

“The moderating effect of competitive intensity on foresight capability and product innovation of SMEs in Indonesia”

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THE MODERATING EFFECT OF COMPETITIVE INTENSITY ON FORESIGHT CAPABILITY AND PRODUCT INNOVATION OF SMES IN INDONESIA

Abstract

This study aims to understand the performance of SME's product innovation by relating it to the foresight concept of SME owners or managers and the moderating effect of competitive intensity. It employs a quantitative research method by using a survey. This paper studies SMEs from the West Java Province of Indonesia in three industrial sectors: food, fashion, and handicrafts. These industrial sectors were chosen because they are the most competitive, and their consumers change rapidly. Data were collected through a structured questionnaire. A total of 200 questionnaires were distributed, 190 were returned, and 187 were used for data processing. Furthermore, the data were analyzed using exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation modeling (SEM). The results show that networking, time horizon, and analysis can affect product innovation performance ($p < 0.05$). Furthermore, competition intensity does not affect the relationship between analysis and product innovation performance, although there is a relationship between networking and time horizon. The results of this study provide insight for Indonesian SMEs, especially in West Java. Foresight skills trained by SMEs will make them accustomed to facing high-level competition, especially in the time horizon dimension. However, on the other hand, the high intensity of competition can reduce their networking to collaborate with various related parties.

Keywords

SME innovation, SME competition, SME foresight,
Indonesian SMEs, business intensity

JEL Classification

M21, L25

INTRODUCTION

Indonesia pays extraordinary attention to the sustainability of the SME's life cycle to survive amidst high business competition. In Indonesia, SMEs account for almost 97% of labor absorption and almost 60% of the gross domestic product (Feranita et al., 2020). SMEs are now operating in a hypercompetitive business climate marked by volatility, uncertainty, complexity, and ambiguity (VUCA) (Kaivo-oja & Lauraeus, 2018; Semke & Tiberius, 2020; Volberda, 1996). Therefore, SMEs must develop new products to survive and thrive (Pullen et al., 2009).

The rapid business environment growth requires companies to compete with their counterparts. Technological change, resulting in short product life cycles and globalization, is one of the keys to competitiveness in a dynamic corporate environment (Damanpour, 1991). To survive amid competition, companies operating in a hypercompetitive environment must be more innovative in their products (Chen et al., 2015). In addition, SMEs face undeniable limitations, such as the lack of human resources, access to capital, ease of access to information, and creativity in innovating compared to already established companies.



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Companies that prioritize product innovation to develop new products and effectively face the competitive environment will be able to maintain organizational success (Chin et al., 2014). The company's readiness to adopt the development of product innovation will help to achieve success in a highly competitive market and consumer tastes that are constantly changing (Baker & Sinkula, 2009). A competitive market environment will require SMEs to be able to innovate quickly so that product innovation performance becomes essential.

Chang (2016) argues that investigating and exploring various possibilities that can affect a company's product innovation performance is a crucial topic for further research. Analysis of external factors faced by SMEs will be a potential variable in developing product innovation capabilities. The ability to predict future events (e.i., foresight capability) can be a potential variable that affects product innovation performance (Nyuur et al., 2015). Foresight is a more inclusive capacity to creatively absorb and synthesize important information into meaningful future-oriented knowledge to thrive, develop, and perhaps create and capture sustainable value (Paliokaitė et al., 2014).

Foresight has been applied to many large companies in various sectors, such as energy, telecommunications, and information technology, to support the competitiveness of these companies (Vecchiato, 2012). Besides large companies that need the foresight to support their competitiveness, SMEs also need innovation (Milshina & Vishnevskiy, 2018; Vishnevskiy & Egorova, 2015). This is because SMEs are very vulnerable to competition and require a high level of innovation to survive in a hypercompetitive business environment (Milshina & Vishnevskiy, 2018; Nyuur et al., 2015). Although the concept of foresight capability is often associated with large and well-established companies, small companies can also practice foresight capability in their companies through literature reviews, brainstorming, SWOT analysis, and interviews (Vishnevskiy et al., 2015). However, knowledge about the direct impact of foresight practices conducted by SMEs and the influence of competitive intensity interactions on product innovation performance needs to be improved.

1. LITERATURE REVIEW AND HYPOTHESIS

In Indonesia, the government pays special attention to the SME's sector as stipulated in the law by providing particular criteria seen from net worth and business capital owned. For example, Law Number 20 of 2008 concerning MSMEs states that the criteria for small businesses are to have a net worth greater than Rp. 50,000,000.00 (fifty million rupiahs) up to a maximum of Rp. 500,000,000.00 (five hundred million rupiahs), excluding land and buildings for business premises. Furthermore, there is a law renewal, namely Government Regulation Number 7 of 2021, where there is a change in the criteria for MSMEs. Based on article 35, paragraph (3) PP 7 of 2021, micro-enterprises have a business capital of up to Rp. 1,000,000,000.00 (one billion rupiahs), the small business owns a business capital of Rp. 1,000,000,000.00-Rp. 5,000,000,000.00 (one-five billion rupiahs), and a medium business owns a business capital of Rp. 5,000,000,000.00-Rp.

10,000,000,000.00 (five-ten billion rupiah). This classification is done so SMEs can access more capital to develop their business activities.

SMEs are often facing a highly-competitive business world. In addition, the innovation problem is a frequently-discussed topic (Milshina & Vishnevskiy, 2018; Spanos & Prastacos, 2004). However, the innovation process of SMEs is often described and implemented only partially. Operational activities often take a long time, so SMEs find it challenging to create a strategic vision for the future (Van de Vrande et al., 2009). Therefore, innovation is the key for SMEs to survive and compete.

Referring to Alegre et al. (2006), product innovation performance is a process that includes technical design, research and development, manufacturing, management, and commercial activities involved in marketing new products. Tsai (2009) stated that product innovation can be obtained through collaboration with various parties, in-

cluding suppliers and consumers. The information obtained from these various parties will provide insight for SMEs to improve their product innovation performance. Collaboration with various parties by SMEs will help them survive amidst high competition and uncertainty in the business environment.

The ability of SMEs to predict future events is needed to survive in business competition (Rastegari et al., 2020). The information they get from collaboration with various parties makes it easier to develop future product innovations. This capability is beneficial for SMEs to compete and survive amid uncertainty. Thus, this paper uses the concept of foresight and relates it to SME product innovation performance.

Changes in the business environment shift the economic paradigm from static and stable to more dynamic and lead to chaos and confusion, so it requires the ability to predict based on credible trends (Vanags, 2018). Foresight is widely defined as reorganizing pertinent information into future-focused knowledge. Some studies have connected it to organizational learning, innovation, ambidexterity, and business performance disparities (Paliokaitė, 2010; Paliokaitė et al., 2014). Without a clear theoretical foundation, foresight is sometimes viewed as a collection of methods (Baškarada et al., 2016; Piirainen & Gonzalez, 2015). Therefore, discussions regarding foresight often relate to how the method should be chosen (Horton, 1999; Popper, 2008). However, the literature has no agreement about the central foresight capabilities. Foresight is a scientifically-based activity that updates future participation practice based on theoretical considerations of an integrated future co-evolutionary paradigm (Hideg et al., 2014). Slaughter (1996, 2008) originated the concept of an integrated future entailing the continued development of a critical future in which several sorts of knowledge integration may be attained by fostering the individual's intellect. Although the concept of foresight capability is not yet empirically solid, several empirical research has tried to investigate foresight capability (Nyuur et al., 2015; Yoon et al., 2018).

According to Rohrbeck and Gemünden (2008, 2011), a company's foresight depends on capabilities such as culture (e.g., willingness to share), or-

ganization (e.g., integration of foresight activities into the innovation management process or strategic management), the sophistication of methods, information use (e.g., source and scope), and people and networks (especially internal communication and use of internal and external networks). Thus, research on small businesses still needs investigation (Hideg et al., 2014). Furthermore, Kathan et al. (2014) suggest that when SMEs can focus on their daily business activities, they can support their efforts to integrate external knowledge into innovation development. Therefore, it is vital to investigate the foresight capabilities of SMEs and their relation to product innovation.

The company's foresight may also foster innovation by watching rivals' responses to technology shifts and customer demands (Yoon et al., 2018). In addition, it allows the company to identify a network of external experts that can be used later to acquire the required technology (Milshina & Vishnevskiy, 2018). Moreover, the company's foresight encourages innovation by highlighting the difference between its existing and desired state (Semke & Tiberius, 2020). To solve this issue, the company's foresight focuses on upgrading internal work procedures and refocusing the company's market activities (Sarpong & Meissner, 2018).

Several researchers have tried to link foresight with the innovation performance of SMEs (Milshina & Vishnevskiy, 2018; Paliokaitė, 2010; Vishnevskiy et al., 2015). Milshina and Vishnevskiy (2018) show that with foresight, SMEs can innovate and develop the market. Furthermore, Vishnevskiy and Egorova (2015) show that foresight can be applied to small companies, so it is possible that previously considered complex foresight can be applied with a simple method. The foresight concept was initially considered complicated, and only established companies with good resources would be able to apply the concept. However, it could be applied to small companies with various simplifications.

Several research results show a positive relationship between foresight and the company's innovation performance (Rohrbeck & Gemünden, 2011; Vishnevskiy et al., 2015; Yoon et al., 2018). However, the positive relationship between foresight and innovation still looks like intuition about how companies can deal with uncertainties in the business

environment. Thus, it is crucial to investigate how foresight can affect the performance of SME product innovations.

This study employs three dimensions to explain foresight capabilities (networking, time horizon, and analysis). The networking dimension determines the source of information SMEs own in making future decisions (Nyuur et al., 2015). The time horizon dimension is used to determine the time scale chosen for facing the changes in the business environment (Paliokaitė et al., 2014). Finally, the analysis dimension is used to evaluate every past and future decision (Amsteus, 2011). Although there is no agreement on the dimensions used in the concept of foresight, these three dimensions tend to be most relevant to their daily activities.

Furthermore, the high-intensity competition in the business environment requires SMEs to be more sensitive to events and increase their awareness of future changes (technology, market trends, economy). Thus, environmental uncertainty and a high level of competition will have a reasonably unfavorable effect on SMEs if they do not quickly deal with the competition (Uzkurt et al., 2018). Therefore, this study uses competitive intensity as a moderating variable of the impact of foresight capabilities and product innovation performance.

Competitive intensity is a phenomenon at the organizational level that is influenced by perceptions of the external market environment (Jones & Linderman, 2014). It may be characterized as the extent to which a rival can affect a company's concentrated activities (Auh & Menguc, 2005; Barnett, 1997). As competition becomes more intense, products and processes must become more inventive to stay competitive (Jones & Linderman, 2014). Therefore, the highly competitive intensity in the business environment is expected to moderate the relationship between the foresight capability of SMEs to improve the performance of their product innovation.

Foresight literature conceptualizes the company's external business environment as an essential source of information (Paliokaitė et al., 2014). Such a source is critical in analyzing the uncertain future (Slaughter, 1996). Literature shows that

foresight capability will always face environmental uncertainty (Vecchiato et al., 2020). Foresight seems to evolve in environmental dynamism and is generally seen as a valuable tool for responding to the emergence of new competitive pressures (Chen et al., 2015). Furthermore, companies that operate in a dynamic environment tend to be more innovative and will be ready to face uncertainty at the level of the external environment (Zahra, 1996).

Porter (1980) emphasizes competition conditions in explaining company performance differences. Competitive intensity can be seen in price competition and high levels of advertising. With the increasing intensity of competition, the results of organizational actions will depend on actions that occur in the business environment (product innovation, competitors) (Wilden et al., 2013). In addition, the increased competitive rivalry may cause firms to reconfigure their resource base to reflect future market demands (Barnett, 1997). Thus, the intensity of competition faced by companies will affect their ability to obtain helpful information for future decisions that affect innovation performance (Lyu et al., 2022). The information obtained benefits future SMEs' decision-making in developing product innovation performance.

Product innovation is one of the essential breakthroughs for businesses, particularly SMEs. Product innovation development is a problem that demands the capacity to combine diverse functions, activities, and information flows (Lorenzoni & Lipparini, 1999). Utilizing existing information from internal sources, absorbing knowledge from other sources, and combining it with other technical abilities may lead to innovation (Weerawardena, 2003). Ueasangkomsate et al. (2021) stated that in a rapidly changing business environment, companies must be aware of the creation of new, more innovative products. Furthermore, companies that can develop dynamic capabilities will undoubtedly be able to increase sustainable competitive advantages through innovations (Chinnapong et al., 2021). Their ability to face high-intensity competition will positively or negatively affect SMEs' innovation performance.

Therefore, this study aims to provide insight into the survival and resilience of SMEs in facing

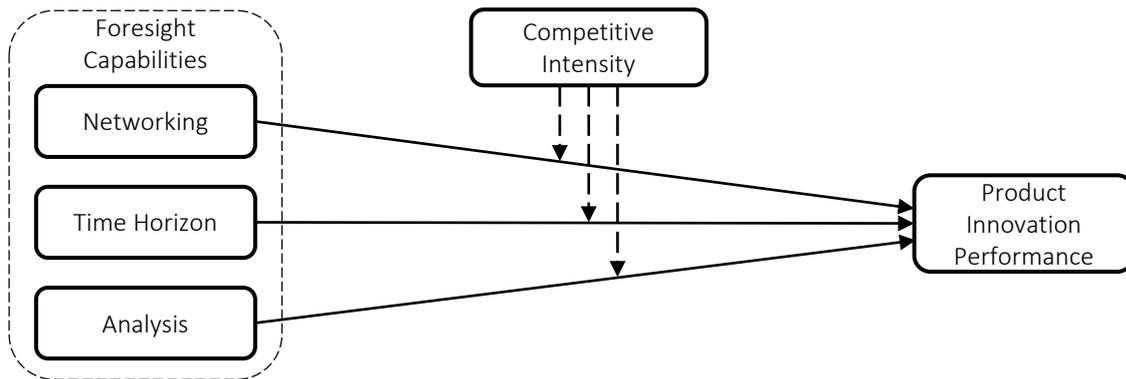


Figure 1. Research framework

the intensity of business competition by focusing on the role of product innovation, which is influenced by foresight capabilities (Figure 1). This paper uses various predetermined characteristics of SMEs from West Java, Indonesia. Based on the description above, the hypotheses are proposed:

- H1: Networking affects product innovation performance.*
- H2: Time horizon affects product innovation performance.*
- H3: Analysis affects product innovation performance.*
- H4a: Competitive intensity may moderate the association between networking and innovation performance.*
- H4b: Competitive intensity may moderate the association between time horizon and innovation performance.*
- H4c: Competitive intensity may moderate the association between analysis and innovation performance.*

2. METHODS

This paper uses a quantitative exploration strategy by using surveys. This study uses quantitative approach to test the variables includes network, time horizon, analysis, competitive intensity, and product innovation performance. This paper studies SMEs from the West Java Province of Indonesia in

three industrial sectors: food, fashion, and hand-crafts. These business sectors were chosen because these fields are vulnerable to rapid changes in consumer tastes, requiring continuous innovation. Data were collected through a structured questionnaire using purposive sampling. The criteria used in collecting data are owners or managers of SMEs where the company has been operating for at least one year. The study used a 5-point Likert scale (1 – strongly disagree to 5 – strongly agree). A total of 200 questionnaires were distributed, 190 were returned, and 187 research respondents' data can be used for data processing.

This study employs five variables, namely, networking, time horizon, and analysis, which are part of foresight capabilities (antecedents), competitive intensity (mediator), and product innovation performance (consequence). The measurements used foresight capabilities consisting of ten indicators: three networking indicators, four time horizon indicators, and three analysis indicators. Furthermore, competitive intensity consists of three indicators, and product innovation performance consists of three. The indicator items of foresight capabilities refer to Nyuur et al. (2015) and Paliokaitė et al. (2014), the competitive intensity items refer to Chen et al. (2015), and product innovation performance items refer to De Luca and Atuahene-Gima (2007).

From a total of 187 respondents, consisting of 142 males and 45 females, it can be concluded that 75.94% of the respondents are male. Furthermore, the dominant age group is 32-39 years old (38.50%), followed by 25-32 years old (28.88%), 19.79% are older than 39 years old, and 12.83% are 18-

25 years old. For the education level, most of the samples were undergraduate, with a total of 143 respondents (76.47%), followed by graduates, with a total of 41 respondents (21.93%) and postgraduate (1.6%). Then, the duration of the company's operation is dominated by 1-3 years of operation with a total of 82 respondents (43.85%), followed by 3-5 years with 65 respondents (34.76%), and more than five years with 40 respondents (21.39%).

Table 1. Demographics of respondents

Category	Items	Frequency	Percentage
Age	18-25	24	12.83
	25-32	54	28.88
	32-39	72	38.50
	More than 39	37	19.79
Gender	Male	142	75.94
	Female	45	24.06
Level of education	Undergraduate	143	76.47
	Graduate	41	21.93
	Postgraduate	3	1.6
SMEs operated	1-3 years	82	43.85
	3-5 years	65	34.76
	More than 5 years	40	21.39

3. RESULTS

Table 2. Reliability, validity, and measurement

Indicators	Factor Loading	CR	AVE	Mean	SD
Networking (Paliokaitė et al., 2014)		0.82	0.61		0.59
NT1	0.737			4.21	
NT2	0.766			3.95	
NT3	0.842			4.27	
Time Horizon (Amsteus, 2011)		0.88	0.65		0.69
TH1	0.809			3.91	
TH2	0.799			3.94	
TH3	0.808			3.88	
TH4	0.816			4.16	
Analysis (Amsteus, 2011)		0.77	0.53		0.70
AN1	0.788			4.19	
AN2	0.712			4.00	
AN3	0.687			4.23	
Competitive Intensity		0.77	0.53		0.71
CI1	0.815			4.20	
CI2	0.755			3.99	
CI3	0.623			4.09	
Innovation Product Performance		0.87	0.71		0.86

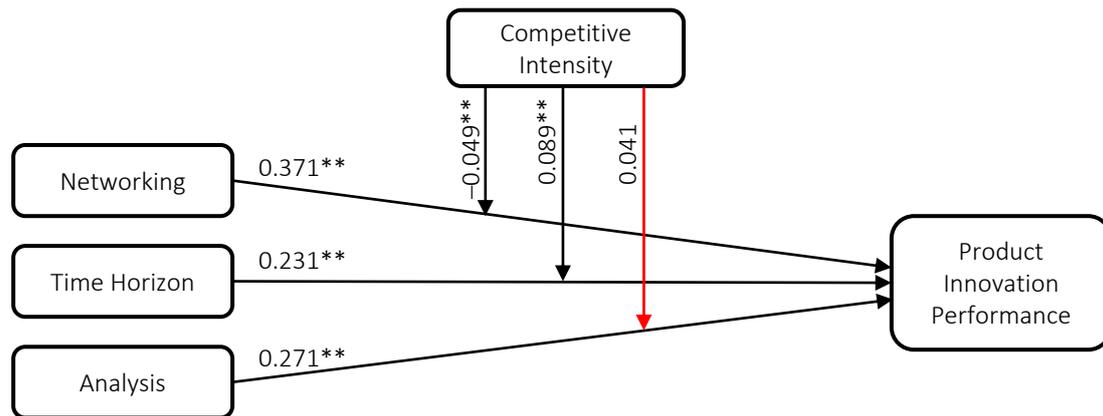
Indicators	Factor Loading	CR	AVE	Mean	SD
IPP1	0.898			3.87	
IPP2	0.792			3.85	
IPP3	0.834			3.45	

Note: NT = Networking, TH = Time horizon, AN = Analysis, CI = Competitive intensity, IPP = Innovation product performance.

Using data, confirmatory factor analysis (CFA) validates the measurement model. Overall, the CFA findings imply that the measurement model has satisfied the acceptable statistical requirements for measurement. $X^2/df = 1.122$, $p = 0.236$, RMR = 0.022, GFI = 0.953, AGFI = 0.922, TLI = 0.995, CFI = 0.997, and RMSEA = 0.025. Furthermore, composite reliability (CR) for networking is 0.82, for time horizon is 0.88, analysis is 0.77, competitive intensity is 0.77, and product innovation performance is 0.87. The overall CR is accepted because > 0.7 . The average variance extracted (AVE) value obtained for each indicator is above 0.5, and the loading factor is also above 0.5 with a significant level of $< 5\%$. The results of all these calculations correspond to an adequate increase in indicators (Bagozzi & Yi, 1988) (Table 2).

The model testing results found that the three variables, i.e., networking, time horizon, and analysis, can affect product performance innovation with a significance level of < 0.01 . The influence of networking on product innovation performance is $\beta = 0.371$, the effect of time horizon on product innovation performance is $\beta = 0.231$, and the effect of analysis on product innovation performance is $\beta = 0.271$ (Table 3 and Figure 2). Furthermore, the three variables are tested for the moderation effect of the competitive intensity variable.

The data are analyzed using a structural equation modeling (SEM) approach. SEM analysis was used to test the theory developed, consistent with previous research (Hair et al., 2009). The results of testing the moderating effect of competitive intensity in networking relationships on product performance innovation are supported by a p -value of $0.008 < 0.01$ ($\beta = -0.049$). The moderating effect of competitive intensity in the time horizon relationship on innovation performance is supported by p -value $0.001 < 0.01$ ($\beta = 0.089$). Finally, the moderating effect of competitive intensity on the relationship between analysis and product innovation performance is rejected by a p -value of $0.110 > 0.05$ (-0.041) (Table 4).



Note: ** = <0.01.

Figure 2. Visualization of path coefficients

Table 3. Path coefficients

Hypothesis	Path	Standardized beta	t-statistics	p-value	Result
H1	Networking → Product Innovation Performance	0.371	6700	0.001	Supported
H2	Time Horizon → Product Innovation Performance	0.231	3.812	0.001	Supported
H3	Analysis → Product Innovation Performance	0.271	3.908	0.001	Supported

Table 4. Summary of moderating effect of competitive intensity

Hypothesis	Path	Standardized beta	t-statistics	p-value	Result
H4a	NET × CI → Product Innovation Performance	-0.049	-2.646	0.008	Supported
H4b	TH × CI → Product Innovation Performance	0.089	4.038	0.001	Supported
H4c	AN × CI → Product Innovation Performance	0.041	1.599	0.110	Rejected

Note: NET = Networking, TH = Time horizon, AN = Analysis, CI = Competitive intensity.

4. DISCUSSION

Foresight capability is a widely researched topic (Hideg et al., 2014; Milshina & Vishnevskiy, 2018; Nyuur et al., 2015; Vishnevskiy & Egorova, 2015). However, until now, there is no certainty about central foresight. Previous studies treat foresight capabilities with different views and definitions.

This study explored the relationship of foresight capabilities to the product innovation performance of SMEs in West Java, Indonesia. Foresight capabilities are described in the first and second orders, which consist of three multidimensional dimensions. The three dimensions of foresight capabilities are networking, time horizon, and analysis. Specifically, this study proposes competitive intensity as a mediating variable based on dynamic capability theory, where changes in the business environment can affect product innovations.

Furthermore, product innovation performance is the consequence variable of antecedent foresight capabilities.

According to the study results using the structural equation modeling method, H1, H2, and H3 are supported. Thus, this study confirms the association between networking and product performance innovation. The better the ability of SMEs to find information related to market desires, the better their innovation capabilities. Developing network ties will provide much information regarding consumer desires and can improve the performance of SMEs to innovate products. Furthermore, the time horizon relationship on product performance innovation was found to have a significant effect. The better SMEs apply the time horizon in predicting, the better their ability to innovate products. Time horizon determines the period in analyzing symptoms or changes in the business environment related to competitors and consum-

ers. SMEs that operate in environments that have rapid changes and tend to be uncertain indicate that they must have the ability to continuously innovate (Prajogo & Ahmed, 2006). Therefore, the time horizon can significantly affect innovation that is carried out continuously. The relationship between analysis and product performance innovation was found to be influential. Good analytical skills possessed by SMEs will increase their ability to innovate products (Martínez-Román et al., 2011). The analysis is needed by SMEs in interpreting data collected from the external environment to determine potential conditions in the future. SMEs with effective analytical techniques to evaluate performance will enhance their innovation performance. Thus, the effectiveness of SMEs in analyzing relevant external data will tend to improve the quality of future decision-making, in this case, product innovation. This study's results align with Yoon et al. (2018); the more often companies do foresight, the more they will improve their innovation capabilities.

Competitive intensity moderates the relationship between networking and the time horizon for innovation performance. In contrast, competitive intensity has no moderating influence on the link between analysis and product innovation performance. Thus, H4a and H4b are supported, but H4c is rejected. Moderation of competitive intensity on the networking relationship to product in-

novation performance has a negative relationship. When SMEs face high-intensity competition in the business environment, it can reduce the quality of obtaining information, especially from external sources. On the other hand, networks can facilitate SMEs in expanding market opportunities and the technology used to enable them to adapt their products to market demands (Gilmore et al., 2006; Nyuur et al., 2015).

Additionally, the moderating effect of competitive intensity on the connection between time horizon and product performance innovation was significant. These results indicate that the higher intensity of competition experienced by SMEs will improve their quality in determining the time horizon used to create product innovations per market desires. Time horizon can give SMEs the right time scale to process the information obtained, develop technologies, and expand the information obtained (Paliokaitė et al., 2014). Finally, the influence of competitive intensity on the link between analysis and innovation was rejected. These results indicate that competitive intensity cannot increase or decrease the quality of SMEs in analyzing decisions to be made. Analysis can be indicated in the ability of SMEs to interpret the data collected in future conditions and develop several alternative options in dealing with the changes that will occur (Paliokaitė et al., 2014; Wilden et al., 2013).

CONCLUSION

Referring to the current exploration results, this study found that foresight capabilities positively affect SME product innovation performance. The foresight ability of SMEs will increase their ability to innovate products. The study results show that the foresight capabilities of SMEs from West Java are good even though they still need to fully understand the foresight capabilities. Indirectly, SME owners have implemented sound foresight capabilities to achieve excellent innovation performance capabilities. The better their ability to innovate, the more their income will increase.

The high intensity of competition is considered scary for some SMEs. The results showed that a high competition intensity could improve their ability to determine the time horizon. However, the high intensity of competition results in a decrease in the network's ability to obtain information. Thus, SMEs should be able to find other sources of information by using their consumers as the primary source of information. On the other hand, the high competitive intensity does not affect the analytical ability of SMEs to improve their product innovation capabilities. Therefore, the analysis will continue to be carried out by SMEs to obtain product innovation and will not be disturbed by competition. Overall, this study develops foresight capabilities and an understanding of competition in the business environment and sustainable product innovation.

This paper significantly contributes to theory and practice in the field but still has some limitations. First, it is limited to networking, time horizon, and analysis variables to represent the concept of foresight capabilities as an antecedent. The competitive intensity represents the moderating variable, and the product innovation performance represents the consequence variable. Second, this study uses all three dimensions, although no one has been able to validate some of these dimensions. Third, the population used is limited to SMEs operating in West Java, Indonesia. Fourth, the number of samples was 187 SME respondents from West Java Province.

Several facts found in this study form significant research prospects for other fields. First, future studies can consider some related variables that have not been tested in this paper using the basic concepts of foresight, dynamic capabilities, and resource-based view (RBV). Second, future research can expand the target respondents to be used. Third, because this study used quantitative nature, qualitative or a combination of qualitative and quantitative would be recommended.

AUTHOR CONTRIBUTIONS

Conceptualization: Vigory Gloriman Manalu, Refius Pradipta Setyanto.

Data curation: Vigory Gloriman Manalu.

Formal analysis: Vigory Gloriman Manalu.

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