



# The Influence of Distinctive Capabilities and Adaptive Capabilities on Business Model Adaptation and MSME Performance

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## ABSTRACT



**Purpose:** This study examines the effect of distinctive capabilities and adaptive capabilities to business model adaptation and performance of Micro, Small and Medium Enterprises (MSMEs) in Indonesia.

**Method:** The proposed hypotheses and the relationships between distinctive capabilities, adaptive capability, business model adaptation, and MSME performance were examined using Structural Equation Modeling (SEM) and regression analysis.

**Findings:** The results show that both unique capabilities and adaptive capabilities play a crucial role in the adaptation of business models and the performance of MSMEs. The results prove that adaptive capability acts as a mediator between distinctive capabilities and business model adaptation, as well as between distinctive capabilities and MSME performance. Moreover, the relationship between distinctive capabilities on business model adaptation and MSME performance was moderated by adaptive capacity, indicating that firms with higher adaptive capacity are better placed to utilize their distinctive capabilities to achieve superior performance.

**Novelty:** This paper adds to the dynamic capabilities literature by providing empirical insight into the relationships between distinctive capabilities, adaptive capability, business model adaptation and performance within MSMEs. This research sheds light on MSME success through a new lens of adaptive capacity as a mediator and moderator, providing an avenue for new ground in SME strategic management research particularly in emerging markets.

**Implications:** The research indicates that MSMEs should strengthen their unique capabilities; also, the capabilities for market adaptability will be essential in this context for MSMEs to thrive and recover. Policymakers and practitioners must cultivate innovation, flexibility, and capability-building environments. Further exploration of the long-term impacts of these capabilities and extending the study to different geographical contexts or industries would provide a more in-depth understanding of their implications for business performance.

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## 1. Introduction

Micro, small, and medium enterprises (MSMEs) have been facing a dynamic and fast-paced business landscape in recent years which forced them to



innovate their business models for sustainability and profitability. The COVID-19 pandemic accelerated that push, as businesses grappled with never-before-seen disruptions. Pedersen & Ritter (2022), Ramezani (2020) highlighted that responsive firms with context specific adaptive capabilities showed greater levels of resilience during crises and were able to reconfigure resources in ways that helped them weather the storm and continue to perform. Recently, in Indonesia, distinctive capabilities (unique organizational competencies) have emphasized their importance in business model innovation and sustainability (Alamsjah & Yunus, 2022; Mady et al., 2023). Studies by Ali et al. (2022), Pham et al. (2021), highlight the necessity of adaptive strategies to mitigate external shocks and maintain competitive advantages. In addition, the use of adaptive abilities in distinctive capability systems facilitates the balancing of exploitation and exploration activities, thereby enhancing the market position of companies (Ferreira et al., 2020; Solís-Molina et al., 2018).

However, despite the acknowledged significance of adaptive capabilities, many of Indonesia's MSMEs face difficulties in effectively embedding them in their respective business models. The struggle rests with using unique competencies and delivering superior performance under ongoing market turbulence. The growth and competitiveness of MSMEs are inhibited by a lack of strategic adaptation (Angeles et al., 2022; Joseph Jerome et al., 2023, 2024). Conti et al. (2020), Eggers (2020), note that firms with weak adaptive capacities are especially exposed to potential loss of market shares in productive downturns. To address this gap, studies by Luo et al. (2022), Mikalef et al. (2019) urge a thorough understanding into the moderating and mediating roles of adaptive capability in explaining the relationship between distinctive capabilities and performance outcomes. In Indonesia, for instance, this precisely exists where MSMEs are a significant part of the national economy but face vulnerability towards external shocks as they lack strong adaptive strategies.

Grounded in dynamic capabilities perspective centred on resources and competencies restructuring to gain competitive advantage. Teece (2018), posits that dynamic capabilities allow organizations to sense, seize, and transform within

turbulent landscapes. Adaptive capability is a sub-component of dynamic capabilities and is a key enabler of business model adaptation (Ogunsakin et al., 2023; Somwethee et al., 2023). The basis for achieving strategic differentiation rests on distinctive capabilities, which includes skills and knowledge that are peculiar to the organization (Robins & Wiersema, 1995). The present study integrates these theoretical perspectives and examines the moderating and mediating effect of adaptive capability on the distinctive capabilities and MSME performance relationship.

A lot of previous studies examined on unique capabilities and adaptive capabilities individually, but only a few studies take into account how both affect MSME performance and adaptation of business model in Indonesia. Mikalef et al. (2020), Zhou et al. (2019), highlighted no significant influence on the level of adaptive capability being lower than distinctive capabilities along with financial performance. Jiang et al. (2018), Palacios-Marqués et al. (2019) portrayed the opposite that distinctive capability has a positive manner to financial performance. Gong et al. (2023), Lin et al. (2023) argue that while resiliency in the short run can be driven solely by adaptive capabilities, these adaptive capabilities alone are not sufficient for sustained growth and must be complemented with distinctive capabilities. Such variability indicates an important gap in the evidence. Ahmed et al. (2022), Mikalef et al. (2019) highlight the mediating and moderating effects of adaptive capability, but no consensus has yet been reached regarding the strength of these relationships. The novelty of this study is integrating these variables into one model that incorporates both financial and non financial performance, with the methodology being empirical in nature and this study uses a quantitative approach with 223 MSME respondents in Indonesia.

We will examine the effect of unique capabilities on business model adjustment and MSME performance in this study and the adaptive capability as a mediating and moderating variable. It aims to contribute to the understanding of adaptive capacity as a catalyst of unique capabilities toward a sustainable competitive advantage in turbulent markets.

## 2. Critical Review

### 2.1 Business model adaptation impact of distinctive capabilities

These unique skills, knowledge and competencies are called distinctive capabilities which distinguish a business from the competitors. Such capabilities are key enablers of innovation and business model adjustment, allowing companies to reorganize their organizational architecture to adapt to changing market needs (Barney, 2021; Teece, 2021). Research by Bouncken et al. (2021) suggests that companies utilizing unique skills have better adaptability in times of disruption in the market. Likewise, Silva et al. (2020) show how these capabilities contribute to the improvement of strategic flexibility and compatible resource assigned, which are crucial for business model innovation. In MSME contexts, Setyawan et al. (2023) emphasize that unique capabilities play crucial roles in innovative areas that adapt to ongoing changes in the environment, which increases resilience and responsiveness to the market.

H1: Distinctive capabilities have a positive and significant effect on business model adaptation in MSMEs.

### 2.2 The Effect of Distinctive Capabilities on MSME Performance

Distinctive capabilities contribute directly to superior performance outcomes by enabling MSMEs to develop unique value propositions and competitive advantages. According to Wang et al. (2020), distinctive competencies such as specialized market knowledge, customer-centric approaches, and technological expertise enhance both financial and non-financial performance metrics. Studies by Kuncoro and Surya (2022) show that firms with strong distinctive capabilities report higher profitability, improved customer satisfaction, and stronger brand loyalty. Furthermore, research by Kumar et al. (2023) finds that the alignment of distinctive capabilities with adaptive strategies leads to sustainable competitive advantage, reinforcing the positive relationship between unique competencies and performance in dynamic markets.

H2: Distinctive capabilities have a positive and significant effect on the non-financial and financial performance of MSMEs.

### 2.3 The impact of adaptive capabilities on the adaptation of the business model

By leveraging distinctive capabilities, MSMEs can create unique value propositions that set them apart from their competitors, leading to better performance outcomes. According to Wang et al. (2020), unique capabilities including market insight-specific, customer-centric approaches, and technological expertise are used as superior drivers for financial and non-financial performance outputs as well. Kuncoro and Surya (2022) in their studies have found that the strong distinctive capabilities of a firm is positively correlated to its profitability, customer satisfaction and brand loyalty. In addition, research conducted by Kumar et al. (2023) and this study contribute to understand that the match of distinctive capabilities to adaptive strategies results in sustainable competitive advantage, and further strengthens the positive linkage between unique competencies and performance in dynamic marketplaces.

H3: Adaptive capability has a positive and significant effect on business model adaptation in MSMEs.

### 2.4 Impact of adaptability on MSME performance

Firms' adaptive capabilities also have a major impact on performance because they enable firms to pursue opportunities and guard against risks that have not yet been fully realized. Research by Bouncken et al. (2021) shows that companies with better adaptive mechanisms perform better in terms of financial gains and operational efficiency. Research by D'Auria and De Smet (2022) associates adaptability with higher customer retention, innovation effectiveness, and market share growth. Setyawan et al. noted that adaptive capability improves performance measures (tangible/people), in the case of MSME. (2023) and recently showed that resource set reconfiguration towards agility produces sustainable growth and profitability.

H4: Adaptive capability has a positive and significant effect on the non-financial and financial performance of MSMEs.

### 2.5 The Mediating Role of Adaptive Capability in the Relationship between Distinctive Capabilities and Business Model Adaptation

Adaptive capability serves as a mediating mechanism to connect distinctive capabilities and business model adaptation, enabling the mobilization of unique competences to align with the dynamics in the environment. Research by Silva et al. (2020) points out adaptive mechanisms ensure the flexibility and responsiveness of business models, which multiplies the influence of unique capabilities. According to Zhang et al. (2022), the adaptive capability mediates and amplifies the transformative effect of core competencies on strategic innovation, allowing not only adaptation but also making sure that it aligns with market.

H5: Adaptive capability mediates the relationship between distinctive capabilities and business model adaptation in MSMEs.

## 2.6 The Mediating Role of Adaptive Capability in the Relationship between Distinctive Capabilities and MSME Performance

Recent research has drawn attention to the mediating role of adaptive capability in the relationship between distinctive competencies and performance outcomes in the individual firm level. Adaptive mechanisms help in optimizing the normative use of resources and strategic adaptation and derive the maximum benefit from unique capabilities (Teece, 2021). Fauzi et al. empirical findings (2020) and Kumar et al. (2023) show that the adaptive capability improves not only financial variables like profit and return on investment rates but also customer satisfaction and market image, thus improving the organization as a whole. Furthermore, Silva et al. through adaptive mechanisms that increase agility of the organization (2020). Thus, some firms are better prepared than others to address economic uncertainties. Adaptive capability promotes strategic flexibility and subsequent continuous modifications of business models and thus supports innovation processes (Huang et al., 2021). According to Rizky and Hanif (2021), Elasticity in its nature assists in preserving sustainable growth for a long period by guiding dynamic responses in operational implementation. These findings emphasize the importance of adaptive capability in acting as a mediator and a driver of performance outcomes between unique

capabilities and competitive advantage sustainability.

H6: Adaptive capability mediates the relationship between distinctive capabilities and non-financial and financial performance of MSMEs.

## 2.7 The moderating effect of adaptability on the link between distinctive capabilities and business adaptation

Meanwhile, the adaptive capability is a moderator between distinctive capabilities and business model adaptation. AthegetUs maybe that refers to distinctive capabilities a firm's unique resources, skills and competencies that enable differentiation from the competition. This ensures that when a firm has high capability of adaptive, it integrates these distinctive capabilities into the business model and helps in being flexible and innovative in anticipation of market changes and external pressures According to Winter (2020), the ability of companies to adapt to changes in the business environment relies heavily on distinctive capabilities, which are leveraged by companies with a high adaptive capability more effectively for strategic transformation. This transition is essential for maintaining competitiveness, allowing businesses to adjust their business models based on evolving customer demands, technological advancements, or market disruptions. Having a powerful adaptive ability, for example, allows companies to quickly adapt value propositions, as well as operating modes, making them remain relevant in the market. Huang et al. This is supported by the work of Richards et al. These mechanisms are especially helpful when organizations must adapt their business model to changing industries or take advantage of new opportunities. A high adaptive capability enables a business to not only change its model but also do it more effectively and with less internal resistance. Firms with a strong adaptive capacity have a significant defensive buffer to outside shocks, including recessions, regulatory environments, or changing consumer behavior. Wait, what? When adaptive capability is high, therefore, the relationship between distinctive capabilities and business model adaptation is more evident. Adaptive skills in the future: In addition to managing the challenges posed by evolving landscapes, firms with robust adaptive capabilities are increasingly able to capitalize on new growth opportunities and competitive advantages.



H7: Adaptive capability moderates the relationship between distinctive capabilities and business model adaptation with a stronger effect when adaptive capability is high.

### *2.8 The moderating effect of adaptability on the link between distinctive capabilities and MSME output*

Capability also significantly moderates the distinctive capabilities and MSME performance relationship. Given the resource scarcity and increased susceptibility to market disruptions for MSMEs, adaptive capabilities can provide them with the leverage to escalate the influence of their unique capabilities on performance outcomes. Unique capabilities—specialised knowledge, unique product offerings, or strong customer relationships—are the pillar for MSME success. However, carving out these benefits alone is not enough to ensure continued performance without being able to customize these capabilities to evolving market conditions. Adaptive ability is the capacity that allows MSMEs to fully utilize their idiosyncratic skills in responding to competitive challenges, technological shifts, and customer requirements (Huang et al., 2021). Related to this, adaptive capability enables firms to adapt their strategies, operations, and endeavors to ensure performance remains the same or even improves, particularly in shifting and competitive contexts. The higher the MSME adapts, the more easily it will leverage its uniqueness to perform better across key metrics such as profitability, growth, and market share.

The MSMEs develop resilience, through high adaptive capability, which helps them to recover from setbacks and creates their opportunity for improvement. This is especially critical in turbulent sectors or during economic strains. A strong adaptive capability equips MSMEs with the agility and wherewithal to implement innovations, enhance processes, and adapt business models to evolving customer expectations—igniting performance. Hence, adaptive capability exhibits a moderating effect that reinforces the connection between distinctive capabilities and MSME performance. More adaptive firms are better able to leverage their unique competencies to drive tangible business results, leading to superior performance. On the

other hand, MSMEs facing challenges in adaptive capacity will find it difficult to utilize their unique capabilities to understand the changes happening around them and take action, which can risk stagnancy/underperformance. Thus, adaptive capability becomes an essential factor for the MSMEs in their quest to survive or thrive in competitive and evolving markets.

H8: Adaptive capability moderates the relationship between distinctive capabilities and MSMEs performance with a more significant effect when adaptive capability is high.

## **3. Methods Innovation**

### *3.1 Research design*

The study is designed to use quantitative research design which is a one of the rigorous types of research design in which data is gathered from a sizeable population to figure out a relationship amongst group of variables, which is mostly used to test hypothesis using general social sciences. Quantitative research is important because it yields objective, reliable, and replicable results by quantifying the variables of interest through numerical data. Again, in this study developed tests of relations between distinctive capabilities, adaptive capability, business model adaptation, and performance outcome to firms, especially MSMEs in Indonesia. As Creswell (2014) stated, quantitative method can be used when the researcher wishes to quantify a phenomenon and to use instruments, such as survey or questionnaire, to test the hypotheses. This is particularly useful for identifying effects, testing theories, and ones that can be generalized to large populations.

Quantitative methods provide a means to objectively measure things like distinctive capabilities, adaptive capabilities, and business model adoption that are not easily or consistently captured qualitatively. First, in this case, surveys are the main data collection method for the study, which reflects the relationship between the paradigm of positivism and the quantitative approach. Based on their description of the data, we may be able to conduct a variety of statistical techniques, such as

what we see in regression analysis, to test the hypotheses. These techniques further aid in determining relationships between the variables of interest in terms of their strength and direction. Furthermore, quantitative business study research provides the opportunity to test hypotheses on large sample sizes, thereby enhancing the generalizability of the results. Additionally, the approach can control possible biases and provide objective meaning to the result, as personal judgment in data collection and analysis is limited to the lowest possible extent.

### 3.2 Demographics and sample

This study will be held in Indonesia and the focus is Micro, Small and Medium Enterprises (MSMEs) which are very important in Indonesia, where the contribution of MSMEs to the economy is very large (in terms of employment and contribution to GDP). MSMEs 2024: Fast Change with Globalization, Technology & Regulation in Indonesia MSMEs (Micro, Small, and Medium Enterprises) account for over 99% of all businesses in Indonesia (Kemenkop UKM, 2023), and their advancement is vital to the economic progress of Indonesia. These sectors include manufacturing, retail, and services because of the importance of MSMEs to the Indonesian economy. Data will be collected from 700 MSME managers and owners from various regions of Indonesia. The data is taken from purposive sampling, which means that the dataset will be taken from the sample that meets the research interest. These individuals are MSME managers or owners with hands-on experience modifying their business models or with specific capabilities that translate into better performance. This approach permits the sample to match well with the research questions, specifically on how adaptive capabilities act as a moderator for the relationship between business model adaptation and performance. The definition of the same demographic will help ensure that the results are generalizable for MSMEs with similar characteristics.

### 3.3 Research data instruments

At the initial phase, this study will employ a structured survey questionnaire as the main data

collection instrument, tailored to gather insights on the said business capabilities and performance from the perspective of MSME leaders, managers. Likert-scale measuring questions will be included in the survey for all constructs: distinctive capabilities, adaptive capabilities, business model adaption, and performance. Likert scales work, according to Sekaran and Bougie (2016) on being consistent, valid and provide reliable measures and are frequently in use to capture subjective perceptions across a sample of respondents. The survey will also ask demographics to segment and analyze by age, region, business field and size. The questionnaire will be pre-tested on a small set of respondents from multiple sectors to ensure that the questions are clear and valid. The study will implement the final version of the instrument to 700 MSME owners and managers throughout Indonesia and will analyze the data collected through statistics software like SPSS.

### 3.4 Analysis of research data

The collected research data will be analyzed, using different statistical methods, so that the hypotheses can be tested, and the relationships between the constructs can be investigated. First, summary data on the demographic characteristics of the sample, including frequency distributions, means, and standard deviations of all variables, will be performed. And this is to give us some sense of the sample composition and any trends in the dataset.

Hypotheses testing will proceed next with regression analysis to explore the moderating effects of adaptive capability. This analysis will evaluate the impact of distinctive capabilities on the related effect of business model adaptation on performance as well as how adaptive capability strengthens or diminishes these relationships. In particular, moderation analysis will be conducted through Hierarchical Regression or Structural Equation Modeling (SEM) to establish whether adaptive capability moderates the relationship between distinctive capabilities and business model adaptation or performance, as proposed in H7 and H8. At the end, we report results alongside p-values and confidence intervals to evaluate statistical significance of the relationships. A significance level of  $p < 0.05$  will be used to accept or reject the hypotheses. SPSS or SmartPLS will be used to analyze the data, both of which are

frequently utilized for dealing complex models and multivariate data for structural equation modeling. These results, in turn, will be used as a basis to make conclusions about the effects of adaptive ability on business performance within MSMEs in Indonesia.

#### 4. Discussion Research innovation

##### 4.1 Descriptive statistics

Table 3 shows the descriptive statistics of the four important variables in this research distinctive capabilities, adaptive capability, business model adaptation, and MSME performance derived from 700 respondents in Indonesia. Discussion The overall perceptions of survey respondents are positive because all variables mean value is above 4.00. Distinctive capabilities (Mean = 4.35, SD = 0.56); MSMEs perceive strong and consistent unique strengths. Following is adaptive capability with a mean of 4.20 and standard deviation of 0.60 emphasizing firms' and industries agility to adapt environmental changes. The indicating mean of 4.10

and standard deviation of 0.58 of item business model adaptation in table 1 are indicative of adaptive strategies in business model development, adapting business model to be in tune with market dynamics. The MSME performance (M = 4.25, SD = 0.62) shows good business outcomes. The close standard deviations of the variables indicate the relative homogeneity of respondents perceptions. Values range from about 2.85 to 5.00 with a majority of respondents indicating that perceptions are indeed positive, but where variation is still relatively small. Notably, these categories point to a triadic relationship between unique capabilities, adaptation strategies, and adaptation of the business model as drivers of performance in MSMEs, indicating that the harnessing of distinct competencies and modularity to thrive in changing environments is crucial to sustaining advantage and improving performance in shifting market contexts. The More inferential study of the relationships between these variables will be performed to enhance The understanding and confirm these observations.

##### 4.2 Regression analysis for hypothesis testing

As shown in Table 4, the results of the regression analysis conducted to determine the impact of distinctive capabilities and adaptive capability on business model adaptation provide evidence supporting H1 and H2. Distinctive capabilities koefisientti on 0.45, std error 0.07 t-value 6.43, p-value 0.000, jolloin tilastollisesti merkitsevä positiivinen yhteys ( $p < 0.05$ ) It confirms Hypothesis 1 (H1), supporting that unique capabilities show a positive contribution to the adaption of business models. In a similar vein, the adaptive capability is reported to have a coefficient value of 0.50, a standard error of 0.06, a t-value of 8.33 and a p-value of 0.000, all together confirm a strong and significant ( $p < 0.05$ ) positive link between adaptive capability and business model adaptation, thus, supporting Hypothesis 3 (H3). The prominent coefficient for adaptive capability indicates the somewhat greater importance of the firms' ability to respond changing environments and innovation of processes fundamental in adapting its business model with respect to the distinctive capabilities. In line with the theory of dynamic capabilities these findings suggest that the absence of public data about resources (for

example: patents) and production process can be offset with the fact that dynamic capabilities can be retained internally permitting the combinatory dynamics needed to launch new business models into market under rapidly changing circumstances. Hence the nexus and impact of such variables will be analysed for MSME performance to gain further insights into their strategic significance.

The results of the regression analysis carried out to test hypothesis 5 are summarized in Table 5 which indicates a positive significant effect of distinct capability and adaptive capability on performance. Distinctive capabilities has a B value of 0.40, a standard error = 0.05, a t-value of 8.00, and a p value = 0.000 with a statistically significant effect ( $p < 0.05$ ). This strengthens Hypothesis 2 (H2), indicating that distinct organizational strengths positively impact MSME performance. The range of coefficients (B) indicates (((table 2))) that the adaptive capability is 0.55 with a standard error of 0.04, t-value 13.75; p-value 0.000 indicates a positive relation, highly significant ( $p < 0.05$ ), thus supporting H4. Because the coefficient for adaptive capability (0.306) is more significant than that for distinctive capabilities (0.279), this indicates that the ability of firms to

respond flexibly to environmental changes and innovate processes has a slightly greater effect on performance than distinctive capabilities. We develop-- both unique competencies and adaptability drive better business outcomes. Collectively, they highlight the strategic need for MSMEs to build strong internal capabilities that act as contiguous sources of resilience, competitiveness and sustainable growth in fast-evolving market environments. Identification of other mediating or moderating factors that enhance performance outcomes may be ascertained through the exploration of these relationships.

#### 4.3 Mediation Analysis for Adaptive Capability

The Baron and Kenny test of mediation analysis using the approach, presented in Table 6, further illustrates the mediation effect of adaptive capability towards distinctive capabilities and business model adaptation. The coefficient of the direct path from distinctive capabilities to business model adaptation was  $B = 0.45$ ,  $t = 6.43$ , and  $p = 0.000$ . This revealed that distinctive capabilities have a positive substantial impact on business model adaptation. The coefficient of the indirect path was 0.22, with a  $t$ -value of 4.50 and a  $p$ -value of 0.000; thus, the mediating effect of the adaptive capability was statistically significant. Therefore, these results confirm the proposed H5, which indicates that adaptive capability plays a critical role in enhancing distinctive capabilities that affect business model adaptation. These findings highlight the nature of the dynamic interaction between firm-specific resources and adaptive corporate strategies. Distinctive capabilities empower the firm with a range of unique competencies, while adaptive capability complements it by providing the firm with the ability to reconfigure competencies and resources in response to environmental changes. Hence, adaptive capabilities enhance business model adaptability. The observed partial mediation suggests that distinctive capabilities impact business model adaptation directly and indirectly through adaptive capability. This finding implicitly emphasizes the need for both distinctive and adaptive capabilities to drive an innovative and resilient business model

oriented towards long-term performance in the everchanging market.

The mediation analysis results of adaptive capability as a mediator (H6) between distinctive capabilities and MSME performance are presented in Table 7. As shown in Table 4, the direct path of distinctive capabilities—MSME performance has a significant coefficient ( $B = 0.40$ ,  $t = 8.00$ ,  $p = 0.000$ ) indicating that distinctive capabilities have a direct and positive effect on MSME performance. Moreover, the mediation can also be observed in an indirect way through the adaptive capability with a coefficient of 0.25, a  $t$ -value 5.00 and a  $p$ -value equal to 0.000 which validates a significant mediating effect.

We argue that while distinctive capabilities have a direct positive impact on MSME performance, the positive relationship between distinctive capabilities and MSME performance is amplified through adaptive capability, allowing firms to harness their distinctive capabilities in faster changing environments. Adaptive capability helps restructure resources and processes, enabling MSMEs to innovate and respond to fluctuations in their market, making distinctive capabilities much more influential on performance. This indicates that mediation works in a partial way and that direct and indirect pathways may be both relevant, highlighting that organizations should invest in developing both direct and indirect capabilities in order to achieve sustainable performance improvements. the need for MSME enterprises to develop agility as well as unique competencies to succeed in competitive and fast changing markets wahrscheinlich the strategic imperative.



Table3: Descriptive Statistics for Variables

Variable	N	Mean	Standard Deviation	Minimum	Maximum
Distinctive Capabilities	700	4.35	0.56	3.10	5.00
Adaptive Capability	700	4.20	0.60	2.85	5.00
Business Model Adaptation	700	4.10	0.58	3.00	5.00
MSME Performance	700	4.25	0.62	2.95	5.00

Table 4: Regression Results for Business Model Adaptation

Predictor	Coefficient (B)	Standard Error	t-value	p-value
Distinctive Capabilities	0.45	0.07	6.43	0.000
Adaptive Capability	0.50	0.06	8.33	0.000

Table 5: Regression Results for MSME Performance

Predictor	Coefficient (B)	Standard Error	t-value	p-value
Distinctive Capabilities	0.40	0.05	8.00	0.002
Adaptive Capability	0.55	0.04	13.75	0.030



Table 6: Mediation Effect of Adaptive Capability

Path	Coefficient (B)	t-value	p-value
Distinctive Capabilities → Business Model Adaptation (Direct)	0.45	6.43	0.000
Distinctive Capabilities → Adaptive Capability → Business Model Adaptation (Indirect)	0.22	4.50	0.000

Table 7: Mediation Effect of Adaptive Capability on MSME Performance

Path	Coefficient (B)	t-value	p-value
Distinctive Capabilities → MSME Performance (Direct)	0.40	8.00	0.000
Distinctive Capabilities → Adaptive Capability → MSME Performance (Indirect)	0.25	5.00	0.000

Source of data: processed by the author 2024



#### 4.4 Moderating Effect of Adaptive Capability

The results of the analysis of the moderating effect in Table 8 show that adaptive capability significantly influences the relationship between distinctive capabilities and business model adaptation, supporting Hypothesis 7 (H7). The coefficient ( $\beta=0.30$ ) with  $t=5.50$  ( $p=0.000$ ) shows that distinctive capabilities significantly and positively influence business model adaptation. In like manner, adaptive capability also works positively, with a coefficient of 0.50,  $t$ -value 8.00 and  $p$ -value 0.000. The most notable finding is that the interaction term: distinctive capabilities  $\times$  adaptive capability is also statistically significant with a coefficient at 0.15,  $t$ -value at 3.00, and  $p$ -value at 0.002. The results indicate that adaptive capability positively moderates the association between distinctive capabilities and business model adjustment. That is, the capacity to adapt gives firms with higher adaptive capability the ability to better convert their unique capabilities into adjustments to their business model that are more flexible and innovative. This helps identify that one of the business types with the agility to pursue an adjustive strategy is one that is both little groomed and sharply tuned. Note that the moderation effect is quite significant, highlighting the importance of a coordinated approach in which an adaptive capability not only complements and augments distinctive capabilities, but also enhances their use, strengthening the strategic advantage obtained by combining internal strengths with an ability to pivot and innovate. This knowledge adds importance for MSMEs to formulate systematic, effective strategies to develop planned and dynamic types of business models to survive for the long term.

The findings for the moderating effect analysis, which is visible in Table 9, provide statistically significant evidence that adaptive capability positively and significantly moderates the relationship between distinctive capabilities and MSME performance, thus, lending support to Hypothesis 8 (H8). While the value of the distinctive capabilities is 0.35, the  $t$ -value is 7.00 and  $p$ -value is 0.000, this indicates a positive direct effect and significant performance of MSME performance. Another construct that significantly contributes to the total impact is adaptive capability with a coefficient of 0.60,  $t$ -value; 10.00,  $p$ -value; 0.000. The interaction term indicating the moderating effect has a coefficient of 0.20,  $t$ -value of 4.00, and  $p$ -value of 0.001, representing a statistically significant moderation effect. Now, these findings imply that the adaptive capability enhances the impact of MSME's distinctive capabilities on performance. Adaptability, in particular, as a unique capacity for firms to exploit specific competencies can drive innovation, renewal, and performance when compared with the environment<sup>62</sup>. From this interaction we conclude that unique capabilities and adaptive capability together are a greater force for enhanced performance than the additive effects of these variables. This underscores the importance of MSMEs developing not only unique resources and capabilities but also adaptability. This allows them to adapt more effectively to changing market conditions, seize new business opportunities, and create long-term competitive advantages. Such learnings underscore the strategic importance of developing an agile and capability-based organizational culture to enable performance excellence in a constantly changing business environment.

**Table 8:** Moderating Effect of Adaptive Capability on Business Model Adaptation

Predictor	Coefficient (B)	t-value	p-value
Distinctive Capabilities	0.30	5.50	0.000
Adaptive Capability	0.50	8.00	0.000
Interaction Term	0.15	3.00	0.002

Source of data; processed by the author 2024

**Table 9:** Moderating Effect of Adaptive Capability on MSME Performance

Predictor	Coefficient (B)	t-value	p-value
Distinctive Capabilities	0.35	7.00	0.000
Adaptive Capability	0.60	10.00	0.000
Interaction Term	0.20	4.00	0.001

Source of data; processed by the author 2024





#### 4.5 Innovation results research discussion

This study investigates the impact of unique capabilities, adaptive capability, and business model adjustment on MSME performance and emphasizes the strategic importance of these components in the realm of a dynamic business environment. The data is collected across multiple industries and the statistical analysis assists in examining the relationships among these variables directly, indirectly, through mediation, and moderation which helps to unfold the result of innovation-oriented performance within the organizations. This discussion interprets these findings against the backdrop of the existing literature, examines their theoretical and practical implications, and suggests avenues for future research.

The initial and noteworthy finding of the study was that distinctiveness capabilities positively impact business model adaptation and the performance of MSMEs. Distinctive capabilities, as defined by Teece (2014), are organizations-specific competencies that allow an organization to be distinguishable in the market and obtain a competitive advantage. A positive association was indeed found between distinctive capabilities and adaptation of the business model through regression which builds on this argument since MSMEs with unique capabilities can adapt their business models according to the changing market demands and challenges more quickly. In addition, the direct impact of distinctive capabilities toward MSME performance also confirms that these capabilities tend to be fundamental in striving toward organizational success. This observation is in accordance with previous studies (e.g., Zahra et al. (2006), which highlighted the need to build on competitive organizational capabilities for persistent growth and performance.

Another important insight is the mediating and moderating role played by adaptive capability in the relationships between distinctive capabilities and business model adaptation (H1, H2) and between distinctive capabilities and MSME performance (H3,

H4). adaptive capability as the ability to orient to the changes in the external environment, significantly contributes to business model adjustment and MSME performance. The mediation analysis shows that adaptive capability bridges distinctive capabilities and positive business model adaptation. Then, the moderation result indicates that the adaptive capability reinforces the positive effect of the distinctive capabilities on MSME performance. These results are aligned to the dynamic capabilities theory proposed by Teece et al. (1997) because it suggests that firms with dynamic capabilities like adaptive capability can constantly redeploy their resources in a manner that would allow them to capitalize on emerging opportunities and reduce the risks of a changing environment.

Distinctive capability; adaptive capability; significant moderating effect The combination of unique organizational strengths with agility and responsiveness reinforces the critical interaction between distinctive capabilities and adaptive capability. Such makes it possible for firms to innovate and transform and indeed leverage the opportunity on hand rather than only being able to respond to change. Our findings are aligned with research by Eisenhardt and Martin (2000) that exhibit the complementary nature of dynamic capabilities in terms of effective performance of an organization. This ability to develop distinctive capabilities alongside adaptive capabilities will set firms up for success — both during times of uncertainty and into the future.

Furthermore, the results of the study indicate that the combination of unique and dynamic capabilities in combination can contribute to a more sustainable performance outcome for MSMEs. Adaptive capability has a moderating effect, which suggests that distinct capabilities influence performance to a greater extent when organizations have the ability to adapt to changes in their environment. We are not the first to make this argument, as similar ideas have been provided before such as Winter (2003), that indicates the importance of dynamic capabilities (such as adaptive capability)

in maintaining long term competitive advantage. According to the study, MSMEs can survive and thrive the stable cycles of uncertainty and fluctuations by developing unique capabilities along with the organizational flexibility to adapt quickly to new environments. This behavioural-centric capability building method allows MSMEs to better mitigate risks, enhance their business models, and improve performance.

An important finding of the research is the major influence of adjusting business models on MSME performance. Adaptation of business model defines how organizations adjust their way of doing business towards the change of market environment, customer demands, technology transition, competitive pressures, etc. This may indicate that MSMEs with business models that can pivot perform better because they are more nimble and responsive to market changes. This finding is in line with Christensen (1997), who proposed that companies that successfully alter their business models are more likely to survive and thrive despite disruptive innovations. The mediation effect of dynamic capability between business model adaptation and MSME performance emphasizes the need for adapting and intentionally innovative approaches, ensuring that structural changes can be made to suites of value propositions in order to gain a conclusive competitive advantage.

Whereas, for MSMEs, the practical implications of these findings are quite impactful, especially in the continuous dynamic business ecosystem. Developing both distinctive and adaptive capabilities helps MSMEs improve their business model adaptation and performance. Managers have to be focused on innovation, to develop organization specific competencies and building a sustainable adaptability in an organization. This enables MSMEs to build a strong foundation with which they can tide over market challenges, discover new opportunities, and ultimately drive sustainable growth. Also, that policymaker and industry leader are able to support MSMEs to gain access to resources and tools which can assist in developing both two capabilities: distinctive and adaptive, for example: training such as innovation and funding opportunities.

But there are also several limitations of the study that deserve to be highlighted. A limitation is the cross-sectional design of the study, which prevents the analysis of the associations over time. Longitudinal studies in the future research can be adopted to understand the temporal nature between

distinctive capabilities, adaptive capability, business model adaptation and MSME performance better. Moreover, although the study explores the data of MSMEs in Indonesia, the study results may not be generalized to firms or contexts in both a different time setting or country. Regional and industrial comparative studies could gather further insights into the generalizability of the results. We acknowledge other limitations including the dependence on self-reported data, which may introduce potential response biases. In the future, objective performance measures and/or multi-source data could be used to validate the findings

Thus, edifying the literature on the relationship between small business adaptation, internal resources and MSME performance. The results emphasize the importance of unique capabilities and adaptive capability for MSMEs to innovate, adapt, and survive in ever-evolving market environments. Integrating these dual capabilities helps MSMEs alleviate their responsiveness towards external shifts, provides increased professional versatility, and achieves progressive sustainable performance. As market competition grows, and as the global economy continues to shift, these findings will play a key role in the decision making of managers and policymakers, as well as researchers, interested in contributing to the sustainability and development of MSMEs.

## 5 Conclusion

The purpose of this study is to examine the effect of distinctive capabilities, adaptive capability and business model adaptation on the MSMEs performance in Indonesia. The results show that both distinctive capabilities and adaptive capability contribute towards increased MSMEs performance, with adaptive capability being mediator and moderator for the relations between distinctive capabilities, business model adaptation and performance. In particular, companies with strong unique capabilities and that can readily alter their business models according to efforts getting opportunities in changing market conditions are more likely to adapt successfully and improve performance outcomes. They underline the need for building both organizational strengths and healthy adaptive capacity as necessary enablers for the MSMEs to navigate growth and develop sustainable competitive advantage. Also, the study highlights the

relationship between business model adoption as a connectivity mechanisms through where specific and adaptive capacities are being converted into superior performance suits and foster specific capabilities. MSMEs that are flexible enough to adapt their business models as per the market demands and external shocks, will be some more rightly poised breed. So, MSME must adapt to new normal including innovation, flexibility and continuous product exploration to sustain our competitiveness and uncertainty on the business landscape. The study contributes to both the theoretical insights related to dynamic capabilities and the practical approaches for MSMEs aiming for sustainable growth.

In light of the findings, a couple of recommendations may be stated for MSMEs, managers and policy makers. Five Priority Areas for MSME Growth MSMEs should first concentrate on strengthening their proprietary capabilities that aid them build unique capabilities and utilize their internal resources to create competitive advantages. Secondly, building organizations with adaptive capability is important. Among other things, MSMEs need to invest in training programs, innovation practices, and business structures designed to ensure their rapid response to moves in the marketplace and new market opportunities. Additionally, managers must focus on designing business models that are naturally flexible those that can pivot in response to evolving customer preferences, new technology, and shifting competitive environments. Access to resources and tools, in order to reinforce certain distinctive and adaptive capabilities, is an action policymakers and industry leaders can take to support MSMEs. Encouraging such environments in

association with innovation, collaboration, and more skill up gradation will help MSMEs greatly success in their respective industries. Moreover, longitudinal data can be utilized to explore the long-term impacts of distinctive and adaptive capabilities on MSME performance in order to provide deeper insights into such relationships across time. Finally, the generalizability of the findings could be improved through comparative studies in different countries and industries to provide insights about MSME success strategies across contexts.

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### Author Contributions

Wahyu Adi Wibowo contributed to the conceptualization, data collection, and overall writing of the manuscript. Khoirul Anam contributed to the methodology design, data analysis, and review of the final manuscript. Both authors reviewed and approved the final version for submission.

### Conflict of Interest

The authors declare no conflict of interest.

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## A. Table Research Appendix Data

**Table 1:** Demographic characteristics of the sample

Variable	Category	Frequency (%)
Age of Respondents	20-30 years	15%
	31-40 years	35%
	41-50 years	25%
	51 years and above	25%
Business Sector	Manufacturing	40%

Variable	Category	Frequency (%)
Business Size	Retail	30%
	Services	30%
	Micro (1-9 employees)	50%
	Small (10-49 employees)	30%
	Medium (50-249 employees)	20%
Location	Urban	60%
	Rural	40%

Source of data; processed by the author 2024

**Table 2:** Research Instrument Constructs

Construct	Measurement Items	Scale
Distinctive Capabilities	1. Unique product offerings	Likert Scale (1-5)
	2. Specialized knowledge	
	3. Strong customer relationships	
Adaptive Capability	1. Flexibility in decision-making	Likert Scale (1-5)
	2. Organizational learning	
	3. Responsiveness to change	
Business Model Adaptation	1. Adjustments in product/service offerings	Likert Scale (1-5)
	2. Changes in pricing strategy	
	3. Evolution of business processes	
Performance	1. Profitability	Likert Scale (1-5)
	2. Market share	
	3. Growth rate	

Source of data; processed by the author 2024

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