Conference Paper

The Effect of Innovation Capability on Market Performance Mediated by External Collaboration on SMEs

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Abstract.
The functions and roles of SMEs in Indonesia are quite numerous both economically, politically, socially, culturally, and securely. Economic-social-political functions and roles, for example, are to increase people's income, reduce unemployment, poverty, and urbanization flows. This study aims to determine the effect of innovation capability on market performance mediated by external collaboration in Batam SMEs. This study took a sample of 257 respondents, who are managers or owners of SMEs, selected using non-probability sampling method with purposive sampling technique. Data were analyzed using structural equation modeling with partial least square (SEM PLS) approach. The results showed that innovation capability has a significant effect on market performance in SMEs, a significant relationship was observed between innovation capability and external collaboration and between external collaboration on market performance, while the results of the indirect effect showed that external collaboration mediates the relationship between innovation capability and market performance. Suggestions for Batam City SMEs to continue to maximize innovation capabilities and collaborate with various parties to improve market performance.

Keywords: innovation capability, market performance, external collaboration, MSMEs

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1. Introduction

The significance of small and medium-sized enterprises (SMEs) in Indonesia is becoming increasingly apparent in the country's economic development. Initially, SMEs were primarily seen as a critical provider of employment opportunities and a driving force for growth in rural areas. However, in today's and tomorrow's globalized world, the role of SMEs is becoming more crucial as a source of foreign exchange through non-oil and gas exports [1].

SMEs in Indonesia play a significant role in various areas, including economics, politics, society, culture, and security. They contribute to increasing income, reducing unemployment and poverty, and managing urbanization. Despite their importance,

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there is currently no standard definition or theory that addresses all the challenges faced by SMEs in Indonesia. Using theories from Western countries alone may not be sufficient to solve these problems. SMEs in Indonesia have unique characteristics such as a simple organizational structure, limited formal activities, basic technology, flexible management, and a lack of distinction between personal and business assets, and minimal administration [2].

The Riau Islands Province is home to a thriving small and medium-sized enterprise (SME) sector. According to a 2017 survey, there were 34,394 businesses operating in the area, with 95.8% of them classified as micro industries and the remaining as small industries. These businesses are characterized by minimal capital requirements, flexibility in operations, products and services tailored to local community needs, and utilization of local resources, which contribute to their growth and development [3].

In 2019, the number of Small and Medium Enterprises (SMEs) in Batam City rose to 81,486. These businesses were encouraged to sell their products online, however, only a small percentage (5%) have adopted digital methods. The majority of SMEs in Indonesia, including those in Batam City, continue to operate in a traditional manner. The total number of micro and small businesses in Indonesia was 58.91 million and 59,260 respectively, while the number of medium-sized enterprises reached 4,987. As of 2019, there were 81,575 SMEs in Batam City [4].

Business owners must constantly innovate in order to achieve long-term success. When competing in the global market, SMEs must be able to compete on the basis of technology, innovation, creativity, and imagination, rather than just price and quality [5]. Sustainable performance can be accomplished if business owners can consistently innovate in accordance with the dynamics of the environment [6]. With all of its constraints, effective innovation development requires SME owners to be able to construct good collaborative networks with enough resources in human resources, finance, and technology. SMEs require creativity and innovation in order to compete in the face of rapid environmental changes, particularly in the sphere of technology [7]. According to Mulyana and Sutapa [8], improving performance for business owners may be accomplished through the development of good cooperation networks and the development of innovative capabilities (packaging, products, markets, and processes) that are in accordance with consumer needs.

Collaboration with outside parties can help business actors improve their innovation skills. According to Möller and Halinen [9], there is a strategic net in corporate cooperation. A strategic net or strategic network is a strategy that encompasses numerous parties, including external ones, in order to agree on common goals and identify

each party's position in their economic cooperation. Collaboration with external parties is intended to improve the performance of new products by interacting with other parties such as suppliers, consumers, competitors, and research organizations [10]. Working with these parties can help you improve your innovative capabilities. Network collaboration is defined by Brettel and Cleven [11] as a source of knowledge and information that is not obtained within the firm. The intended collaboration involves suppliers, consumers, competitors, universities and independent experts.

Collaboration with external parties is needed in order to broaden the horizons of business actors in terms of developing new products [10]. Information from external parties combined with internal research can certainly be one of the perpetrators' weapons efforts to obtain high-value products. The collaboration results in the form of information are also useful for evaluation materials if there is a fault in the internal system. Collaboration with external parties has good benefits. However, the information obtained from the collaboration needs to be filtered to be in accordance with business conditions.

Various information obtained by the company may not all have a positive effect on business performance. Therefore, companies need to improve their ability to search, sort and understand information from inside and outside the company or what is called absorptive capacity [10]. Chung et al. [12] assumes that absorptive capacity is the company's ability to recognize, sort and apply information from outside the company. The results of the information processing aim to increase the value of a company. Tu et al. [13] mentions that absorptive capacity is considered as the company's knowledge base to scan the environment and launch the company's communication process.

Although successful collaboration improves capabilities that promote industry competitive advantage. This study does not investigate whether and how collaboration leads to increased dynamic capacities. Future studies should foster collaboration. These three capabilities can serve as the foundation for a more comprehensive set of enabling capabilities or as fundamental components of an integrative capability building cooperation, identifying additional capability development research.

2. Literature Review

2.1. Innovation capability

The company's capacity to use integrated resources to achieve the desired goals can be interpreted as capability [14]. Capabilities can also enable companies to create and

exploit external opportunities and can represent a lasting advantage. In addition, core capabilities can also be defined as critical long-term success factors, or as value chains, including primary and supporting activities that create customer value.

The ability to develop new ideas and find new ways of looking at problems and opportunities is the definition of creativity. The ability possessed by a company in developing new ideas in order to become an innovation is the concept of innovation capability [15]. The ability to print and manage a variety of capabilities, can be proposed as innovation capabilities as capabilities with a high degree of integration.

2.2. External collaboration

business cooperation. A strategic net, also known as a strategic network, is a strategy that involves numerous parties to agree on common goals and identify each party's position in their corporate collaboration. Strategic networks are classified as present business nets, business renewal nets, and emerging business networks. Most businesses employ current business nets as a cooperative tactic. Cooperation is only confined to satisfying operational demands, as is done by manufacturing firms. According to Shuman and Twombly [16], external business collaboration is a grouping of corporate organizations, individuals, and other organizational entities with the ability and resources to fulfill specific goals. All relevant parties must work collaboratively in order to achieve collective goals. According to him, collaboration is a dynamic structure and has advantages in an uncertain business environment.

2.3. Market performance

Market performance is the result of all overall marketing activities carried out by the business, as well as the organization's return on employee performance from a series of marketing management. Employee input on the organization is critical, because employees are at the forefront of an organization that can generate information for the organization. This has a significant impact on the organization and has the potential to improve managerial attitudes and behavior [6]. Many firms are continuously striving to minimize inputs while increasing output. The role of top managers in this issue is how top managers may influence and increase employee performance, which is critical in any firm [17].

2.4. Innovation capability and market performance

Business owners must constantly innovate in order to generate sustained performance. In order to compete in the global market, SMEs must be able to compete on the basis of technology, innovation, creativity, and imagination, rather than just price and quality [5]. Sustainable performance is possible if business leaders can consistently innovate in accordance with the dynamics of the environment [6]. With all of its restrictions, effective innovation development requires MSME owners to be able to construct good collaborative networks with enough resources in the sectors of human resources, money, and technology.

H1: Innovation capability has a significant effect on market performance

2.5. Innovation capability and external collaboration

External collaboration is enabled by innovation skills in two ways. First, because of its own knowledge base and aptitude for absorption. Companies must evaluate and absorb new resources from third parties in order to gain a competitive advantage [18]. Companies with higher innovation capabilities are more likely to benefit from collaborative efforts and develop further strengthen their internal capabilities [19] and thus more motivated to collaborate. Second, innovative capabilities aid in the attraction of high-quality partners.

H2: Innovation capability has a significant effect on external collaboration.

2.6. External collaboration and market performance

Business owners are required to always innovate so that business owners can create sustainable performance. Facing competition in the global market, SMEs must be able to compete on the basis of technology, innovation, creativity and imagination not only relying on price and quality [5]. Sustainable performance can be achieved if business owners can innovate continuously in accordance with the dynamics of the environment [6].

H3: External collaboration has a significant effect on market performance
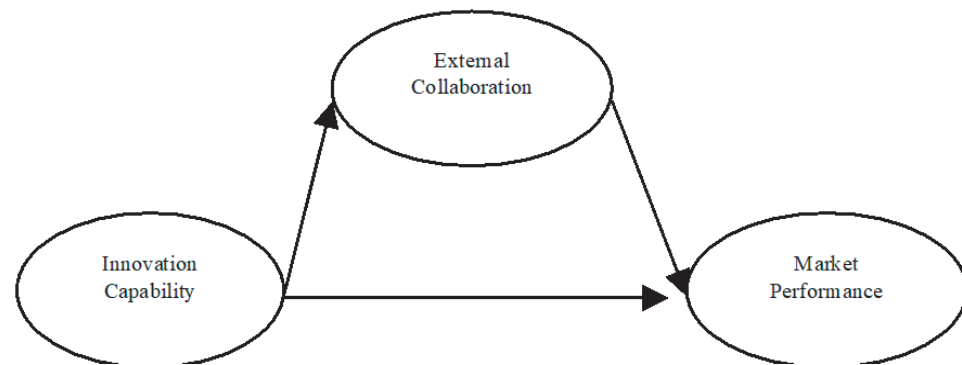
Figure 1: Research Model.

3. Method

According to Hair et al. [20], the sample size for the study should be between 30 and 500 samples and should match the population's size and features. Questionnaires were delivered directly to respondents who are active SMEs owners or entrepreneurs in Batam City's trade, service, processing, and manufacturing sectors in order to collect responses for this study. The sample approach utilized in this study was non-probability sampling. The sample approach used in this investigation was purposeful sampling. Researchers have determined the variables and standards that samples included in this study must meet, including the criterion that they have been in operation in the SME sector for at least 3 (three) years. Questionnaires were distributed online via social media. Respondents were chosen for this study based on how easy and eager they were to be reached personally.

This study's data analysis is quantitative in nature, with the goal of testing the established hypothesis. The researcher employed the SEM (Structural Equation Model) analysis technique SmartPLS version 3.2.9 to analyze the data. According to Hair et al. [20], PLS-SEM can still manage reflective and formative behaviors without identifying issues. In PLS, there are two models that must be analyzed:

1. Assess the outer model or measurement model

2. Assess the inner model or structural model

Hypothesis testing using full model Structural Equation Modeling (SEM) analysis with SmartPLS. In the full model Structural Equatoin Modeling besides confirming the theory, it also explains whether or not there is a relationship between latent variables.

4. Result and Discussion

Based on Online Data System (ODS) data at the Indonesian Ministry of Cooperatives and Small and Medium Enterprises, Batam has 81,575 MSMEs in Batam. Which consists of the trade sector, the manufacturing sector, the agricultural sector, the plantation sector, the service sector and others. The object of this research is SMEs in the city of Batam.

4.1. Respondent profile

The total number of respondents in this survey was 257. In this study, questionnaires were given online and filled out by SMEs in Batam. The characteristics of responders are shown in the table 1 below:

TABLE 1: Respondent Profile.

Respondent Characteristics	Description	Total	Percentage
Gender	Man	107	41,63%
	Woman	150	58,37
Type of Business	Trading	143	55,64
	Service	65	25,29
	Manufacture / Production	49	19,07
Length of Business	3-5 years	143	55,64
	6-8 years	83	32,30
	More than 9 years	31	12,06

Source: Data processed

According to the table above, there are 41.63% male respondents and 58.37% female respondents, indicating that women dominate SMEs. According to the Ministry of Cooperatives and MSMEs, women account for 64.5% of all MSME actors in Indonesia [21]. Following that are the characteristics of respondents based on type of business; there are three types of businesses, namely trade, services, and manufacturing; respondents with the type of trading business account for 55.64%, services account for 25.29%, and manufacturing or production account for 19.07%, According to data from the Central Agency Statistics 2016, SMEs in the trading sector account for 46.27% of all SMEs, while 19.93% are in the service sector and 16.5% are in the production sector, with the remainder in other sectors. Depending on how long the company has been in operation. 55,64% of SMEs have been running their business for three to five years, 32,3% have been running their business for six to eight years, and 12,06% have been running their business for more than nine years.

According to the results of a survey conducted by the Indonesian Institute of Sciences (LIPI) [22], this survey captured 54.98% of respondents for micro-enterprises, 33.02% for ultra-micro, 8.1% for small-scale businesses, and 3.89% for medium-sized businesses, with a length of business ranging from 0 to 5 years (55.2%), 6 to 10 years (24%), and more than 10 years (20.8%). The majority of firms aged 0-5 are ultra-micro (58.36%) and micro-scale (58.33%). Furthermore, business actors use a variety of sales strategies, including door-to-door 41%, physical stores 34%, agents/resellers 32%, market places 15%, and online sales through social media 54%.

4.2. Measurement model (outer model)

An outer model is one that defines how each block of indicators relates to the latent variable. The outer model evaluation ensures that the model is both valid and dependable. This research employs a reflecting indicator to assess the external model's convergent and discriminant validity of indicators that create latent structures, as well as composite reliability for indicator frames. Convergent validity is evaluated using loading factors and Average Variance Extracted (AVE) values. The loading factor value illustrates the relationship between the indicator score and its concept, where good validity is highly valued.

TABLE 2: Loading Factor.

	External Collaboration	Innovation Capability	Marketing Performance
EC1	0.750		
EC2	0.889		
EC3	0.897		
EC4	0.877		
EC5	0.898		
IC1		0.288	
IC2		0.344	
IC3		0.544	
IC4		0.807	
IC5		0.827	
IC6		0.838	
MP1			0.646
MP2			0.500
MP3			0.810
MP4			0.758

Source: Data processed

Based on table 2, the outer loading results on the external collaboration variable as a whole, the variables above from the specified criterion, namely the loading factor value more than 0.6, while for the innovation capability item IC1, IC2 and IC3 variables have values below the criteria, namely the loading factor value below 0.6, so the item this is deleted and retested and the market performance variable on the MP2 item has a value below 0.6, so the MP2 item needs to be deleted and retested. After retesting, there are still values below 0.6, namely the MP1 item so that it needs to be retested.

TABLE 3: Loading Factor After Deletion.

	External Collaboration	Innovation Capability	Marketing Performance
EC1	0,750		
EC2	0,889		
EC3	0,896		
EC4	0,878		
EC5	0,897		
IC4		0,815	
IC5		0,858	
IC6		0,877	
MP3			0,807
MP4			0,861

Source: Data processed

Based on table 3, the results of reprocessing using SmartPLS 3.2.9 software, overall innovation, capability, external collaboration and market performance variables have values above the criteria, namely the loading factor value above 0.6. For the results of the Average Variance Extract (AVE), all variables in the study had an AVE value above 0.5 or more than the predetermined criteria, so it can be concluded that after deleting and retesting, the variables in this study met the convergent validity criteria.

TABLE 4: Fornell-Larcker.

	EC	IC	MP
EC	0,864		
IC	0,993	0,850	
MP	0,157	0,200	0,834

According to the Fornell-Larcker results (table 4) derived from the AVE root, the AVE root of each variable is bigger than the AVE root of the other variables, indicating that the variables in this study meet the criterion of discriminant validity. The next test is the measurement of the internal Consistency Reliability value, which can be seen from the

composite reliability value; that is, data with a value greater than 0.6 indicates strong reliability.

TABLE 5: Composite Reliability.

	Composite Reliability
EC	0,936
IC	0,886
MP	0,820

Source: Data processed

Based on the table 5 above, it shows that all variables have high reliability values ranging from 0.8-0.9, the highest value is the external collaboration variable with 0.936, followed by innovation capability with 0.886 and marketing performance with 0.821. It can be concluded that overall reliable variables were used in this study.

4.3. Structural model (inner model)

The inner model is tested once the outer model has been analyzed and the outer model criteria have been met (Structural Model). A structural model is a model that displays the predictive relationship between the latent variables in a research model. The R-square test is used to evaluate the quality of a structural model. The R-square value is used to calculate how much influence specific independent latent variables have on the dependent latent variable. The magnitude of the R-square value of 0.75 indicates that the model is strong; 0.50 suggests that the model is moderate; and 0.25 shows that the model is poor [23].

Based on the R-square results, the relationship between innovation capability and external collaboration has an R-square value of 0.986. It can be stated that the effect of innovation capability on external collaboration is strong, 98.6 percent of the external collaboration variable is influenced by innovation capability. Furthermore, there are 0.165 or 16.5 percent of marketing performance variables influenced by innovation capability and external collaboration, the remaining 83.5 percent is influenced by other variables outside of this study.

Based on the results of hypothesis testing in table 6. The relationship between innovation capability and marketing performance, the path coefficient value is 3.163, which means that the value is positive, p-value is 0.000 or less than 0.05, this is it can be concluded that innovation capability has a positive effect on marketing performance. Business actors can develop their innovation capabilities by collaborating with external parties. Möller and Halinen [9] states that there is a strategic net in business cooperation.

<div style="text-align: center;">TABLE 6: Hypothesis Test.</div>

Variable	Path Coefficient	P Values	Significancep < 0.05
IC -> MP	3,163	0,000	Significant
IC -> EC	0,993	0,000	Significant
EC -> MP	-2,984	0,000	Significant
IC -> EC -> MP	-2.963	0,000	Significant

Source: Data processed

Strategic net or strategic network is a strategy that involves several parties including external parties to agree on common goals and determine the role of each party in their business cooperation. The purpose of collaboration with external parties is interaction with other parties such as suppliers, consumers, competitors and research organizations with the aim of improving the performance of new products [10].

As for the relationship between innovation capability and external collaboration, the path coefficient is 0.993, which has a positive meaning. Furthermore, the p-value is 0.000 or less than 0.05. It can be concluded that the relationship between innovation capability and external collaboration has a significant effect. The results of this study are also strengthened by research by Alfonso, which states that innovation can be encouraged by collaborating with academics, government, companies and civil society so that it can increase economic growth. Another study also shows that financial performance and collaboration performance with customers can be improved through collaborative communication. Improved company performance can be done by strengthening the network structure of the company [10].

The relationship of external collaboration to marketing performance has a path coefficient value of -2,984 or has a negative value and a p-value of 0.000 or less than 0.05, it can be concluded that external collaboration has a negative effect on marketing performance. External collaboration affects marketing performance, what is needed by a company, market performance is needed to meet the needs so that the business runs smoothly. This opinion is reinforced by research Chen et al. [10]. The role played by this sector is expected to continue with the government and related parties having clear references about the factors which affect the increase in business performance.

Meanwhile, overall, it can be concluded that the relationship between innovation capability and marketing performance mediated by external capability has a path coefficient value of -2,963 and a p-value of 0.000 or less than 0.05, it can be said that external collaboration mediates the relationship between innovation capability and marketing performance.

5. Conclusion

Based on the results described previously, it can be concluded that innovation capability has a positive effect on marketing performance, innovation capability also has a positive effect on external collaboration, while external collaboration has a negative effect on marketing performance, while external collaboration is able to mediate the relationship between innovation capability and marketing performance.

Suggestions for SMEs are to continue to hone their ability to innovate so that they can improve marketing performance and SMEs also need to increase collaboration with various parties such as the government, community and various parties within the SME scope.

Acknowledgments

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