. The results indicate that the Q-squared (Stoner-Gejsser Coefficient) values for MSME sustainability and competitive advantage are 0.569 and 0.564, respectively. Since both values exceed zero, the model demonstrates adequate predictive relevance. As a reliability requirement, the composite reliability and Cronbach's alpha values of the variables were above 0.70, and the AVE value was above 0.5.

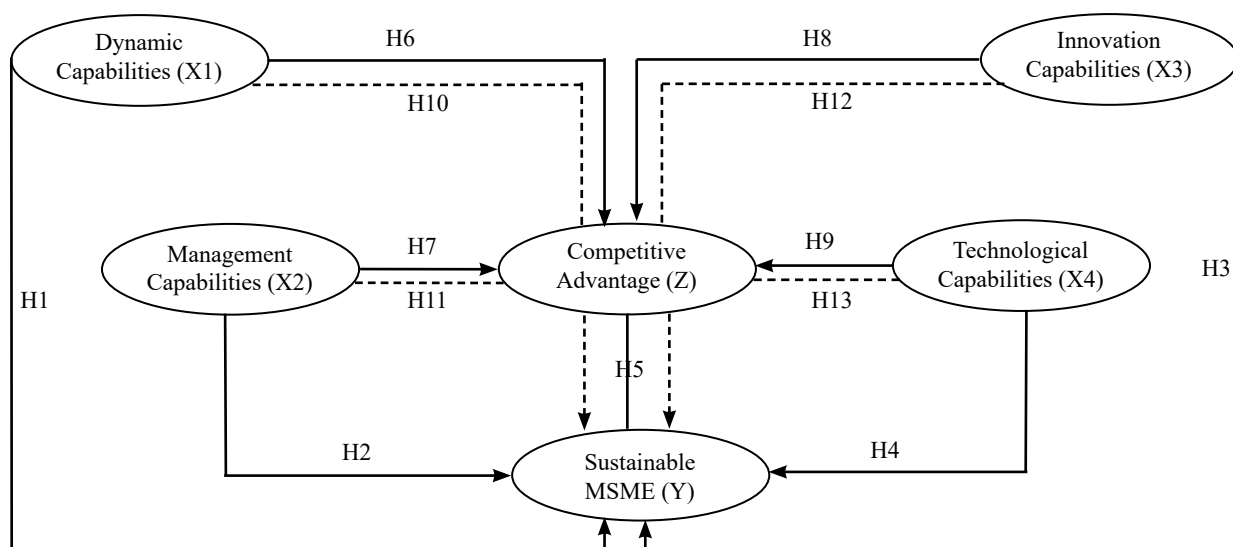


Figure 1. Conceptual framework of dynamic capabilities, management capabilities, innovation capabilities, technological capabilities, competitive advantage, and sustainable MSME

Tabel 1. Characteristics of respondents: dynamic capabilities, management capabilities, innovation capabilities, technological capabilities, competitive advantage, and sustainable MSME

Details	n	%
Field of Business		
F&B	65	39%
Herbs/Traditional Medicine	9	5%
Crafts	33	20%
Fashion	24	14%
Beauty	7	4%
Digital/Technology-Based Products	10	6%
Agriculture and Plantations	8	5%
Farm	3	2%
Other	9	5%
Total	168	100
Location of MSMEs		
City of Denpasar	46	27%
Badung	40	24%
Gianyar	21	13%
Tabanan	13	8%
Bangli	11	7%
Karangasem	12	7%
Klungkung	10	6%
Singaraja	7	4%
Jembrana	8	5%
Total	168	100

Tabel 2. Composite reliability, cronbach's alpha, AVE value of constructs: dynamic capabilities, management capabilities, innovation capabilities, technological capabilities, competitive advantage, and sustainable MSME

Variables	Composite Reliability	Cronbach's Alpha	AVE
Dynamic Capability (DC)	0.891	0.852	0.785
Management Capabilities (MC)	0.906	0.861	0.841
Innovation Capability (IC)	0.856	0.815	0.761
Technological Capabilities (TC)	0.771	0.723	0.789
Competitive Advantage (CA)	0.845	0.785	0.698
Sustainable (SUS) MSME	0.808	0.703	0.723

### The Influence of DC on Sustainable MSMEs

The results of data analysis based on the distribution of questionnaires to MSMEs owners and managers discovered that DC had no significant effect on sustainable MSMEs, with a t-statistic value of 0.03 and a p-value of >0.05, hence the first hypothesis was rejected (see Table 3). This is in line with (Hadi, 2023)'s findings which outlined prioritization of DC by MSMEs within changing market conditions did not have any impacts on sustainable business processes. Traditional business practices (Borahima et al. 2021) are rooted in the management of MSMEs along with

its business processes. This contrasts with findings and theories which highlighted DC as the most crucial capability contributed to the optimization of corporate performance (Teece, 2018) and supported businesses to be adaptable and resilient when faced with changing business environments (Dejardin et al. 2023).

### The Influence of MC on Sustainable MSMEs

The path coefficient value of MC was 0.005 with p-values of >0.05, showing insignificant effects of MC on sustainable MSMEs and thus H2 was rejected. This finding suggests although MC is

theoretically associated with improved decision-making and organizational performance (Akther et al. 2024), it does not automatically translate into sustainability outcomes. Better MC resonates to higher decision quality since a business is capable to identify opportunities and challenges it must face using its strengths and weaknesses (Putri et al. 2024). This suggests that MC functions to create business processes through risks management. On the contrary, research findings on insignificant role of MC have revealed that MSMEs implemented simple business practices, from planning to evaluation, that were not organized effectively. MSMEs business practices are predominantly managed by their owners, contributing to lack of recognition toward its environmental aspects to meet consumer needs. As a result, management practices may be sufficient for short-term operational efficiency but remain inadequate to support long-term sustainability.

From the RBV perspective, this result indicates that MC is not a sufficient strategic resource to generate sustainable performance. MSMEs tend to rely heavily on owner-driven decision-making, which may limit their ability to integrate broader environmental and market considerations into their business strategies. This explains that MC does not directly influence

sustainability, as its contribution is likely indirect through other mechanisms, such as competitive advantage.

### The Influence of IC on Sustainable MSMEs

IC measured from product, process, marketing, and organizational indicators has been proven to have a positive and significant effect on sustainable MSMEs, with a path coefficient value of 0.298 and p-value of <0.001. Consequently, H3 was accepted. This finding is in line with previous studies (Jalil et al. 2021; Sari et al. 2022) which stated IC as a supporting variable for MSMEs in meeting their performance targets involving novel experiences and product benefits for consumers. This culture of innovation can emerge due to internal and external business factors; leaders who take the risks to engage with innovative process and performance (Esen et al. 2023) will advance the competitive value of their business. A key external factor which supports IC is customers (Saunila, 2020), where their evaluations are useful to strengthen branding for market expansion. Both internal and external influences in the formation of IC will result in overall growth, long-term oriented performance, and increased social and environmental awareness, all of which are the foundation of sustainable MSMEs.

Tabel 3. Results of hypothesis testing and path significance among dynamic capabilities, management capabilities, innovation capabilities, technological capabilities, competitive advantage, and sustainable MSME

	Hypothesis	Path Coefficient	P-Values	Decision
H1	Dynamic Capability (DC) → Sustainable (SUS) MSME	0.032	0.340	Rejected
H2	Management Capabilities (MC) → Sustainable (SUS) MSME	0.005	0.470	Rejected
H3	Innovation Capability (IC) → Sustainable (SUS) MSME	0.298	<0.001	Accepted
H4	Technological Capabilities (TC) → Sustainable (SUS) MSME	0.119	0.057	Rejected
H5	Competitive Advantage (CA) → Sustainable (SUS) MSME	0.457	<0.001	Accepted
H6	Dynamic Capability (DC) → Competitive Advantage (CA)	-0.009	0.460	Rejected
H7	Management Capabilities (MC) → Competitive Advantage (CA)	0.536	<0.001	Accepted
H8	Innovation Capability (IC) → Competitive Advantage (CA)	0.181	<0.001	Accepted
H9	Technological Capabilities (TC) → Competitive Advantage (CA)	0.114	0.070	Rejected
H10	Dynamic Capability (DC) → Competitive Advantage (CA) → Sustainable (SUS) MSME	-0.004	0.472	Rejected
H11	Management Capabilities (MC) → Competitive Advantage (CA) → Sustainable (SUS) MSME	0.245	<0.001	Accepted
H12	Innovation Capability (IC) → Competitive Advantage (CA) → Sustainable (SUS) MSME	0.083	0.063	Rejected
H13	Technological Capabilities (TC) → Competitive Advantage (CA) → Sustainable (SUS) MSME	0.052	0.169	Rejected

From RBV perspective, IC represents a value-creating capability that enables businesses to transform internal resources into competitive offerings that are difficult to replicate. In the context of Bali, where MSMEs often rely on product uniqueness and local value, innovation becomes a critical mechanism for sustaining competitiveness and business continuity. Direct effect and significant relationship with sustainability show that innovation allows MSMEs to continuously adapt to market changes and meet evolving customer expectations. The integration of internal and external factors, such as customer feedback also supports the development of innovation in MSMEs. As a result, IC serves as a primary pathway through which MSMEs can achieve sustainable growth and enhance their economic, social, and environmental performance.

### **The Influence of TC on Sustainable MSMEs**

The analysis of influence of TC on sustainable MSMEs resulted in positive and insignificant value, with a path coefficient of 0.119 and p-values of  $> 0.05$ , hence H4 was rejected. Current use of technology, limited to receiving orders and communicating with consumers via WhatsApp, demonstrated the lack of MSMEs TC in Bali Province. Despite owners' specific skills in adopting the latest technology, the performance of MSMEs were not affected, resonating with Kurnianingrum et al. (2025)'s findings. MSME's products as well as transparency in providing information to their customers were fundamental strategies in establishing and maintaining trust, leaving products as consumer's ultimate choice. The findings of this research also in accordance with Cannas (2023)'s findings where MSMEs' capabilities were predominantly influenced by gender. Data of this research found that most of MSMEs' owners in Denpasar were females and housewives. Limited time to learn and practice using advanced technology impeded businesses ways of approaching a more sustainable business model.

### **The Influence of CA on Sustainable MSMEs**

This research proves that CA had a positive and significant effect on MSMEs, as shown by a path coefficient value of 0.457 and p-value of  $< 0.05$ , resulting in the acceptance of H5. This finding indicates that CA is a key of sustainability, suggesting that MSMEs with stronger competitive positioning are more likely to achieve long-term performance. Businesses with a

clear CA will potentially be more resilient than their competitors in the same market (Budiarto et al. 2024) as they are able to turn every opportunity into new strategies. Increasing collaboration, for instance, will make a business more adaptable to market changes (Nakash, 2025). Collaboration with various stakeholder groups will enable exchanges of information, expertise, and techniques in business operations.

RBV explained that CA reflects an ability to develop valuable and difficult-to-imitate offerings, which support superior performance over time. In the context of MSMEs in Bali, CA is often reflected in product uniqueness, local value, and responsiveness to dynamic customer preferences. The uniqueness of Balinese MSME products, which embody cultural values serves as a key strength in maintaining customer loyalty. Consequently, the business will develop new capabilities to support CA and achieve sustainability, particularly in their aspects of financial, social, and environmental responsibilities.

### **The Influence of DC on CA**

The test revealed that if DC showed a negative and insignificant effect on CA, with a path coefficient value of -0.009 and p-value of  $> 0.05$ , then H6 must be rejected. This finding suggests that the ability to sense and respond to environmental changes does not necessarily translate into stronger competitive positioning for MSMEs. DC as an internal resource management was unable to demonstrate its role in supporting excellence, as opposed to (Chukwuemeka & Onuoha, 2018)'s findings. Although DC is theoretically associated with adaptability, its impact may be limited when MSMEs lack access to timely market information and the analytical capacity to convert insight into strategic actions. The fast pace of change in the business environment made it difficult for MSMEs to adjust their business model because they did not obtain the data that could enable them make prompt competitive decisions. There were other contributing factors that could determine CA formation within MSMEs (and their unique features) in Bali, such as the niche target market.

Based on the RBV perspective, CA of MSMEs in Bali is shaped not only by adaptability but also by socio-cultural dynamics and niche market characteristics. Family-oriented consumption patterns often influence purchasing decisions based on social relationships

rather than product superiority. This condition reduces the role of DC in driving CA, as market preferences are not solely determined by adaptive capabilities. Therefore, the effectiveness of DC is context-dependent, and its contribution to competitive advantage may be constrained by both informational limitations and local socio-cultural factors.

### **The Influence of MC on CA**

One supportive factor of CA creation was MC, demonstrated by its positive and significant influence with a path coefficient value of 0.536 and p-value of  $<0.05$ , therefore H7 was accepted. This finding supported Soelaksono et al. (2018)'s study on business adaptability to changes in environment which helped organizations build their competitive strategies by considering opportunities for improvement and added value (Kearney et al. 2013). This finding indicates that MC as a central role in shaping competitive positioning by enabling MSMEs to organize resources, coordinate activities, and respond effectively to market demands (Akther et al. 2024). MSMEs and their narrow market reach allows for more effective internal management and delivery of fast and friendly services to consumers, reflecting a consistent quality of work. Optimal service is preferred by consumers; for MSMEs this condition realizes its CA strategies.

In contrast to other capabilities, MC directly contributes to CA through structured decision-making and efficient internal processes and consistent with the RBV perspective. In the context of MSMEs in Bali, efficient internal coordination and personalized service become critical drivers of CA. Consumers trend to value reliability, responsiveness, and service quality, which are directly influenced by managerial effectiveness. Therefore, MC contributes to CA by transforming internal organizational efficiency into market-based value that is difficult for competitors to replicate.

### **The Influence of IC on CA**

The CA in this research was also shown to be positively and significantly influenced by IC with a path coefficient value of 0.181 and p-value of  $<0.05$ , hence H8 was accepted. This finding suggest MSMEs are able to strengthen their competitive positioning by continuously creating new value through innovation. Business excellence may derive from the uniqueness of MSMEs' offered products; therefore, they potentially

lead the market (Budiarto et al. 2024). Innovation aims to provide (1) added value for customers (Ferreira et al. 2021), (2) product differentiation which makes replication difficult, (3) improvement of customer service to meet satisfaction, and (4) competitive price (Bekata & Kero, 2025). In sum, successful innovation is not only driven by one person but everyone in the business (Otahe, 2024) from planning to business evaluation. Innovation in this process will create an impact on adaptability and internal excellence as well as to enhance consistent performance for a stronger brand reputation.

This finding aligns with RBV theory, which suggests that CA is derived from the effective utilization of firm-specific capabilities that are valuable and inimitable. In context of MSMEs, innovation is not limited to product development but also includes process, marketing, and organizational improvements that collectively enhance. The involvement of organizational members in innovation activities strengthens internal collaboration and supports continuous improvement. Therefore, IC contributes to CA by converting internal capabilities into distinctive value propositions that are difficult for competitors to replicate.

### **The Influence of TC on CA**

The testing resulted in positive effect, with path coefficient value of 0.114, but insignificant due to a p-value of  $>0.05$ . This means H9 was rejected. This finding negated Yun (2022)'s study which stated that better digital capabilities can be used as a strategy to demonstrate CA as it increases the effectiveness of MSMEs in responding to market changes. Djiu et al. (2024)'s notion about successful business, that is not only measured by the size of the market it controls but also its readiness to adopt new technologies, did not apply in this research. The contemporary MSMEs in Bali used specific technology such as social media. This practice illustrated limited adoption of advanced technology and minimal use of technology. Technology was not a part of their competitive strategies.

### **The role of CA as a Mediator of DC's Influence on Sustainable MSMEs**

The mediation test resulted in a coefficient value of -0.004 and a p-value of  $>0.05$ , which means that CA had an insignificant role as a mediator of DC's influence on sustainable MSMEs. This insignificant

role can be interpreted as non-mediating, hence H10 was rejected. Although MSMEs had the ability to respond to environmental changes through sensing, conceptualizing, learning capability, and integrating capability (Dejardin et al. 2023; Rashidirad & Salimian, 2020; Supramono et al. 2025) that helped them achieve business sustainability, they did not assist businesses create CA beforehand. The high number of adaptable MSMEs was not always strategic, resulting in non-added value for these businesses.

### **The Role of CA as a Mediator of MC's Influence on Sustainable MSMEs**

Contrary to its role in DC's influence, CA was evidenced to be a mediator of MC's influence on sustainable MSMEs with a path coefficient of 0.245 and p-value of <0.05. This also means that H11 was accepted, and aligns with prior studies (Budiarto et al. 2024). CA acts as a complementary mediator, which means that good managerial skills will improve the CA of MSMEs (Kearney et al. 2013) and create impacts on their sustainable practices (Budiarto et al. 2024). MC as the foundation of RBV contributes to the planning, organizing, implementing decisions, and controlling processes in generating competitive strategies. CA generated by MSMEs' owners through business resources management further contributed to the sustainable fulfilment of their responsibilities for planet-people-profit. In the context of MSMEs in Bali, effective resource management by business owners plays a crucial role in transforming internal capabilities into market-based value that supports sustainability. Therefore, this finding reinforces the argument that sustainability is achieved through the strategic conversion of internal capabilities into CA, highlighting the mediating role of CA as a key mechanism linking MC to sustainable outcomes.

### **The Role of CA as a Mediator of IC's Influence on Sustainable MSMEs**

In this test, the role of CA as a mediator of IC's influence on sustainable MSMEs was not evident. Its path coefficient value of 0.083 and p-value of >0.05 resulted in the rejection of H12. Insignificant direct and indirect influences means that sustainable business realization occurred as a result of innovation rather than prior CA generation. MSMEs tended to produce little innovations such as packaging and social media marketing that are responded by consumers as needs

(Saunila, 2020). This strategy can maintain consumer loyalty since innovation is perceived as mandatory rather than uniqueness of competitive strategies (Esen et al. 2023).

### **The Role of CA as a Mediator of TC's Influence on Sustainable MSMEs**

Finally, CA was also unable to show its role as a mediator of TC's influence on sustainable MSMEs, demonstrated by its path coefficient value of 0.052 and p-value of >0.05. This means that H13 was rejected. TC of MSMEs were not specialized and limited to the use of social media solely for communication and promotion. This condition was not categorized as CA as it was also implemented by others. Consumers did not perceive the use of this technology as an added value. Sustainable MSMEs are driven by internal factors of their organizations (Putri et al. 2024) and cultural adaptation.

### **Managerial Implications**

The findings of this study extend beyond analysing the mediating role of CA in achieving sustainable MSMEs, also provide practical insights for strengthening the broader MSME ecosystem. The managerial implications highlight CA as a fundamental prerequisite that manifests in three critical dimensions. First, CA serves as a managerial foundation oriented toward long-term strategic planning. This encompasses enhancing human resource competencies, including the internalization of organizational culture and values; optimizing financial management; and establishing standardizes operational procedures to ensure a measurable, consistent, and efficient workflow. Second, CA functions as an innovation strategy, acting not merely as a reactive market response but as a core mechanism for differentiation. Such innovation fortifies business identity and can be effectively operationalized through strategic positioning and storytelling. Rather than relying solely on product inimitability. Third, CA acts as a benchmark for strategic evaluation and a key performance indicator. MSMEs must assess the extent to which convert internal capabilities into competitive advantages by measuring customer loyalty, product consistency, and consumer satisfaction. In a highly competitive market, this data-driven evaluation is imperative for formulating precise and effective business strategies.

For policymakers, particularly the regional government overseeing MSME development in Bali Province, the findings of this study offer a robust empirical foundation for policy enhancement and program formulation. Policy interventions target the augmentation of managerial capacity through localized innovation incubation programs. These incubators should be designed to provide medium-term mentorship aimed at developing the strategic leadership and technological competencies of business owners. Furthermore, the broader business ecosystem can be fortified by facilitating collaborative networks among MSMEs. Facilitating strategic alliances among local enterprises presents a highly viable pathway for achieving global market penetration.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

Sustainable practices for MSMEs through determination of appropriate CA was evidenced in this research and confirms RBV theory, which emphasizes the importance of internal capabilities. Each business had its characteristics and uniqueness, of which with different approaches can be reflected through its business capabilities. A key determined strategies was optimization of MC through resources evaluation. Plans of target performance and IC can be prepared by considering consumer satisfaction when presenting product innovation. Findings of this research are generalizable for MSMEs located in Bali Province due to their shared business characteristics. Despite of its limited sample size and geographically uneven distribution of respondents, findings of this research are relevant for MSMEs with Balinese culture as their added value.

### Recommendations

Sustainable MSMEs is not merely a concept of business theory. It is an implementable development of strategies. Refinement of sustainability strategies through CA are open for exploration and in-depth analysis. As a foundation of the community-based economy, MSMEs in Bali Province are recommended to improve their internal capabilities and become more adaptable. Support from varied stakeholder groups, such as universities and relevant government institutions, can strengthen MSMEs' sustainability practice through

business incubation programs. It is recommended to support MSMEs management through capacity building in developing business resilience, innovation, and strategies of market expansion. Besides financial and social impacts, this support will encourage MSMEs engagement with a more responsible business model that can reduce adverse environmental impacts. Future research should employ a mixed-methods approach, engaging diverse stakeholders including MSMEs, governmental bodies, investment entities, and other relevant institutions to formulate a more comprehensive and holistic sustainable strategy.

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