



The Role of Sensing Capability, Learning Capability and Coordinating Capability on Market Performance: Perspective of Small and Medium Enterprises (SMEs)

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: <https://doi.org/10.9734/ajebe/2024/v24i61372>

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/118051>

Original Research Article

Received: 27/03/2024

Accepted: 01/06/2024

Published: 04/06/2024

ABSTRACT

Aims: The aim of this study is to investigate the impact of sensing capability, learning capability, and coordinating capability on the market performance of Small and Medium Enterprises (SMEs). By examining these three critical capabilities, this research seeks to provide a comprehensive understanding of how SMEs can leverage their internal resources and competencies to achieve superior market outcomes as a market performance in today's dynamic and competitive business environment.

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Cite as: Trisnawati, E., Afifah, N., Mustaruddin, & Cahyani, R. (2024). The Role of Sensing Capability, Learning Capability and Coordinating Capability on Market Performance: Perspective of Small and Medium Enterprises (SMEs). *Asian Journal of Economics, Business and Accounting*, 24(6), 437–449. <https://doi.org/10.9734/ajebe/2024/v24i61372>

Study Design: This study employs a quantitative research approach using a cross-sectional survey design to gather data on SMEs' sensing, learning, and coordinating capabilities, as well as their market performance.

Place and Duration of Study: The study was conducted in Pontianak, West Kalimantan, Indonesia. Data were collected from 97 SME owners or managers who were selected based on the criteria of having been established for at least 3 years.

Methodology: Data collection was done using a structured questionnaire administered through an online survey platform. The collected data were analyzed using Structural Equation Modeling (SEM) with the Partial Least Squares (PLS) approach. The analysis was conducted using SmartPLS 4.0 software and involved two stages: (1) measurement model assessment and (2) structural model assessment.

Results: The analysis results confirm the convergent validity, internal consistency, composite reliability, and discriminant validity of the constructs: Sensing Capability (SC), Learning Capability (LC), Coordinating Capability (CC), and Market Performance (MP). Using SEM with SmartPLS V.4, the study found that sensing capability ($\beta = 0.383$, $p < 0.05$) and learning capability ($\beta = 0.430$, $p < 0.05$) significantly impact market performance, supporting hypotheses H1 and H2. However, H3 was not supported, as coordinating capability ($\beta = 0.088$, $p > 0.05$) did not show a significant relationship with market performance.

Conclusion: This study emphasizes the importance of sensing and learning capabilities for SMEs in Pontianak to enhance market performance. Coordinating capability may have an indirect effect. SME owners and managers should invest in these capabilities to adapt to market changes and maintain a competitive advantage. The findings contribute to the understanding of dynamic capabilities and provide practical insights for SMEs in West Kalimantan, Indonesia.

Keywords: Sensing capability; learning capability; coordinating capability; market performance; SMEs.

1. INTRODUCTION

Small and Medium Enterprises (SMEs) play a crucial role in the global economy, contributing significantly to economic growth, job creation, and innovation. According to the World Bank (2021), SMEs represent about 90% of businesses and more than 50% of employment worldwide [1]. Although the definition of SMEs varies by nation, they are typically distinguished from larger businesses by their smaller size, resources, and market reach [2]. According to the West Kalimantan BPS (Badan Pusat Statistik) report, there were 43,024 Small and Medium Industries operating in the province in 2019. However, data from the Head of the West Kalimantan Cooperatives and SMEs Office indicates that the total number of micro, small, and medium enterprises (MSMEs) in West Kalimantan reached 182,707 during the same period. Based on this figure, micro businesses constituted 91.23%, small businesses accounted for 7.95%, and medium businesses comprised 0.81% of the total MSMEs in the province. One of the most important measures of a SME's viability and success is its market performance. According to [3], it describes how successfully a company meets its objectives linked to the market, including growth in sales, market share, customer happiness, and profitability. SMEs'

resources, competencies, strategies, and competitive environment are only a few of the internal and external aspects that affect their market performance [4].

In recent years, SMEs have faced numerous challenges, including increased competition, technological disruption, and changing consumer preferences. Small and Medium Enterprises (SMEs) in Pontianak, West Kalimantan, also face several challenges that hinder their growth and sustainability, which can certainly affect the market performance of those SMEs.

To remain competitive and achieve superior market performance, SMEs must develop and leverage their capabilities [5]. Three critical capabilities that have gained attention in the literature are sensing capability, learning capability, and coordinating capability [6,7,8,9,10]. [8] argues that these capabilities are essential for firms to sense and seize opportunities, reconfigure their resources, and maintain competitiveness in dynamic environments. Sensing capability enables firms to identify and assess opportunities and threats in the external environment [7], while learning capability allows them to acquire, assimilate, and apply new knowledge to improve their processes and products [9]. Coordinating capability, on the

other hand, facilitates the integration and alignment of various organizational resources and activities to achieve strategic objectives [10]. These capabilities are considered critical for firms to build and sustain competitive advantage in rapidly changing markets [6].

SMEs must enhance and utilize their sensing, learning, and coordinating capabilities in order to boost their market performance. Similarly, [11] emphasize the importance of market intelligence management, which involves sensing and absorptive capacity, in enhancing SMEs' market performance. [12] highlight the need for SMEs to continuously learn and adapt to changes in the business environment to remain competitive. These competencies facilitate small and medium-sized enterprises (SMEs) in recognising market prospects, gaining fresh insights, and coordinating their assets and undertakings to accomplish their strategic goals [13]. SMEs are more likely to achieve superior market performance and maintain their competitive advantage over time if they engage in building these capabilities [14]. The interplay of sensing, learning, and coordinating capabilities can create a virtuous cycle of continuous improvement and adaptation for SMEs [8,9,15,16]. Demonstrates through a simulation study that firms with higher levels of dynamic capabilities, manifested through sensing, learning, and coordinating, exhibit superior performance compared to their industry peers [16].

The aim of this study is to investigate the impact of sensing capability, learning capability, and coordinating capability on the market performance of Small and Medium Enterprises (SMEs). By examining these three critical capabilities, the research seeks to provide a comprehensive understanding of how SMEs can leverage their internal resources and competencies to achieve superior market outcomes in today's dynamic and competitive business environment. The results of this research are expected to broaden our understanding of how SMEs can effectively harness their internal capabilities to seize opportunities and overcome challenges in the modern business landscape, ultimately achieving sustainable growth and success. By bridging the gap between theory and practice, this study aims to provide valuable insights and recommendations that will benefit SMEs, policymakers, and researchers alike, ultimately contributing to the development of a more vibrant, innovative, and resilient SME sector.

2. THEORETICAL BACKGROUND AND HYPOTHESIS

2.1 Resource Based View Theory

The resource-based view (RBV) theory explains how companies can achieve sustainable competitive advantage through the development, accumulation, and utilization of valuable, rare, inimitable, and non-substitutable internal strategic assets [17]. RBV emphasizes a firm's current resource base, defined as its resources (tangible and intangible assets) and operational capabilities, while the dynamic capabilities (i.e. sensing, learning and coordinating capability) perspective addresses the intentional modification of this resource base [18]. Therefore, RBV theory is particularly relevant for researching SMEs' market performance because it focuses on identifying and optimizing each organization's idiosyncratic resources and capabilities. By leveraging unique asset configurations tailored to their context, SMEs may be able to carve out defensible market positions despite the disadvantages of smaller scale. Careful capability upgrading also allows SMEs to keep pace with changing external conditions.

Overall, RBV offers a theoretical lens to examine the internal drivers of competitive viability and growth for SMEs through asset orchestration appropriate for their situations. Further research should continue applying and refining RBV perspectives to elucidate performance differences across SMEs amid dynamic market environments. Businesses must develop the capabilities to consistently configure organizational assets into viable resource bundles aligned with market demands [19] by recognizing, holding back, and eliminating various resources to match changing customer expectations, attitudes, and stakeholder behaviors [20]. However, at a broader conceptual level, firm performance is determined by a combination of many factors apart from resources, which include firm actions, historical events, market contexts, and industry conditions [21].

In conclusion, the RBV theory provides a valuable framework for understanding the internal factors that contribute to SMEs' market performance. By focusing on the development and utilization of unique resources and capabilities, SMEs can create sustainable competitive advantages and adapt to changing

market conditions. However, it is essential to acknowledge that firm performance is influenced by a complex interplay of factors beyond resources alone, and future research should continue to explore these relationships in the context of SMEs. RBV emphasizes a firm's resources and capabilities, while dynamic capabilities including sensing, learning, and coordinating capabilities, considered an extension or a specific subset of the broader Resource-Based View (RBV) theory, address intentional resource base modification.

2.2 Hypothesis

The three pillars of this research (i.e. sensing, learning, and coordinating) have a major impact on the competitiveness and market performance of Small and Medium-Sized Businesses (SMEs) in the market. Through an examination of these capacities, this research seeks to offer significant perspectives on how SMEs might proficiently utilise their internal assets to manoeuvre through the obstacles and possibilities presented by the contemporary business environment.

For SMEs to recognise and seize market opportunities while averting possible risks, sensing competence is crucial. SMEs need to regularly monitor their surroundings and obtain market knowledge in order to remain competitive in today's dynamic business climate, which is characterised by rapid technology breakthroughs, evolving client preferences, and strong rivalry [22]. Sensing capability allows SMEs to anticipate market trends, identify unmet customer needs, and adapt their strategies accordingly, ultimately leading to improved market performance [23]. Therefore, we hypothesize:

H1: Sensing capability has a significant positive effect on the market performance of SMEs.

The ability to learn is essential for SMEs to develop, pick up new skills, and keep improving their business practices. The capacity to acquire and use new information is a crucial source of competitive advantage in the knowledge-based economy [24]. SMEs can improve their absorptive capacity and aid in the development of innovative goods, services, and processes by fostering a culture of learning, experimentation, and knowledge exchange [25]. SMEs can also adjust their business models to shifting market conditions and benchmark against industry best

practices thanks to learning capability [26]. Thus, we propose:

H2: Learning capability has a significant positive effect on the market performance of SMEs.

To optimise their limited resources and synchronise their efforts to achieve strategic objectives, coordination skill is essential for SMEs. According to [27], SMEs can increase efficiency, cut waste, and streamline operations through effective collaboration. SMEs may develop synergies and improve overall performance by encouraging open communication, cross-functional cooperation, and coordinating staff goals with company objectives [28]. Moreover, coordinating capability enables SMEs to leverage external networks and partnerships to access complementary resources and capabilities [29]. Consequently, we hypothesize:

H3: Coordinating capability has a significant positive effect on the market performance of SMEs.

Based on the statement above, this study aims to analyze the influence of sensing capability, learning capability and coordinating capability on the market performance of SMEs in Pontianak with Fig. 1 shows the hypothesis and structural model.

3. MATERIALS AND METHODS

3.1 Conceptual Definition

Sensing capability refers to a firm's ability to identify, interpret, and make sense of market signals from changes in the external environment that may affect market performance [30]. It involves systematically searching for information about shifts in customer preferences, industry trends, and competitors' actions [20,31].

Learning capability is a firm's ability to acquire, assimilate, and apply new knowledge to improve its operations and adapt to changes [32]. It involves fostering a culture of learning, experimentation, and knowledge sharing, which enhances the development of innovative products, services, and processes [24].

Coordinating capability refers to a firm's ability to integrate and align its internal resources and activities to achieve strategic objectives [28]. It

involves effective communication, collaboration, and resource allocation, which enables SMEs to develop synergies, improve efficiency, and respond to market opportunities [27,29].

Market performance refers to a firm's ability to achieve its market-related goals, such as sales growth, market share, customer satisfaction, and profitability [3]. It is influenced by various internal and external factors, including a firm's resources,

capabilities, strategies, and the competitive environment [4].

3.2 Measurements

In this study, referring to the study which was dealt with in the previous study, the operational definition of the variables, related research literature, and measurement are summarized in Table 1.

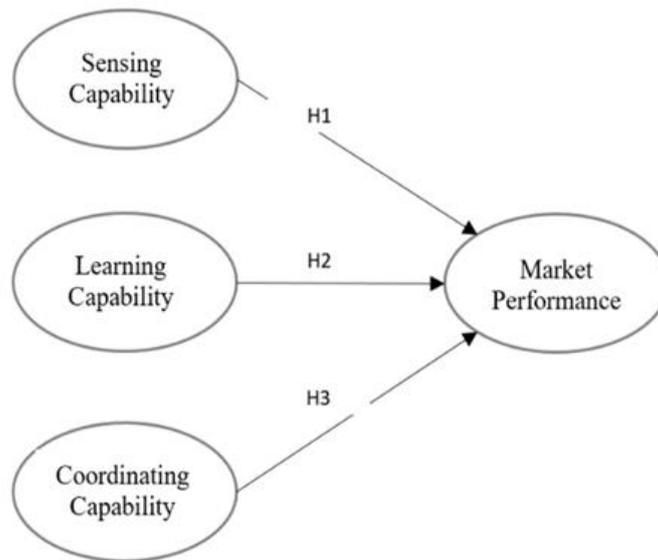


Fig. 1. research model

Table 1. Variables definition

No	Measurement Variables	Operational Definition	Previous research
	Sensing Capability	Technology trend monitoring, Customer feedback gathering and Competitor action and strategy analysis	[41,42,43]
	Learning Capability	Cross-departmental knowledge and experience sharing, Business process evaluation and improvement based on lessons learned, Investment in employee training and development	[44,41,45]
	Coordinating Capability	Cross-departmental resource allocation for strategic initiatives, Alignment of goals and activities across different departments	[46,47]
	Market Performance	(a) Market share growth, (b) Customer satisfaction levels, (c) Achievement of sales revenue targets, (d) Customer adoption levels for new products, (e) Profit margin improvement	[48,42,49,50,51]

3.3 Data Collection and Sample Characteristics

The data for this study were collected using a structured questionnaire administered through an online survey platform. The target population consisted of Small and Medium Enterprises (SMEs) operating in various sectors in Pontianak, West Kalimantan, Indonesia. A stratified random sampling technique was employed to ensure a representative sample across different industries and firm sizes.

The questionnaire was developed based on validated scales from previous studies and adapted to the context of SMEs in Pontianak. It consisted of five sections: (1) demographic information and SMEs sector, (2) sensing capability, (3) learning capability, (4) coordinating capability, and (5) market performance. A five-point Likert scale (1 = strongly disagree; 5 = strongly agree) was used to measure the constructs. The criteria for respondents were SMEs that have been established for at least 3 years in Pontianak and possess dynamic capabilities. The online survey link was distributed to a large number of SMEs via email or other contact methods. Respondents were given a specified timeframe to complete the survey.

Out of all the respondents who completed the survey, only 97 respondents met the desired criteria of having been established for at least 3 years and possessing dynamic capabilities. These 97 respondents were selected as the final sample for data analysis. The collected data were screened for completeness and consistency before analysis. Respondents were informed about the purpose of the study and assured of confidentiality and anonymity. Voluntary participation was emphasized, and respondents had the right to withdraw at any time. Appropriate measures were taken to protect the privacy and data security of the respondents.

The collected data were analyzed using Structural Equation Modeling (SEM) with the

Partial Least Squares (PLS) approach. PLS-SEM was suitable for this study as it can handle complex models with multiple variables and relationships [33]. The analysis was conducted using SmartPLS 4.0 software [34]. The data analysis involved two stages: (1) measurement model assessment and (2) structural model assessment. The measurement model assessment examined the reliability and validity of the constructs using composite reliability, convergent validity, and discriminant validity. The structural model assessment tested the hypothesized relationships between sensing capability, learning capability, coordinating capability, and market performance using path coefficients, t-values, and p-values.

4. RESULTS AND DISCUSSION

In this section, the main characteristics of the 97 companies participating in this study will be further explained. Regarding the type of company, based on the business sector, it can be seen in the table below.

Based on Table 2, shows the distribution of research respondents based on SME business sectors in Pontianak City. Specifically, there are 38 SME respondents from the food and beverage sector, 12 of SMEs from the automotive and car care sector, 18 of SMEs from the processed food manufacturing sector, and 29 of SMEs from the services sector. Thus, the total respondents in this study amounted to 97 SMEs consisting of various business sectors in Pontianak City. From these data it can be seen that the majority of research respondents come from the food and beverage sector. Then followed by the service sector, food processing industry, and automotive. Information about the industrial profile of these respondents is useful for understanding the description of SMEs studied, related to the influence of sensing capability, learning capability and coordinating capability on improving market performance. The distribution of respondents in various SME business sectors in Pontianak is also important to ensure that research results represent the general condition of SMEs.

Table 2. The distribution of respondents based on business sector

No.	Sector	Total
1	Food and beverage	38
2	Automotive & Car care	12
3	Processed Food Manufacturing	18
4	Services	29

4.1 Data Analysis

The measurement model was tested to ensure sufficient convergent and discriminant validity. Convergent and discriminant validity are presented in the following tables, where the data in Tables 3 and 4 demonstrate that all the instruments included in the study have adequate convergent and discriminant validity. The data indicate that the average variance extracted (AVE) explains at least 50% of the variance of the indicators analyzed in the model, and both the composite reliability (CR) and Cronbach's alpha values seem to be higher than 0.7, which is higher than the sufficient threshold for the reliability of latent variables [33].

Table 3 present the results of the measurement model assessment in this study, which aims to examine the validity and reliability of the constructs employed. The measurement model assessment is a crucial step in structural equation modeling (SEM) to ensure the adequacy of the measures before proceeding with the structural model analysis [34].

The analysis results indicate that all constructs, namely Sensing Capability (SC), Learning Capability (LC), Coordinating Capability (CC), and Market Performance (MP), have AVE (Average Variance Extracted) values greater than 0.5. This suggests that the convergent validity of all constructs is satisfied. Convergent validity refers to the extent to which the items of a construct converge or share a high proportion of variance in common [34]. Furthermore, the Cronbach's Alpha values for all constructs are above 0.7, indicating that the internal consistency of the measurement items within each construct

is adequate. Cronbach's Alpha is a widely used measure of reliability that assesses the consistency of responses across the items of a construct [35].

The Composite Reliability values for the four constructs also exceed the threshold of 0.7, confirming that the composite reliability of each construct is also met. Composite reliability is another measure of internal consistency that takes into account the outer loadings of the indicators [34].

Based on the results of this measurement model evaluation, stated that all indicators and constructs used in this research model are valid and reliable, and can thus be employed for further analysis in examining the structural relationships among the variables in the model. These findings are in line with the recommendations provided by [34] for assessing the quality of the measurement model in PLS-SEM.

In the same way, Table 4 explain that discriminant validity indicates that the square root of AVE (values on the diagonal) is greater than the values of the correlations of the constructs [36]. Fornell and Larcker [37] developed an approach to evaluate discriminant validity using the average variance extracted (AVE). They state that discriminant validity can be supported if the square root of a latent variable's AVE (the diagonal element) is larger than the correlations between that latent variable and all other latent variables (absolute values of off-diagonal elements). A larger square root of AVE indicates it is sufficiently discriminatory from other latent variables.

Table 3. Measurement model: Quality criteria of the constructs

No.	Construct	AVE	Cronbach's Alpha	Composite Reliability
1	Sensing capability (SC)	0.676	0.761	0.862
2	Learning capability (LC)	0.694	0.781	0.872
3	Coordinating capability (CC)	0.839	0.808	0.912
4	Market performance (MP)	0.617	0.845	0.890

Table 4. Discriminant validity and correlation between latent variables (fornell & larcker criteria)

No.	Construct	X1 (SC)	X2 (LC)	X3 (CC)	Y (MP)
1	SC	0.822			
2	LC	0.729	0.833		
3	CC	0.822	0.597	0.916	
4	MP	0.769	0.762	0.660	0.786

4.2 Hypotheses Testing Results

To evaluate the study hypotheses and analyze the PLS path modeling, SEM with SmartPLS V.4 was operationalized. Path coefficients (β) and p values of the hypothetical model are calculated. The findings of the test of the hypothesis are clarified in Table 5.

According to this research, sensing capability and learning capability had the most significant impact on market performance, with a corresponding value of ($\beta = 0.383, p < 0.05; \beta = 0.430, p < 0.05$), respectively. As a result, hypotheses H1 and H2 are supported. Conversely, H3 has not been supported due to the insignificant relationship between coordinating capability and market performance ($\beta = 0.088, p > 0.05$).

The Fig. 2 above depicts a research model that illustrates the relationship between three capabilities (sensing capability, learning capability, and coordinating capability) and market performance. Sensing capability is measured by three indicators, namely X1.1,

X1.2, and X1.3, with factor loading values of 0.844, 0.817, and 0.806, respectively. Learning capability is measured by three indicators, namely X2.1, X2.2, and X2.3, with factor loading values of 0.756, 0.875, and 0.864, respectively. Coordinating capability is measured by two indicators, namely X3.1 and X3.2, with factor loading values of 0.908 and 0.924, respectively. Market performance is measured by five indicators, namely Y1, Y2, Y3, Y4, and Y5, with factor loading values of 0.767, 0.833, 0.784, 0.764, and 0.778, respectively. The research model indicates that sensing capability has a significant influence on market performance with a path coefficient value of 0.383. Learning capability also has a significant influence on market performance with a path coefficient value of 0.430. However, coordinating capability does not have a significant influence on market performance, as evidenced by a path coefficient value of 0.088. Among the three capabilities studied, learning capability has the greatest influence on market performance, followed by sensing capability. On the other hand, coordinating capability has not been proven to significantly affect market performance.

Table 5. Results of the hypotheses testing

No.	Hypotheses	β	p-Value	Result
1	Sensing capability (SC) → Market performance (MP)	0.383	0.001	Supported
2	Learning capability (LC) → Market performance (MP)	0.430	0.000	Supported
4	Coordinating capability (CC) → Market performance (MP)	0.088	0.484	Not supported

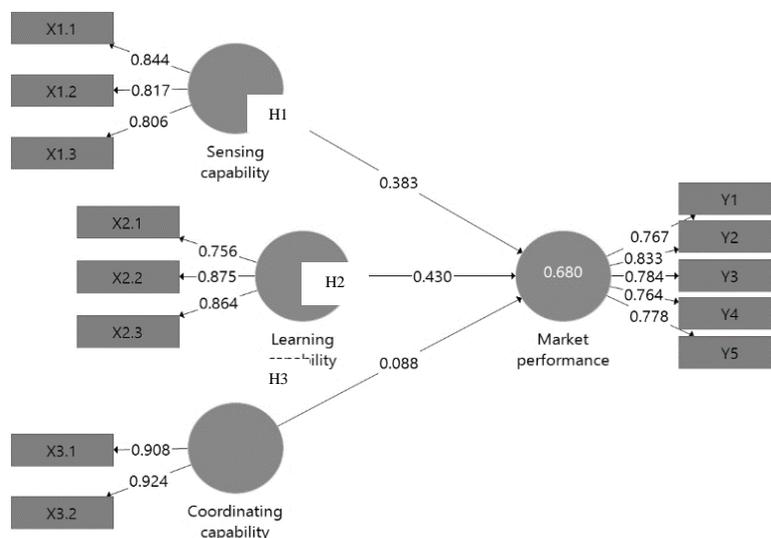


Fig. 2. The results of the research

Sensing capability is defined as the ability of a company to identify, interpret, and make meaning of market signals arising from changes in the external environment, that may affect market performance, and the research results from [38] reveal a positive effect of total dynamic capabilities on the operational performance. It relates to how a company, in this case SMEs in Pontianak, systematically searches for information about shifts in customer preferences and needs, current industry trends, as well as competitors' moves. Several previous studies have proven the positive influence of sensing capability on improving SMEs' market performance. [20] in their study discovered that sensing capability plays a vital role in enabling SMEs to respond swiftly to market dynamics through new product development and business model innovation, and revealed that a firm's with dynamic capabilities significantly impact its open innovation performance [39]. This ultimately can increase market share and profitability. Thus, investing resources to strengthen sensing capabilities in understanding customer needs, identifying market trends, and studying the market environment can help improve the current market performance of SMEs in Pontianak.

Our results confirm the hypothesized relationship between learning capability and market performance. This finding aligns with previous studies that state that learning capability can improve market performance [40]. In this study, learning capability had a significant positive effect on the market performance of SMEs in Pontianak through openness to new ideas, organizational knowledge for business, and developing knowledge from experience. This implies the role of these dynamic capabilities in enabling SMEs to maintain their market performance and competitive advantage amid intense competition, where organizational learning capabilities play a key role in developing dynamic capabilities that can drive sustainable competitive advantage and improve market performance [38].

Coordinating capability does not have a significant effect on improving the market performance of SMEs in Pontianak. This shows that the company's ability to coordinate and integrate the activities of various departments has not proven to have a significant effect on improving the company's marketing and financial performance. In several studies, it has been shown to have a positive effect on improving market performance such as market share and

company sales growth [19,39]. This indicates that coordinating capability actually still has an effect, but indirectly on market performance. Like the opinion of [40] that the effects of dynamic capabilities on organizational performance work through substantive capabilities and depend on the quality of the organization's knowledge base. This means that it is still needed by SMEs to respond to various market opportunities even though its effect on market performance is indirect and needs to be mediated within the SME itself. Of course, further research is needed to confirm this [52-54].

5. CONCLUSION

Based on the findings and discussion of the results of this study, sensing capability and learning capability are proven to significantly improve the market performance of SMEs in Pontianak, West Kalimantan. This means that these two capabilities are absolutely necessary for SME owners and management to be able to adapt and improve their business market performance. Sensing capability enables SMEs to identify market opportunities, anticipate trends, and respond swiftly to changes in customer needs, ultimately leading to enhanced market share and profitability. Learning capability, through openness to new ideas, organizational knowledge, and learning from experience, plays a crucial role in maintaining competitive advantage and improving market performance in the face of intense competition.

In conclusion, this study highlights the importance of developing and leveraging dynamic capabilities, particularly sensing and learning capabilities, for SMEs in Pontianak to enhance their market performance in today's competitive business landscape. SME owners and managers should invest resources in strengthening these capabilities to adapt to market changes, seize opportunities, and maintain a sustainable competitive advantage. The findings of this research contribute to the existing body of knowledge on dynamic capabilities and provide practical insights for SMEs to improve their market performance in the context of West Kalimantan, Indonesia.

6. LIMITATIONS

This study acknowledges several limitations. First, the cross-sectional survey design limits the ability to establish causal relationships between the variables. Second, the self-reported

measures from SME owners or managers may be subject to biases, affecting the accuracy and reliability of the findings. Objective measures or multiple data sources could enhance the validity of the results. Third, while the sample size of 97 SMEs is statistically sufficient, a larger sample size could provide more representative findings and allow for advanced statistical analyses and exploration of potential moderating or mediating variables. Fourth, there may be other relevant capabilities or factors influencing SMEs' market performance that are not explored in this study, and the study does not control for potential confounding variables, such as firm size. Acknowledging these limitations demonstrates transparency and helps readers interpret the findings with caution, providing opportunities for future research to address these limitations and expand upon the current study.

7. STUDY RECOMMENDATION

Although coordinating capability does not have a significant direct effect, it remains important for responding to market performance opportunities. Its effect on improving market performance can be indirect, mediated by other variables within the SME itself. This suggests that coordinating capability is still needed by SMEs to effectively integrate and align their internal resources and activities, even though its impact on market performance may be mediated by other factors. Further research is necessary to confirm and explore these indirect relationships.

Several recommendations for future research can be proposed. Studies should consider expanding the geographical scope and sample size to enhance generalizability. Employing a longitudinal design would provide better insights into the causal relationships between dynamic capabilities and market performance over time. Incorporating objective measures and multiple data sources could improve the validity of the results. Exploring additional relevant capabilities or factors, such as technological capability or entrepreneurial orientation, could provide a more comprehensive understanding of SMEs' market performance. Controlling for potential confounding variables, such as firm size or industry sector, would help isolate the effects of dynamic capabilities. Developing and validating measurement scales tailored to the context of SMEs in Indonesia could enhance the accuracy of the constructs' assessment. Future research should consider employing qualitative or mixed-method approaches to gain deeper insights into

the nuances and mechanisms underlying these relationships.

ACKNOWLEDGEMENTS

We would like to express our sincere gratitude to Prof. Nur Afifah and Mustarudin, Ph.D for their invaluable insights and feedback on this research paper. We also extend our appreciation to the Badan Pusat Statistik (BPS) Kalimantan Barat for providing the necessary data for this study. Furthermore, we are deeply grateful to the SMEs in Pontianak for their cooperation and willingness to share their data, which was essential for the completion of this research. Lastly, we acknowledge the collaborative efforts between Tanjungpura University and the Institute of Business and Economics Indonesia in facilitating the input and funding for this study.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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