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The Impact of Market Sensing Capability on Export Performance: The Mediating Role of Export Market Exploration

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ABSTRACT

With an emphasis on the mediating function of export market investigation, This study looks at the connection between export performance and market sensing skills. Using information from 60 Indonesian furniture manufacturers, the study employs partial least squares structural equation modeling (PLS-SEM) to investigate the suggested relationships. The findings show that, through greater export market exploration, market sensing competence favorably improves both directly and indirectly exported performance. Specifically, market sensing competence has a strong favorable effect on export market exploration ($\beta = 0.651$, $p < 0.001$) and export performance ($\beta = 0.504$, $p < 0.001$). Additionally, export performance is positively impacted by export market exploration ($\beta = 0.357$, $p < 0.01$), and it partially mediates the association between export performance and market sensing ability (indirect effect: $\beta = 0.232$, $p < 0.01$). These results contribute to our comprehension of flexible capacities in global commerce by elucidating the mechanisms through which firms leverage market intelligence to improve their export competitiveness. The study highlights the importance of developing strong market sensing capabilities and actively exploring new export markets as key strategies for improving export performance in increasingly volatile global markets.

Keywords: Market Sensing Capability, Export Market Exploration, Export Performance, International Business.

1. Introduction

In today's rapidly evolving global business landscape, a firm's capacity to thrive in international markets has become increasingly vital for sustainable growth and profitability (Vora et al., 2019). Export performance, in particular, has emerged as a critical indicator of a company's international success and competitiveness (Chen, Sousa, & He, 2016). As organizations strive to expand their presence in foreign markets, understanding the factors that contribute to superior export performance has become a central focus for both practitioners and researchers in the field of international business (Pla-Barber, Villar, & Madhok, 2018).

One of the key capabilities that has garnered significant attention in recent years is market sensing ability. Market sensing refers to a firm's capacity to generate, disseminate, and respond to market intelligence (Day, 1994). This ability is particularly crucial in the context of

international markets, where firms often face unfamiliar and dynamic environments (Cadogan, Boso, Story, & Adeola, 2016). By effectively sensing and interpreting market signals, companies can gain valuable insights into customer needs, competitive landscapes, and emerging opportunities, thereby enhancing their ability to adapt and succeed in foreign markets (Morgan, Feng, & Whitley, 2018).

Although previous research has recognized the importance of market sensing capability, there is still a gap in our understanding of the specific mechanisms linking this capability to export performance. Several research has indicated a favorable correlation between a company's capacity to sense the market and its overall performance, but research specifically focusing on the export context is limited. Furthermore, the potential role of export market exploration as a mediator in this relationship has not been fully explored (Pla-Barber et al., 2018).

Recent literature shows mixed results regarding the relationship between exploration and export performance. Some studies find that exploration has a significant positive impact on export performance, as shown by (Faroque, Torkkeli, Sultana, & Rahman, 2022) (Vora et al., 2019). However, other studies such as those conducted by (Ferreira, Coelho, & Weersma, 2019) did not find a significant effect of exploration on export performance (Vora et al., 2019). These different findings suggest the need for further research to understand the conditions and mechanisms that influence the relationship between exploration and export performance.

Furthermore, the role of export market exploration in mediating the relationship between market sensing ability and export performance has received limited attention in existing research (Lisboa, Skarmeas, & Lages, 2013). Export market exploration involves the pursuit of new knowledge, skills, and markets that differ substantially from a firm's current operations (Prange & Verdier, 2011). By investigating this mediating role, we can gain insights into how firms leverage their market sensing capabilities to identify and capitalize on new export opportunities, ultimately leading to improved export performance (Hortinha, Lages, & Lages, 2011).

This study addresses existing research gaps by examining the impact of market sensing ability on export performance, with a focus on the mediating role of export market exploration. The research investigates the direct relationship between these variables and identifies key components of market sensing ability critical for enhancing export market exploration and performance. By doing so, it contributes to the literature on international marketing and export performance in several ways.

The study has significant implications for both theory and practice in international business. From a theoretical perspective, it advances our understanding of the complex relationships between market sensing, export market exploration, and export performance. On the practical side, it informs the development of effective strategies for international market expansion and performance improvement. Ultimately, this research offers valuable insights for firms aiming to enhance their competitiveness in the global marketplace through improved market sensing and exploration capabilities.

2. Literature Review

2.1 Market Sensing Capability

The term "market sensing capability" describes a company's capacity to discover customer needs, competitor strategies, and market trends (Day, 1994). It is considered a critical dynamic capability that enables firms to adapt to changing market conditions (Teece, 2020). In the context

of international business, market sensing capability has been linked to improved strategic decision-making and performance outcomes (Morgan, Slotegraaf, & Vorhies, 2009).

Recent research has emphasized the importance of market sensing in navigating complex international environments. For instance, (Ozkaya, Droge, Hult, Calantone, & Ozkaya, 2015) found that market sensing capability positively influences innovation performance and firm performance in both developed and emerging markets. However, the specific mechanisms how market sensing influences the performance of exports remain unclear.

2.2 Export Market Exploration

Export market exploration involves searching for and experimenting with new export market opportunities (March, 1991). It is characterized by risk-taking, experimentation, and the pursuit of new knowledge about international markets (Lisboa et al., 2013). Export market exploration is particularly crucial in dynamic environments where existing knowledge may quickly become obsolete.

While the importance of market exploration in international business has been recognized (Hortinha et al., 2011), its role as a potential mediator between market sensing abilities and export performance. This investigation seeks to close this gap by looking at how firms' market sensing capabilities drive export market exploration activities, which in turn may lead to improved export performance.

2.3 Export Performance

Export performance is a multidimensional construct that reflects a firm's achievements in international markets (Sousa, 2004). It encompasses financial measures such as export sales and profitability, as well as strategic outcomes like market share and international expansion (Shoham, 2021).

Previous research has identified various determinants of export performance, including firm-level capabilities, export marketing strategy, and environmental factors (Paul & Rosado-Serrano, 2019). However, the specific role of market sensing capability and its interaction with export market exploration in determining export performance requires further investigation.

2.4 The Relationship between Market Sensing Capability and Export Performance

Market sensing capability enables firms to learn about customer needs, competitor strategies, and market trends, which is crucial for adapting to changing market conditions, especially in international contexts (Teece, 2020). Firms with superior market sensing capabilities are more suited to recognize and seize export-related possibilities, which will enhance performance outcomes (Morgan, Vorhies, & Mason, 2009). The ability to detect and interpret market signals is particularly important in achieving export success, as it enables firms to make informed decisions about their international strategies (Ozkaya et al., 2015).

Based on this reasoning, the following hypothesis can be formulated:

H1: Market Sensing Capability has a positive effect on Export Performance.

2.5 The Relationship between Market Sensing Capability and Export Market Exploration

Market sensing capability plays a crucial role in driving firms to engage in export market exploration. This capability enables firms to identify new opportunities and emerging trends in international markets (Teece, 2020). Firms with strong market sensing abilities are more likely to engage in exploratory activities in international markets, as they can better recognize potential new markets and reduce uncertainties associated with international expansion (Flammer & Luo, 2017). Export market exploration involves searching for and experimenting with new export market opportunities, which heavily relies on a firm's ability to understand and interpret global market dynamics (Lisboa et al., 2013)

Based on this reasoning, the following hypothesis can be formulated:

H2: Market Sensing Capability has a positive effect on Export Market Exploration.

2.6 The Relationship between Export Market Exploration and Export Performance

Export market exploration involves searching for and experimenting with new export market opportunities, characterized by risk-taking, experimentation, and the pursuit of new knowledge about international markets (Lisboa et al., 2013). These exploratory activities are particularly crucial in dynamic environments where existing knowledge may quickly become obsolete. Firms that actively seek out new market opportunities are more likely to enhance their export performance as they can identify and capitalize on untapped opportunities in international markets (Flammer & Luo, 2017). Through export market exploration, firms can expand their customer base, diversify risks, and increase their overall export sales.

Based on this reasoning, the following hypothesis can be formulated:

H3: Export Market Exploration has a positive effect on Export Performance.

3. Research Methodology

The study's sample consists of 60 Indonesian furniture manufacturers selected through a method of stratified random sampling to guarantee representativeness throughout various dimensions such as firm size, export intensity, and geographical location. Data were collected using a structured questionnaire survey that included questions on market sensing capability, export market exploration, and export performance, along with control variables like firm age, industry experience, and resource availability. A 3-item scale that was modified from previous literature (Komaryatin, Roosdhani, Arifin, & Huda, 2024), while Export Market Exploration was assessed using a 3-item scale based on earlier studies. Export Performance was captured through a 3-item scale covering various aspects of export success, including financial and strategic outcomes. The research model was tested using the SmartPLS 4.0 software, partial least squares structural equation modeling (PLS-SEM) is performed. This methodology was selected due to its appropriateness for evaluating intricate models and its capacity to manage limited sample quantities. Both the structural model, which looked at hypothesis testing and mediation analysis, and the measurement model, which assessed validity and reliability, were included in the analysis.

4. Results

Two measuring models are included in this model, which are the test:

4.1 Outer Model (Measurement Model)

4.1.1 Convergent Validity

Convergent validity refers to the extent to which indicators designed to measure a theoretical construct show a high correlation with each other. In this study, convergent validity was assessed using the Average Variance Extracted (AVE) values and the outer loading. As a guideline, While the minimum AVE value is 0.7, the optimum outer loading value is above that is 0.5 (Ghozali & Ratmono, 2017).

Table 1. Convergent Validity Test

Indicator	Outer loading	AVE	Result
EME.1	0,934	0,848	Valid
EME.2	0,927		
EME.3	0,9		
EP.1	0,939	0,882	Valid
EP.2	0,907		
EP.3	0,971		
MSC.1	0,931	0,83	Valid
MSC.2	0,915		
MSC.3	0,887		

Source: Output data from SmartPLS version 4.0 (Processed)

Based on the test results, all indicators measuring the Export Market Exploration (EME), Export Performance (EP), and Market Sensing Capability (MSC) variables show outer loading values exceeding 0.7 and AVE values higher than 0.5. For example, the EME.1 indicator has an outer loading value of 0,934 and an AVE of 0,848, indicating that this indicator has a very strong correlation with the measured variables. Likewise, the MSC.1 indicator has an outer loading value of 0,931 and an AVE of 0.83, indicating high validity in measuring the MSC variable.

These results confirm that all indicators in this study are valid in measuring the relevant variables, so they can be used for further analysis. With convergent validity met, the results of the structural analysis can be interpreted with greater confidence that the indicators actually measure the intended construct.

4.1.2 Reliability Test

Reliability refers to the internal consistency of a research instrument, which indicates the extent to which indicators in a construct produce consistent results. In this study, reliability was tested using two main measures: composite reliability and Cronbach's alpha. Composite reliability is used to assess the overall reliability of the construct, with a recommended value greater than 0.7 (Cheung, Cooper-Thomas, Lau, & Wang, 2024). Cronbach's alpha is used to evaluate the internal consistency of indicators, where values above 0.7 are considered reliable (Ghozali & Chariri, 2008).

Table 2. Composite reliability & Cronbach's alpha

Variabel	Composite reliability	Croncach' alpha	Information
EME	0,928	0,911	Reliable
EP	0,934	0,933	
MSC	0,898	0,897	

Source: Output data from SmartPLS version 4.0 (Processed)

The export market exploration (EME), export performance (EP), and market sensing capability (MSC) variables all have composite reliability values more than 0.7, according to the reliability test results. EME, for instance, has a composite reliability value of 0.986, which is quite high. Similarly, MSC and EP have composite dependability values of 0,898 and 0,934 respectively. Furthermore, all of the variables' Cronbach's alpha values are above 0.7, meaning that each of the indicators in these variables has strong internal consistency. For instance, the indicators in this variable are highly consistent in measuring the EME construct, as evidenced by the Cronbach's alpha value of 0,911 for EME.

Consequently, it can be said that this research tool satisfies the requirements for reliability, ensuring that the data gathered is consistent and trustworthy for additional examination.

4.2 Inner Model (Measurement Model)

The inner model is a tool for projecting causal links between hidden variables and variables that are not directly measurable.

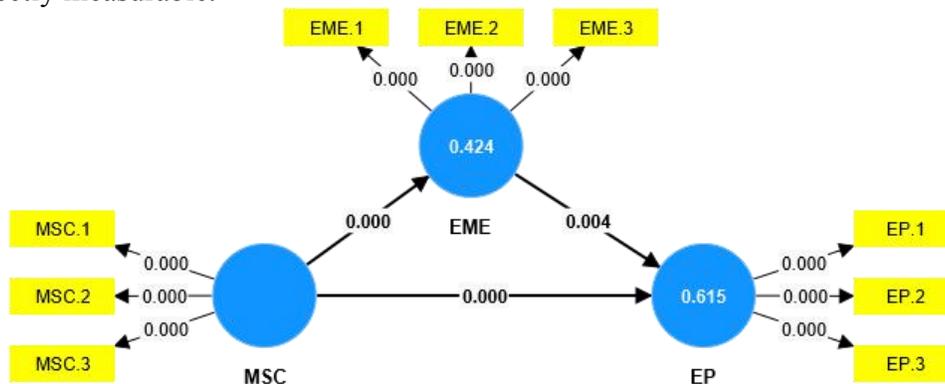


Figure 1. Structural Model

4.2.1 R-square

A statistical metric called R-square quantifies how well the independent variables in a model can explain the percentage of variability in the dependent variable in a study model. In this context, R-square is used to evaluate the explanatory power of a model involving the variables Export Market Exploration (EME) and Export Performance (EP).

Table 3. R-square

Variabel	R-square	R-square adjusted
EME	0,424	0,414
EP	0,615	0,602

Source: Output data from SmartPLS version 4.0 (Processed)

The analysis's findings reveal that the EME variable's R-square value is 0,424, which indicates that the independent variable in this model, Market Sensing Capability (MSC), can account for 42.4% of the variation in EME. According to this figure, MSC has a moderate impact on EME, with other factors not included in the model accounting for 57.6% of the variation in EME.

In the meantime, the EP variable's R-square value is 0.615, meaning that the combination of the MSC and EME variables can account for 61.5% of the variation in EP. This figure demonstrates a reasonably high explanatory power, suggesting that MSC and EME have a major impact on export performance (EP). There are other factors that affect the remaining 38.5% but are not included by this model.

As a result, this R-square value aids in determining the degree to which the independent variables affect the observed findings and gives a general idea of how well the model explains the variability of the dependent variable.

4.2.2 Mediation Test

To find out if a mediating variable may explain the link between the independent and dependent variables, a mediation test is utilized. This study examines Market Sensing Capability (MSC) as a mediating factor in the link between Export Performance (EP) and Export Market Exploration (EME).

Table 4. *Path Coeffien*

Variabel	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ((O/STDEV))	P value
EME -> EP	0,357	0,357	0,123	2,905	0,004
MSC -> EME	0,651	0,654	0,079	8,241	0
MSC -> EP	0,504	0,504	0,114	4,403	0

Source: Output data from SmartPLS version 4.0 (Processed)

Table 5. *Specific Indirect Effects*

Variabel	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ((O/STDEV))	P value
MSC -> EME -> EP	0,232	0,233	0,085	2,741	0,006

Source: Output data from SmartPLS version 4.0 (Processed)

The conclusion drawn from the attached tables 4 and 5 is that there is a strong association and mutual influence between Market Sensing Capability (MSC), Export Market Exploration (EME), and Export Performance (EP). First, with a path coefficient of 0.357, a t-statistic value of 2.905, and a p-value of 0.004, EME significantly and favorably affects EP. This suggests that a greater exploration of export markets will lead to a notable improvement in export performance. With a path coefficient of 0.651, a t-statistic value of 8.241, and a p-value of 0.000, MSC also has a higher impact on EME. These results suggest that the company's capacity to identify and seize market possibilities is a significant factor in boosting export market exploration.

With a path coefficient of 0.504, a t-statistic value of 4.403, and a p-value of 0.000, MSC also directly affects EP. This suggests that MSC has a major direct impact on export performance in

addition to having an effect on EME. With a coefficient of 0.232, a t-statistic of 2.741, and a p-value of 0.006, the indirect effect of MSC on EP via raising EME is also significant. These findings suggest that MSC influences EP both directly and indirectly. Overall, these findings point to the importance of market sensing and export market research in predicting a company's success abroad.

4.2.3 Hypothesis Test

In a hypothesis test, the P value and T statistics are visible. If the P value is less than 0.05, the hypothesis can be accepted. The Path Coefficient in the SmartPLS version 4.0 program, which is acquired using the Bootstrapping technique, can be used to determine this.

Table 6. Hypothesis Test Results

Hypothesis	Analysis
EME -> EP	Coeffisien = 0,357 P value = 0,004 T statistics = 2,905 T-tabel = 1,671 T statistics > T-tabel
MSC -> EME	Coeffisien = 0,651 P value = 0.000 T statistics = 8,241 T-tabel = 1,671 T statistics > T-tabel
MSC -> EP	Coeffisien = 0,504 P value = 0.000 T statistics = 4,403 T-tabel = 1,671 T statistics > T-tabel

Source: Output data from SmartPLS version 4.0 (Processed)

Hypothesis 1: The effect of Export Market Exploration on Export Performance

EME has a positive and significant effect on EP. Based on the table, the coefficient of EME on EP is 0.357 with a p value = 0.004 and a T-statistic of 2.905, which is greater than the T-table (1.671). This shows that the effect is significant.

Hypothesis 2: The effect of Market Sensing Capability on Export Market Exploration

MSC has a positive and significant effect on EME. From the table, the coefficient of MSC on EME is 0.651 with p = 0.000 and T-statistic 8.241, which is greater than the T-table (1.671). This shows that this hypothesis is also significant

Hypothesis 3: The effect of Market Sensing Capability on Export Performance

MSC has a positive and significant effect on EP. The table shows the coefficient of MSC on EP of 0.504 with p = 0.000 and T-statistic 4.403, which is also greater than the T-table (1.671). This means that the effect of MSC on EP is significant.

5. Discussion

This study highlights the relationship between market sensing capability and export performance, emphasizing the mediating role of export market exploration. The results show that market sensing capability has a significant positive impact on export market exploration ($\beta = 0.651$, $p < 0.001$) and export performance ($\beta = 0.504$, $p < 0.001$). Export market exploration also has a positive impact on export performance ($\beta = 0.357$, $p < 0.01$) and partially mediates the relationship between market sensing capability and export performance (indirect effect: $\beta = 0.232$, $p < 0.01$).

This finding is in line with the dynamic capability theory, which states that a company's ability to recognize and respond to market signals can improve its international competitiveness (Teece, 2020). Previous research by Morgan et al. (2009) also showed a positive relationship between market-based capabilities and company performance in general.

This study makes a novel contribution by identifying the mediating role of export market exploration in the specific context of export performance. This study emphasizes the importance of developing strong market sensing capabilities and actively exploring new markets as a key strategy to improve export performance in an increasingly volatile global market.

6. Conclusion

With an emphasis on the mediating function of export market investigation, this study examined the relationship between market sensing abilities and export performance. The findings show that, through greater export market exploration, market sensing competence favorably improves export performance both directly and indirectly. These results advance our knowledge of the processes by which dynamic firm capabilities result in greater export performance.

Numerous limitations of the study provide opportunities for further investigation. First, we are limited in our capacity to deduce causality by the cross-sectional nature of the data. Longitudinal research may offer more solid proof of the connections found. Subsequent investigations may examine supplementary mediating and moderating elements, such as environmental dynamism or organizational learning, that could potentially impact the correlation between export performance and market sensing capability.

To sum up, this study emphasizes how important it is for businesses to have the ability to sense the market and investigate export markets in order to improve their export performance. The ability to detect and react to market shifts through exploratory operations will probably become even more essential for worldwide success as global marketplaces continue to develop.

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