Print ISSN: 1738-3110 / Online ISSN 2093-7717
JDS website: http://www.jds.or.kr/
http://dx.doi.org/10.15722/jds.20.12.202212.43

Increasing Furniture Manufacturing SMEs' Business Performance Through Absorptive Capacity and Product Quality

Gracia ONGKOWIJOYO[1], Teman KOESMONO[2], Fenika WULANI[3]

Received: October 10, 2022. Revised: November 24, 2022. Accepted: December 05, 2022.

Abstract

Purpose: This study discusses the phenomenon of the uncertain sustainability of SMEs in developing countries. SMEs face various challenges in the dynamics of a competitive environment, which threaten their growth and sustainability. This study aims to address a research gap between company's internal resources, in the form of absorptive capacity, and its business performance. By using product quality as a mediator, which has never been studied before, this research presents a novelty to answer the existing research gap using the Resource Based Theory (RBT) perspective. **Research design, data and methodology:** Using quantitative method, data are collected from 164 respondents, who are owners or managers of furniture manufacturing SMEs in *Gerbangkertosusila* Area, East Java, Indonesia. The data are analyzed using Partial Least Square (PLS) – Structural Equation Modeling (SEM). **Results:** The findings show that absorptive capacity has a direct and significant effect on business performance and indirectly through product quality. **Conclusion:** Furniture manufacturing SMEs are advised to focus on developing absorptive capacity reflected in good product quality, in order to improve their business performance. This is especially important to survive the crisis caused by the Covid-19 pandemic. Thus, the results of this study contribute to the development of RBT, and there are several suggestions for further research.

Keywords : Absorptive Capacity, Product Quality, Business Performance, Resource-Based Theory, SME, Covid-19, Furniture Distribution

JEL Classification Code M10, M21, Q53

1. Introduction

Small and Medium Enterprises (SMEs) play an important role in a developing countries' economy (Arshad & Arshad, 2019), which applies to Indonesia. SMEs tend to not rely on debt capital, and are thus less susceptible to exchange rate fluctuations. However, the phenomenon of SMEs' uncertain sustainability has become more apparent, which presents challenges for SMEs' sustainability and growth. SMEs need to find ways to maintain competitiveness in this dynamic and competitive environment. Business sustainability in Indonesia varies, as can be seen from the year-on-year number of business units. According to Prasanna et al. (2019), a higher level of competition resulted from globalization eliminates trade barriers, presents new challenges, whereby SMEs lack the ability to compete.

1 First Author and Corresponding Author. Lecturer, School of Business and Management, Universitas Ciputra Surabaya, Indonesia. Email: gracia.ongkowijoyo88@gmail.com
2 Second Author. Professor, Faculty of Business, Widya Mandala Catholic University Surabaya, Indonesia. Email: dfriendkoesmono@yahoo.co.id
3 Third Author. Lecturer, Faculty of Business, Widya Mandala Catholic University Surabaya, Indonesia. Email: fenika@ukwms.ac.id

The phenomenon of SMEs sustainability is apparent in the furniture manufacturing industry. According to Karno and Purwanto (2017), the spread of furniture industry clusters across Indonesia suggests that the industry can become the backbone of the Indonesian economy. The majority of manufacturing furniture SMEs in Indonesia are quite traditional, they rely on historical demand forecasting. Their distribution strategy is both direct and indirect, whereby they directly send their products to end customers as well as use intermediaries (furniture retail shops). Furniture trade is an important component in world trade for manufactured products, and each year the export volume grows in line with the increase in population and the increase in world income per capita. Unfortunately, the furniture manufacturing industry is faced with various challenges that threaten business sustainability.

The furniture manufacturing industry is a labor-intensive industry that absorbs a significant workforce. The problem faced by the furniture industry in the domestic market is the change in market tastes due to changes in behavior patterns. People's behavior changes along with the urbanization of more Indonesians; families get smaller, where each small family needs their own houses. Big houses in big cities like Surabaya and its surrounding areas are not cheap; thus, houses nowadays tend to be smaller. Some also choose to live in apartments with smaller living areas. Thus, the demand for furniture has also changed to meet the demand of smaller houses. Due to the Covid-19 pandemic, many people become more active at home. Thus, the demand for furniture products has also changed, specifically in the demand for home-office products. Furniture SMEs need to be able to anticipate changes and make immediate adjustments to improve their business performance. This problem arises in metropolitan areas such as *Gerbangkertosusila* Area, East Java, which consists of six cities, namely Gresik, Bangkalan, Mojokerto, Surabaya, Sidoarjo, and Lamongan.

Business performance is important to ensure the sustainability and development of a business, and it is also the measure of a business overall accomplishments The company's internal resource that can help improve business performance is its absorptive capacity. Cohen and Levinthal (1990) defined absorptive capacity (AC) as the company's ability to identify new values and external information, assimilating them, and applying them toward achieving commercial goals. For example, information about product functionality to distribution and delivery methods need are crucial to fulfilling customers' needs. AC is a wholistic perspective on information that companies need to be able to acquire and make use of. According to Zahra and George (2002), AC contributes to the sustainability of a business as it is the main source to create and maintain competitive advantage. This is because AC is crucial in making sure the company's knowledge, skills, resources and capabilities stay up to date in order to compete in the ever-changing market through flexibility. In return, AC can help companies maintain superior performance, good customer responsiveness and other strategic advantages.

Several studies have found that AC has a significant effect on business performance (Liu et al., 2018; Pradana et al., 2020; Rehman et al., 2020; Vlačić et al., 2019). However, other previous studies have found otherwise (Ahmed et al., 2019a; Rua, 2018). Absorptive capacity can be broken down into two categories, namely potential absorptive capacity and realized absorptive capacity. According to Zahra and George (2002), the gap between potential AC and realized AC indicates that knowledge acquired externally undergoes several iterative processes before it can be successfully utilized as competitive advantage. Research by Ahmed et al. (2019a) found that potential AC is not directly related to BP, while realized AC has a significant relationship with BP. A study by Kale et al. (2019) found that the acquisition dimension of AC does not have a direct effect on BP. Thus, that particular AC component does not have a direct effect on BP. New AC can contribute to maintaining competitive advantage and BP when used properly and combined with the company's other complementary assets and resources. It can be concluded that the effect of AC on BP is inconclusive, hence, there is a research gap.

This research gap opens up new research opportunities since according to Arshad and Arshad (2019), majority of researches study AC in the context of large enterprises, and only a handful studies it in the context of SMEs in developing countries. Previous research by Rehman et al. (2020) and study by Ahmed et al. (2019a) explored AC in the context of SMEs, in particular, medium manufacturing enterprises. The remaining four researches explored different contexts; Vlačić et al. (2019) and Kale et al. (2019) conducted the research in the context of medium to large enterprises in developing countries; Liu et al. (2018) conducted the research in the context of large enterprise in developed countries; and Pradana et al. (2020) conducted the research in the context of small to medium enterprises in developed countries. In addition, according to Darcy et al. (2014), the majority of research examined the sustainability of large-scale organizations, with the assumption that SMEs are scaled down version of or can be derived from large enterprises. However, SMEs have different characteristics from large enterprises: (1) the number of workers, which SMEs have much less workers, thus less skills variety, (2) SMEs have limited access to assets and funding sources, and (3) differences in organizational structure and strategy, which SMEs tend to be less formal and structured (Darcy et al., 2014). Due to these differences, SMEs need a different sustainable business model to that of large enterprises.

In order to address the existing research gap, this relationship can be mediated by product quality (PQ). Research by Lee et al. (2001) found that the level of knowledge acquisition from customers has a positive impact on product quality (PQ). This study is the basis for the assumption that the ability to absorb and acquire information can have a positive impact on PQ, in which information acquisition is part of AC. Research by Lee et al. (2001) has not examined the impact of AC on PQ as a whole. Several previous studies have linked PQ to BP, where through good PQ companies can have better financial performance (Olayeni et al., 2021; Zhao et al., 2021). There are several previous studies that studied the relationship between PQ and BP (Agus et al., 2012; Ahmed et al., 2019b; Arda et al., 2019; Yang & Ju, 2017). AC should be able to yield good BP if the information obtained can be assimilated and implemented through good PQ.

The phenomenon of SME sustainability and the research gap described above can be explained by Resource-Based Theory (RBT), which was previously referred to as the resource-based view (RBV). According to Barney (1991), RBT suggests that companies can gain competitive advantage through implementation of strategies that exploit internal resources and external opportunities, while neutralizing external threats and avoiding internal weaknesses. The phenomenon described above can be explained and predicted using RBT. According to Baker and Sinkula (2005), the assumption in RBT is that firms can gain competitive advantage by focusing on internal resources and capabilities that are unique and cannot or are difficult for competitors to imitate. Thus, to ensure the company remains competitive, sustainable, and thriving, it needs to leverage existing resources, making it unique and difficult for competitors to imitate.

This study aims to examine the direct effect of AC on BP and to test the mediation of PQ to answer the existing research gap using RBT perspective. The novelties of this research are (1) examining absorptive capacity in the context of SMEs, (2) using PQ as mediator to address the existing research gap, and (3) examining furniture manufacturing SMEs, which are rarely studied. The next sections discuss the literature review, research methodology, then followed by the results and analysis of the results. The last section discusses the conclusions and implications of the study.

2. Literature Review

2.1. Resource-Based Theory

Resource-Based Theory (RBT) is previously known as resource-based view (RBV). Penrose (1959) first came up with the idea that optimal company growth involves striking a balance between the exploitation of existing resources and the development of new ones. This view was later further developed by Wernerfelt (1984), whereby RBT basically focuses on the company's internal resources to identify key assets, capabilities, and competencies in order to gain competitive advantage. According to Wernerfelt (1984), resources can be a company's strengths and weaknesses in physical (tangible) and non-physical (intangible) forms. Later, RBT was further developed by Barney (1991), which suggested that firms will gain competitive advantage by implementing strategies that exploit internal strengths and external opportunities, while neutralizing external threats and avoiding internal weaknesses. Resources that arise in heterogeneous situations, while cannot be perfectly mobilized, can become a source of competitive advantage (Barney, 1991). There are four criteria for resources to be valuable as the companies' competitive advantage, namely (1) resources that add positive value to the company (valuable), (2) resources that are difficult to obtain, unique or rare (rare), (3) resources that are difficult to imitate (imitability), and (4) resources that cannot be replaced by others (non-substitutability).

RBT theory was developed in various management areas, such as marketing, strategic management, and entrepreneurship. Barney et al. (2001) suggested that in RBT researches there is a need to identify exact customer values in the form of specific attributes, benefits, attitudes and network effect intended, generated and maintained. In addition, in the Industrial Revolution 4.0 era, where everything is so rapid and ever changing, there is more competition. Companies are challenged to be sustainable and to develop continuously. Resource-based view suggests that companies need to develop unique capabilities, be it through innovation, to ensure they have a competitive advantage. Isichei et al. (2020) argued that the assumption in RBT is that internal competencies are the foundation for improved performance. Competitive advantage from various and non-replicable resources will ensure SMEs remain competitive in the market, without having to worry too much about adapting to external environment. Thus, RBT theory becomes very relevant for SMEs' performance. Thus, RBT becomes the theoretical basis of this research.

2.2. Business Performance (BP)

According to Smith and Reece (1999), "business performance (BP) is defined as the operational ability to satisfy the desires of the company's major shareholders, and it should be assessed to measure organizational achievement". According to Venkatraman and Ramanujam (1986), business performance (BP) reflects the strategic managements' perspective, and is part of the overall concept

of organizational effectiveness. Therefore, this research defines BP as a reflection of the company's effectiveness shown through the achievement of the company's financial and operational targets. BP is important to measure the company's overall accomplishments to ensure sustainability.

Hansen and Wernerfelt (1989) wrote that in the literature and research on BP, there are two main streams: (1) based on traditional economic view, which emphasizes the importance of external market factors in determining the success of the company, and (2) based on the foundation of behavioral and sociological paradigms, which looks at organizational internal factors and its suitability with the surroundings as a major determinant of success. Based on Franco-Santos et al. (2007), BP research in the field of management is spread across various disciplines such as strategic management, operations management, human resources, organizational behavior, information systems, marketing, accounting, and management control, all contributing to the field of performance measurement. Researches in different disciplines have different antecedents regarding BP. In the field of strategic management, BP antecedents cover various areas, including strategy (Sung et al., 2010), entrepreneurial orientation (Wahyuni & Sara, 2020), innovation capability (Jin & Choi, 2019), strategic orientation (Acar & ÖZŞAhin, 2017), market orientation (Chahal et al., 2016), intellectual capital (Ahmed et al., 2019a), relational capital (Tumwine et al., 2012), competitive advantage (Meutia, 2013), and others.

According to Jogaratnam (2017), traditionally, BP has been measured in terms of economic criteria such as profitability or market-based financial indicators. According to Venkatraman and Ramanujam (1986), financial performance is assumed to reflect the achievement of the company's economic goals. It is usually measured by indicators such as sales growth, profitability (reflected by ratios such as return on investment, return on sales, and return on equity), earnings per share, and others. Financial performance and operational performance (non-financial) are measurement concepts that combine the two performance measures. Operational performance can be measured through market share, introduction of new products, product quality, marketing effectiveness, value added manufacturing, and other measures of technological efficiency in the BP domain.

This study uses measurements by Ahmed et al. (2019b) for the business performance (BP) variable. Measures by Ahmed et al. (2019b) are unidimensional measurements for BP that includes aspects of the company's financial and operational performance as previously described based on Venkatraman and Ramanujam (1986). Moreover, measures by Ahmed et al. (2019b) is suitable for this study because the questionnaire items are designed for the manufacturing sector in the context of developing countries.

2.3. Absorptive Capacity (AC)

According to Liu et al. (2018), the concept of absorptive capacity (AC) was first introduced by Alder (1965) that defined AC as the economy's ability to absorb and use external information and resources. The concept of AC was then developed in the field of management by Cohen and Levinthal (1990) as "the company's ability to recognize new values and external information, assimilate it, and apply it for commercial purposes.". According to Cohen and Levinthal (1990), an organization's AC depends not only on the organization's direct interaction with external environment, but also on the transfer of knowledge across and within the organization.

The development of the concept of AC was then continued by Zahra and George (2002) that defined it as "a set of organizational routines and processes by which an enterprise acquires, assimilate, transforms, and exploits knowledge to produce dynamic organizational capabilities". Zahra and George (2002) emphasized that AC is important to help companies gain sustainable competitive advantage and survive in dynamic industrial conditions. Zahra and George (2002) divided AC into two categories, namely potential and realization of AC. Potential AC consists of knowledge acquisition and assimilation capabilities, and realized AC is centered on the transformation and exploitation of knowledge. Based on the development of AC, this study defines AC as the company's ability to gain new external knowledge, accept and understand the external knowledge obtained to be used for the internal company's purpose, and able exploit the knowledge obtained.

According to Valentim et al. (2015), AC is one of the pillars of knowledge management. The implementation of AC by employees in an organization is an important source that strengthens, complements, and changes the focus of the organization's knowledge base. AC is the capability to integrate internal and external information and knowledge from employees, customers, competitors, and the media, turning it into potential capability that can develop, complement, and enhance an organization's knowledge base (Martín-de Castro, 2015). Thus, development of good AC can result in successful knowledge management. This study does not focus on knowledge management, but focuses on the effect of AC on improving BP, through product quality (PQ).

Further, review by Lane et al. (2006) identified four research streams with strong overlap regarding AC, namely organizational learning, strategic alliances, knowledge management, and the RBV view. Within the various overlapping studies, there are several that use unidimensional measurements for AC. According to Flatten et al. (2011), the intensity of the company's R&D spending can be a unidimensional measure for AC. In a study by

Pavlou and Sawy (2011), the definition of AC is considered the same as learning capability variable. Unidimensional measure for AC can be adapted from research by Pavlou and Sawy (2011), that developed a unidimensional measuring scale from the four AC dimensions by Zahra and George (2002). Thus, AC is measured using unidimensional measure by Pavlou and Sawy (2011), in order to focus on examining the inter variable relationship, which is the main goal of this research.

2.4. Product Quality (PQ)

According to Gill (2009) quality is an indicator to ensure that the customer's expectation of a product is currently fulfilled, by also taking into consideration future needs. Jacobson and Aaker (1987) argued that product quality (PQ) specifically acts as a tool to gain comparative advantage. Product quality (PQ) has 8 dimensions (Garvin, 1984): (1) product performance, refers to the main characteristics of the product, (2) product features, are additional or secondary features that can improve PQ in general, (3) product reliability, such as how often the product fails, (4) product conformity with specifications, includes product consistency, (5) durability, refers to how long the product can be used and/or the lifetime of the product, (6) serviceability, is the speed with which the product can be serviced or repaired, (7) aesthetics, is a subjective measure of the appearance of the product, and (8) perceived quality, is also a subjective measure of the intangible aspects or product reputation. This research defines PQ as a parameter ensuring current customer expectations of the product are met and future needs are also taken into consideration.

According to Jacobson and Aaker (1987), the relationship between price and quality suggests the underlying phenomenon of price as an indicator of quality and/or higher quality products sold at higher prices. Higher product prices are a signal of better product quality; however, higher quality is less likely to be obtained as a result of increased costs. Companies that incur higher costs due to higher input costs, less efficient operations, or some other reasons, are more likely to produce lower quality products. On the other hand, a company with a cost advantage will tend not to lower prices, but instead use the additional profits to further improve product quality to increase the value obtained by customers.

This research uses a unidimensional PQ measurement taken from study by Kafetzopoulos and Psomas (2015), in order to focus on the main purpose of this study, which is to examine the influence between variables. PQ measurement by Kafetzopoulos and Psomas (2015) shows the characteristics of PQ that appear in various forms as previously described in Garvin (1984). Measurements by Kafetzopoulos and Psomas (2015) is also designed for manufacturing companies, so it is suitable for the context of this study, which also focuses on furniture manufacturing SMEs.

2.5. Hypothesis Development

According to Zahra and George (2002), the importance of AC is recognized in the field of strategic management. It is a crucial internal company capability to help companies gain a sustainable competitive advantage and survive in dynamic industrial conditions. It can be inferred from the theoretical basis of RBT that AC is one of the company's internal capabilities. Based on RBT by Barney (1991), companies that can use their internal resources, including capabilities, will be able to improve business performance (BP). According to Flatten et al. (2011) and other previous RBT view based research on AC, one of the factors affected by AC is BP.

According to (Cohen & Levinthal, 1990), AC can affect BP through learning and transfer of skills. When implementing AC, companies have the ability to acquire new information, which is then assimilated, analyzed and converted into knowledge. The next stage is to transform knowledge to be used for the development and improvement of the company's routines. Finally, the company can utilize this knowledge in the company's operational processes. Thus, the information and learning obtained will be useful for the development of more effective and efficient processes, and will have a positive impact on BP in general.

Based on previous research, several studies have examined the relationship between AC and BP. Liu et al. (2018) found that AC can be directly related to BP of manufacturing companies in China. Absorptive capacity can also be indirectly related to business performance through mediation of innovation and mass customization capability. An increased BP is achieved through AC, which provides new perspectives in learning and strategic resources, and how to use the knowledge to benefit from innovation and transform it into better performance. Next, research by Vlačić et al. (2019) also found a positive and significant relationship between AC and BP. A study by Wilke et al. (2019) emphasizes that innovation capability, AC, and adaptive capability are positively related to BP through competitive advantage. Another study by Arshad and Arshad (2019) found that AC positively affects the performance of SMEs and implied that SMEs must adjust their internal resources and capabilities to gain higher BP and gain competitive advantage. Thus, companies with better AC will tend to be able to improve BP and be sustainable.

H1: Absorptive capacity (AC) affects business performance (BP)

In accordance with the description of AC in the theoretical basis, and combining it with the RBT perspective, AC is a company's internal capability that can be managed in order to increase competitiveness. Based on previous research and to the knowledge of the researchers, there is still little information about the relationship between AC and product quality (PQ). Research by Lee et al. (2001) examined the impact of knowledge management, namely the knowledge acquisition level from consumers and employee, on the PQ of the company's new products. It was found that the knowledge acquisition level from customers has a positive impact on PQ, in which information acquisition is part of AC. This research is the basis for the assumption that the ability to absorb and acquire information can have a positive impact on PQ. However, Lee et al. (2001) has not studied the impact of AC as a whole on PQ.

Based on the logic of the RBT perspective, AC should be able to help improve PQ. This can be achieved through the company's ability to absorb, assimilate and transform existing information to produce products that are of interest to consumers. A product can be considered to meet customers' demand if it fulfills consumer expectations regarding aesthetic, durability, and reliability. It is proposed in this study that AC will be related to PQ, which is one of the novelties of this study.

H2: Absorptive capacity (AC) affects product quality (PQ)

PQ is very often studied in the field of operational management, which is closely related to operational performance. However, in the field of strategic management, according to Garvin (1984), PQ is one of the important keys to competitive advantage and better financial performance, because PQ is the company's positioning weapon. Taking the RBT perspective, companies that can manage their internal resources and capabilities well will be able to improve BP. In addition, according to Barney (1991), innovative and high-quality products are considered as valuable and rare resources to build competitive advantage. Therefore, with good PQ that results from good resource management, BP is expected to improve.

Looking at some previous studies, there are several studies that have linked PQ with BP. According to Yang and Ju (2017), high PQ means higher product specifications, better at meeting customers' demands, and better when compared to competitors' products. Thus, companies that have high PQ can distinguish themselves from competitors, thereby increasing competitiveness and profit margins, which in turn improves BP. Research by Zhao et al. (2021) has interesting findings, namely PQ is significantly and positively related to the company's financial performance. In other words, PQ is an important factor to improve the company's financial performance. As discussed above, based on Venkatraman and Ramanujam (1986), financial performance is a part of BP. Thus, it is proposed in this study that PQ will be related to BP.

H3: Product quality (PQ) affects business performance (BP).

Following the explanation above on the relationships between various variables, AC is expected to improve BP, AC will be related to PQ, and PQ will relate with BP. The second research gap indicates that AC does not always result in better BP. In its implementation, AC requires tangible results that can bridge the influence of AC on BP.

PQ is defined as a parameter to ensure that current customer expectations are met and future needs are also taken into consideration (Gill, 2009). Based on RBT (Barney et al., 2001), the development of RBT theory in SMEs emphasizes the importance of production capabilities for a company's competitive advantage, which ultimately improves BP. PQ can be considered as a reflection of the company's capabilities and efforts. PQ can be considered as manifestation of the results of acquisition, assimilation, transformation and exploitation of new knowledge, making the company's internal processes more efficient, thus producing better products. AC implementation will be more efficiently reflected in business performance through good PQ. Thus, PQ plays a role as a strategic tool for the company to bridge the gap between new knowledge gained and BP.

There are several previous studies that have used PQ as a mediating variable and BP as dependent variable, but there is yet research that uses PQ as a mediating variable and AC as its independent variable. Study by Zhao et al. (2021) found the mediating role of PQ on the relationship between integration of internal and suppliers and the financial performance of agro-food companies in China. From this research, it is evident that PQ has the potential to affect BP, in which financial performance is part of BP based on previous theories, and PQ can be a mediating variable. Research by Ahmed *et al.* (2019b) also found PQ to be important in improving BP, acting as a mediator for the positive effects of environmentally friendly practices on BP in emerging markets such as Turkey, where stakeholder pressure is weak, and regulations are often not properly enforced. In this study, it is proposed that PQ will mediate the relationship between AC and BP, which is one of the novelties of this research.

H4: Product quality (PQ) mediates the impact of absorptive capacity (AC) on business performance (BP).

Summary of previous studies can be found in Table 1. The research model is shown in Figure 1.

Table 1: Previous Studies Summary

Previous Study	Result*
Absorptive Capacity (AC)	
Liu et al. (2018)	AC was found to be directly related to business performance and can also be indirectly related to BP through mediation of innovation and mass customization capability.
Vlačić et al. (2019)	AC was found to have a positive and significant relationship with BP and have an indirect positive significant relationship with BP through the mediation of innovation.
Ahmed et al. (2019a)	Potential AC does not interfere with the relationship between the components of intellectual capital and BP. Potential absorptive capacity has no significant relationship to business performance. However, realized AC played a positive mediating role in the relationship between the components of intellectual capital and BP.
Kale et al. (2019)	The 'acquisition' dimension of AC was found not to have a direct effect on firm performance, but found that it has an indirect effect on firm performance through strategic agility mediation. Meanwhile, the 'use' dimension of AC has a positive direct influence on firm performance.
Wilke et al. (2019)	AC, adaptive capability, and innovation capability are positively related to competitive advantage, which in turn is positively related to company performance.
Arshad and Arshad (2019)	Innovation capability and AC significantly affect SMEs performance.
Pradana et al. (2020)	AC was found to be indirectly related to performance through human capital and innovation.
Rehman et al. (2020)	AC and corporate entrepreneurship were found to be significantly related to firm performance. In addition, absorptive capacity and corporate entrepreneurship were also found to mediate the relationship between IT infrastructure and IT technical skills on firm performance.
Product Quality (PQ)	
Lee et al. (2001)	The greater the level of knowledge acquisition from customers for a new product, the higher the product quality of the new product. The more participation of employees in the dissemination of knowledge for new products, the higher the product quality of new products.
Kafetzopoulos and Psomas (2015)	Both innovation capability and PQ are found to not have significant positive relationship towards financial performance. Only operational performance positively significant towards financial performance.
Yang and Ju (2017)	PQ has a positive effect on firm performance.
Ahmed et al. (2019b)	Environmental practices indirectly affect firm performance through full mediation of PQ. Quality management practices affect firm performance through partial PQ mediation.
Zhao et al. (2021)	PQ has a significant positive impact on financial performance in the agro-food supply chain.

* Firm performance is another term to BP. For the purpose of theoretical background summary, the previous studies' variables are written as they are written in the original papers.

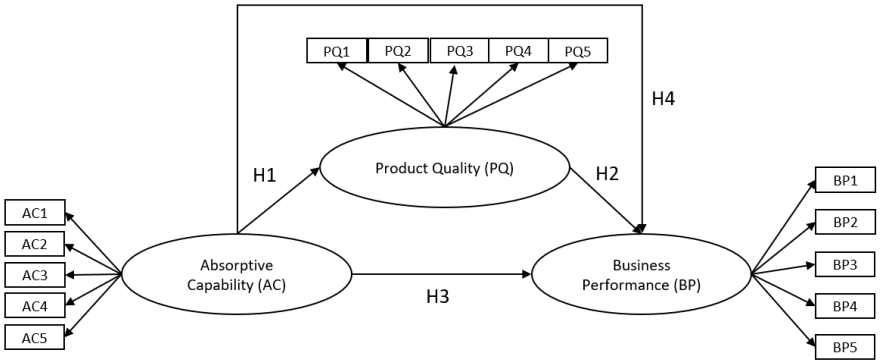


Figure 1: Conceptual framework

3. Method

This research is an explanatory research, with the aim to analyze and explain the relationship between one variable and other variables and how one variable affects other variables (Saunders et al., 2016). This study examined the causal relationship between exogenous, intervening, and endogenous variables through hypothesis testing. This research used a positivist view, which views the world, science and scientific research as a way to get to the truth (Sekaran & Bougie, 2016, p. 28). The positivism view is very concerned with research replication, reliability of the observations, and the generalizability of the findings.

The measures of a company's AC, PQ and BP will be through the company's opinion on the actions taken in the past 3 years, from 2019 to 2021. Data collection is conducted at the end of 2021. Pavlou and Sawy (2011) came up with 5 indicators, whereby the unidimensional AC measure is developed from the four AC dimensions by Zahra and George (2002). Measure for quality dimension is

adopted from Gavin from the study by Kafetzopoulos and Psomas (2015), which used 5 indicators. The measure for BP is adopted from research by Ahmed et al. (2019b), which includes 5 indicators. This study used five-point Likert scale, whereby 1 indicates "strongly disagree" and 5 indicates "strongly agree".

The population in this study is furniture manufacturing SMEs in *Gerbangkertosusila* in East Java. SMEs in this study refer to the data from the Ministry of Cooperatives and Small and Medium Enterprises of the Republic of Indonesia, which are 272 furniture manufacturing SMEs in *Gerbangkertosusila*, East Java. The sampling technique used is probability sampling, whereby members of a population have a known probability of more than zero to be selected as research subjects (Sekaran & Bougie, 2016, p. 242). The minimum number of sample is calculated using Slovin formula (Tejada & Punzalan, 2012) with error margin of 5%, hence, the minimum number of sample needed is 162 furniture manufacturing SMEs. Below is the criteria of SME in Indonesia:

Table 2: Small and Medium Enterprise Criteria

Enterprise Scale	Number of Employees
Small Enterprise (SE)	5 – 19 persons
Medium Enterprise (ME)	20 – 99 persons

Source: Central Bureau of Statistics (2022)

4. Results and Discussion

4.1. Results

Questionnaires were distributed to furniture manufacturing SMEs and 164 responses were received in November – December 2021. Overall, the profile of the respondents in this study is that majority are owners of furniture manufacturing SMEs in *Gerbangkertosusila* that have been established for 3 - < 5 years. The majority of the respondents has a centralized organizational structure. Research respondents can be considered as representative of SMEs scattered in the *Gerbangkertosusila* area, East Java.

It can be seen from the results in Table 5 that the outer loading values of AC, PQ, and BP variables are >0.708. The average variance extracted (AVE) variable has exceeded 0.5 and the composite reliability variable has exceeded 0.7. Table 5 shows that the root of the variable AVE > the correlation of the latent variables. Thus, the research data have met the criteria for reliability and validity testing; it can be concluded that the research data are valid and reliable.

Table 3: Respondents' Characteristics and Profile

No	Position	Total	Percentage (%)
1	Owner	114	69.51
2	Manager	50	30.49
Total		164	100.00
No	**City of origin**	**Total**	**Percentage (%)**
1	Gresik	22	13.41
2	Bangkalan	30	18.29
3	Mojokerto	18	10.98
4	Surabaya	45	27.44
5	Sidoarjo	29	17.68
6	Lamongan	20	12.20
Total		164	100.00
No	**Establishment**	**Total**	**Percentage (%)**
1	< 3 years	21	12.80
2	3 – < 5 years	61	37.20
3	5 – < 7 years	48	29.27
4	7 – < 10 years	22	13.41
5	>= 10 years	12	7.32
Total		164	100.00
No	**Employees**	**Total**	**Percentage (%)**
1	<5 persons	0	0.00
2	5 - 19 persons	155	94.51
3	20 - 99 persons	9	5.49
4	> = 99 persons	0	0.00
Total		164	100.00
No	**Type of company structure**	**Total**	**Percentage (%)**
1	Centralized	134	81.71
2	Decentralized	30	18.29
Total		164	100.00

Source: processed data (2022)

Table 4: Fornell-Larcker Criterion Test Result

	AC	BP	PQ
AC	0.791		
BP	0.641	0.864	
PQ	0.696	0.622	0.854

Source: processed data (2022)

Table 5: Measurement Model Validity and Reliability

Variable	Item	Outer Loading	Average Variance Extracted (AVE)	Composite Reliability
Absorptive capacity (AC)	AC1	0.795	0.626	0.893
	AC2	0.808		
	AC3	0.799		
	AC4	0.797		
	AC5	0.755		
Product quality (PQ)	PQ1	0.872	0.729	0.931
	PQ2	0.887		
	PQ3	0.846		
	PQ4	0.882		
	PQ5	0.776		
Business performance (BP)	BP1	0.876	0.746	0.936
	BP2	0.885		
	BP3	0.881		
	BP4	0.867		
	BP5	0.808		

Source: processed data (2022)

Table 6: Path Coefficient and Hypothesis Testing Results

Hypothesis	Path	Path Coefficient	T-Values	P-Values	Note
1	Absorptive Capacity (AC) → Business Performance (BP)	0.404	5.375	0.000	Significant
2	Absorptive Capacity (AC) → Product Quality (PQ)	0.696	17.875	0.000	Significant
3	Product Quality (PQ) → Business Performance (BP)	0.341	4.399	0.000	Significant
4	Absorptive Capacity (AC) → Product Quality (PQ) → Business Performance (BP)	0.237	4.329	0.000	Significant

Source: processed data (2022)

Table 7: Table 6. R^2 Test Result

	R Square	R Square Adjusted
BP	0.471	0.464
PQ	0.484	0.481

Source: Data processing, 2022.

Table 8: Effect Size Test Result (f^2)

	AC	BP	PQ
AC		0.159	0.939
BP			
PQ		0.113	

Source: Data processing, 2022.

This study uses a margin of error of 5% or a 95% confidence level. The AC → BP (H1) path has a p-value = 0.000 < 0.05, so the first hypothesis is accepted. The direct effect of AC on BP has a path coefficient value of 0.404 and is positive, which means that AC has a positive direct effect on BP. Hence, every time there is an increase in the level of AC, the company's BP will also increase. The AC → PQ (H2) path has a p-value = 0.000 < 0.05, so the second hypothesis is accepted. The direct effect of AC on PQ has a path coefficient value of 0.696 and is positive, which means that AC has a positive direct effect on PQ. So, every time there is an increase in the level of AC, the company's PQ will also increase. The PQ → BP (H3) path has a p-value = 0.000 < 0.05, so the third hypothesis is supported. The direct effect of PQ on BP has a path coefficient value of 0.239 and is positive, which means that PQ has a positive direct effect on BP. So, every time there is an increase in the level of PQ, the company's BP will also increase.

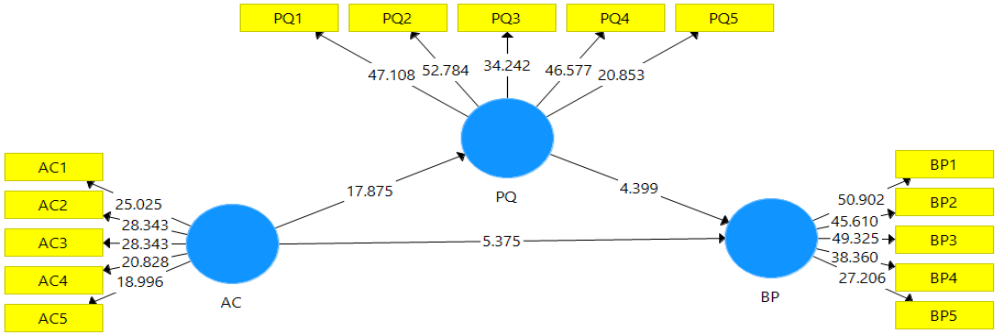
The measurements of the structural model's goodness of fit and predictive relevance are the R^2 (coefficient of determination), f^2 (effect size), and Q^2 (predictive relevance) (Hair et al., 2017). Table 7 shows the coefficient of determination (R^2) test result of the endogenous latent variables in this study. The coefficient of determination of the PQ variable is 0.484, which is close to 0.50, so it is moderate (Hair et al., 2017). 48.4% of variation in PQ can be explained by AC. The coefficient of determination of the BP variable is 0.471, which is close to 0.50, so it is moderate. 47.1% of variation in BP can be explained by AC and PQ. Effect size f^2 enables assessing the contribution of the exogenous construct values on the R^2 values of the endogenous latent variables. Table 8 shows that AC has a large effect on PQ (0.939) and has a small effect on BP (0.159). PQ has little effect on BP (0.113).

Table 9: Predictive Relevance Test Result (Q^2)

	SSO	SSE	Q^2 (=1-SSE/SSO)
AC	820.000	820.000	
BP	820.000	541.204	0.340
PQ	820.000	536.308	0.346

Source: Data processing, 2022.

Table 9 shows the predictive relevance (Q^2) test result to obtain cross-validated redundancy measurements for each endogenous construct. Q^2 values obtained for variables PQ and BP are 0.346 and 0.340 respectively. Overall, all Q^2 are greater than 0; it indicates that the exogenous variable has predictive relevance towards the endogenous variable. PQ has great predictive relevance from the AC variable. BP has great predictive relevance from AC and PQ variables.



Source: processed data (2022)

Figure 2: Bootstrap Result

4.1. Discussion

AC is found to have a significant and positive effect on BP, so hypothesis 1 is supported. The better the company's AC, the better the company's BP. This answers the third research objective, which is to examine the effect of AC on BP of furniture manufacturing SMEs in *Gerbangkertosusila*, East Java. This finding is in line with the results of research by Liu et al. (2018), Vlačić et al. (2019), and Arshad and Arshad (2019).

Better BP can be achieved through AC that provides new perspectives in learning, strategic resources, and how to use the knowledge gained to produce better outputs. The findings of this study confirm RBT theory by Barney (1991), that the company's ability to gain and understand new external knowledge is useful for the company internally, and the acquired knowledge can be exploited to improve the company's routines. Thus, the company can be efficient and effective in its management, so as to produce better performance. The company's ability to experience and learn new things is the key to developing a sustainable competitive advantage to ensure the company's sustainability (Barney et al., 2001). These results indicate that in the furniture manufacturing industry, SMEs require AC to improve BP. In order for furniture manufacturing SMEs to have AC, the ability to not only acquire information, but also to understand and use that information, is required.

The path coefficient of AC on PQ has a positive and significant value, so hypothesis 2 is supported. This answers the fourth research objective, which is to examine the effect of AC on PQ of furniture manufacturing SMEs in *Gerbangkertosusila*, East Java. The better the company's AC, the better the company's PQ. This finding is one of the novelties in this study, which is tested based on research results by Lee et al. (2001), which found that the level of knowledge acquisition from customers has a positive impact on PQ, in which information acquisition is part of AC.

This result supports RBT theory by Barney (1991) that viewed AC as one of company's internal capabilities that can be managed in order to increase competitiveness. This can be achieved through the company's ability to absorb, assimilate and transform existing information to produce quality products that are in demand by consumers. Thus, the results of this study emphasize that for SMEs in the furniture manufacturing industry, AC is important to improve PQ. In practice, the company gets information about consumers' needs and interests from the target consumers. Through the information obtained, the company produces products that have the aesthetics, durability, and function in accordance with the target consumers' requirements.

PQ has a positive and direct effect on BP with a positive path coefficient value, so hypothesis 3 is supported. The better the company's PQ, the better the resulting BP. This result answers the seventh research objective, which is to examine the effect of PQ on BP of furniture manufacturing SMEs in *Gerbangkertosusila*, East Java. This finding is in line with research results by Yang and Ju (2017) who found PQ to have a significant and positive effect on BP. This finding also confirms research by Zhao et al. (2021) that PQ can produce good financial performance, therefore improving BP in general.

These results emphasize that PQ is important in order to improve BP for SMEs in furniture manufacturing industry. Good quality products are products with good design aesthetics, durable and product functions that are in accordance with consumer needs. In addition, companies that have good product quality can produce products with more efficiently in terms of costs and energy. In practice, it can be seen that furniture manufacturing SMEs with good product quality are more in demand by customers due to the differentiating value, so the companies' sales, profits, and market share tend to increase. These findings confirm RBT by Barney (1991) that companies with differentiation can distinguish themselves from competitors, so that they have higher competitive power to deliver good BP.

Based on the results of data processing and analysis in Chapter 4, hypothesis 9 is supported. These results answer the ninth research objective, which is to examine the mediation of PQ on the effect of AC on BP of furniture manufacturing SMEs in *Gerbangkertosusila*, East Java. The path coefficient result shows a positive value; the better the company's AC, through good PQ, the company's BP will also improve. Considering that AC has a significant, direct and positive effect on BP, the indirect effect of AC on BP through PQ is a complementary partial mediation. Complementary partial mediation suggests that PQ is important to ensure the company's AC can be realized as better BP.

This finding is one of the novelties of this study. PQ is a reflection of the company's efforts and capabilities (Gill, 2009). Through PQ, companies can manifest the results of their acquisition, assimilation, transformation and exploitation of new knowledge by making internal processes more efficient, producing better quality product, which can ultimately be reflected in better BP. Thus, PQ is a strategic tool for the company to bridge the new knowledge gained and its output in the form of good BP.

Furniture manufacturing SMEs in *Gerbangkertosusila* obtained information about customers' needs and interests from their target customers. Through the information obtained, the companies produce products with aesthetical, durability, and functional aspects that are in accordance with the needs of target customers, therefore producing good quality products. With good PQ, sales can increase, the company becomes more efficient, enabling the company to

stay competitive and gain more market share. The company's profit can also increase, therefore increasing its overall BP. PQ is important to bridge AC to be realized as better BP.

5. Conclusions

This research is based on SMEs, which play an important role in developing countries' economy. However, the sustainability of SMEs is uncertain and faces various challenges. The sustainability of SMEs can be measured by BP. This study has tested the effect of AC on BP through PQ. Based on the RBT grand theory by Barney (1991), this research has addressed the research gap and proposed several novelties, namely (1) examining AC in the context of SMEs in developing countries, (2) using PQ as a mediator to address existing research gap, and (3) examining furniture manufacturing SMEs, which are quite rarely researched.

The data are collected from 164 respondents, who are owners and/or managers of furniture manufacturing SMEs in *Gerbangkertosusila*, East Java. The data are analyzed using SEM-PLS and it is found that BP can be increased directly by AC or indirectly through PQ. PQ can be a strategic tool for furniture manufacturing SMEs in *Gerbangkertosusila*, which is the novelty of this research. The conclusions for each hypothesis are as follows:

Hypothesis 1-3 is supported. AC has positive significant effect on PQ and BP, PQ has significant positive effect on BP. Companies that are able to experience and learn new information; from product design to modern production techniques to seamless product distribution; and then be efficient and effective in their management, will be able to deliver better performance. Companies that can produce products that have aspects of aesthetic, durability, and functions in accordance with the target consumers' requirements will be able to have good PQ. Companies with good PQ have value differentiation that tend to be in demand by consumers, so that sales, profits, and market share of such companies can increase. Therefore, the level of AC has an impact on PQ, which then has an impact on the BP of SMEs.

Hypothesis 4 is supported, namely PQ partially mediates the effect of AC on BP of furniture manufacturing SMEs. PQ is a strategic tool for the company to bridge the gap between new knowledge gained and actual BP delivered.

6. Research Implications

6.1. Theoretical Implications

AC has a significant, positive, and direct effect on PQ. This finding is a novelty in this study; the company's internal ability to absorb, assimilate and transform existing information to produce product demanded by customer can be a differentiator. AC also has a significant, positive, and direct effect on BP. This finding is in line with research by Liu et al. (2018), Vlačić et al. (2019), and Arshad and Arshad (2019). Hence, AC is one of the company's internal capabilities that can generate competitive advantage, and companies that can use their internal resources well can improve BP.

PQ has a direct and significant effect on BP. This finding is in line with research by Yang and Ju (2017) and Zhao et al. (2021). PQ is a strategic tool for companies to be able to differentiate themselves from competitors, so that they have higher competitive advantage to deliver good BP.

The study of strategic management focuses on improving BP to ensure company sustainability. The RBT perspective suggests that BP can be improved through the company's internal capabilities. The findings of this study suggest that the company's internal AC can directly and through mediation of PQ, and innovation capability and through the mediation of PQ, improve business performance. A novelty of this research is that PQ can be a strategic tool for companies to improve BP.

6.2. Practical Implications

Therefore, based on the implications above, furniture manufacturing SMEs are recommended to focus on the development of AC, which is needed to improve overall BP. Companies need to actively seek new information, understand and process information obtained, then use it to improve the company's processes of AC can be reflected in good PQ, and can subsequently improve BP. For example, a new way of receiving orders via online, which can broaden market awareness and more accurate supply and demand forecast, in turn can help with production and distribution efficiency.

Another effort to develop AC is finding new information by conducting market surveys, benchmarking, and researching the latest local and international trends. From the information obtained, the company needs to understand and sort out important and relevant information for the company that can be adopted in the company's routine, for example adopting knowledge of new production techniques that are more efficient and can produce better product finishing. The newly learned production technique and needs to be applied as an operational routine that continues to be developed in order for the company to become more skilled in its implementation and produce good product quality. Thus, operating costs can be reduced, profit margins and overall performance can be increased.

In addition, manufacturing companies should not only focus on manufacturing products, but also other aspects of

the business to increase their BP, such as from designing strategies to market the product to developing product distribution strategies that add value to the overall PQ. Companies can innovate on combining channels to market their products, as such whether companies can boost sales through combining conventional store and using intermediaries (distributor and retailers). Companies can also compare how they provide product distribution service among industry players. Especially with the negative impacts of Covid-19 pandemic, distributors and retailers have been facing cashflow problems as consumers prioritize spending on food and health care, which affected the overall business performance of the furniture manufacturing SMEs. Therefore, it is crucial for furniture manufacturing SMEs to develop a direct distribution strategy to reach the end consumers to reduce operational costs of supply chain. This can contribute to increasing overall BP as PQ remains the same, while price can be more affordable for consumers.

References

Acar, A. Z., & ÖZŞAhin, M. (2017). The Relationship Among Strategic Orientations, Organizational Innovativeness, And Business Performance. *International Journal of Innovation Management*, *23*(1), 1-27. https://doi.org/10.1142/S1363919618500093

Agus, A., Antony, J., & Shukri Hajinoor, M. (2012). Lean production supply chain management as driver towards enhancing product quality and business performance. *International Journal of Quality & Reliability Management*, *29*(1), 92-121. https://doi.org/10.1108/02656711211190891

Ahmed, Guozhu, J., Mubarik, S., Khan, M., & Khan, E. (2019a). Intellectual capital and business performance: the role of dimensions of absorptive capacity. *Journal of Intellectual Capital*, *21*(1), 23-39. https://doi.org/10.1108/jic-11-2018-0199

Ahmed, M. U., Gölgeci, I., Bayraktar, E., & Tatoglu, E. (2019b). Environmental practices and firm performance in emerging markets: the mediating role of product quality. *Production Planning & Control*, *30*(4), 315-328. https://doi.org/10.1080/09537287.2018.1542514

Arda, O. A., Bayraktar, E., & Tatoglu, E. (2019). How do integrated quality and environmental management practices affect firm performance? Mediating roles of quality performance and environmental proactivity. *Business Strategy and the Environment*, *28*(1), 64-78. https://doi.org/10.1002/bse.2190

Arshad, M. Z., & Arshad, D. (2019). Internal capabilities and SMEs performance: A case of textile industry in Pakistan. *Management Science Letters*, *9*(4), 621-628. https://doi.org/10.5267/j.msl.2019.1.001

Baker, W. E., & Sinkula, J. M. (2005). Market Orientation and the New Product Paradox. *The Journal of Product Innovation Management*, *22*(6), 483-502.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, *17*(1), 99-120. https://doi.org/10.1177/014920639101700108

Barney, J., Wright, M., & Ketchen Jr, D. J. (2001). The resource-based view of the firm: Ten years after 1991. *Journal of Management*, *27*(6), 625-641. https://doi.org/10.1177/014920630102700601

Chahal, H., Dangwal, R. C., & Raina, S. (2016). Marketing orientation, strategic orientation and their synergistic impact on business performance: A case of SMEs in emerging context (India). *Journal of Research in Marketing and Entrepreneurship*, *18*(1), 27-52. https://doi.org/10.1108/JRME-03-2016-0004

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive Capacity: A New Perspective on Learning and Innovation. *Administrative Science Quarterly*, *35*(1), 128-152. https://doi.org/10.2307/2393553

Darcy, C., Ronan Carbery, P. T. N. G. D., Hill, J., McCabe, T. J., & McGovern, P. (2014). A consideration of organisational sustainability in the SME context. *European Journal of Training and Development*, *38*(5), 398-414. https://doi.org/10.1108/ejtd-10-2013-0108

Flatten, T. C., Engelen, A., Zahra, S. A., & Brettel, M. (2011). A measure of absorptive capacity: Scale development and validation. *European Management Journal*, *29*(2), 98-116. https://doi.org/10.1016/j.emj.2010.11.002

Franco-Santos, M., Bourne, M., Kennerley, M., Micheli, P., Martinez, V., Mason, S., Marr, B., Gray, D., & Neely, A. (2007). Towards a definition of a business performance measurement system. *International Journal of Operations & Production Management*, *27*(8), 784-801. https://doi.org/10.1108/01443570710763778

Garvin, D. A. (1984). Product Quality'. An Important Strategic Weapon. *Business Horizons*, 40-43.

Gill, J. (2009). Quality follows quality: add quality to the business and quality will multiply the profits. *The TQM Journal*, *21*(5), 530-539. https://doi.org/10.1108/17542730910983434

Hair, J. F., Jr., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (2nd ed.). Sage.

Hansen, G. S., & Wernerfelt, B. (1989). Determinants of Firm Performance: The Relative Importance of Economic and Organizational Factors. *Strategic Management Journal*, *10*(5), 399-411. https://doi.org/10.1002/smj.4250100502

Isichei, E. E., Emmanuel Agbaeze, K., & Odiba, M. O. (2020). Entrepreneurial orientation and performance in SMEs. *International Journal of Emerging Markets*, *15*(6), 1219-1241. https://doi.org/10.1108/ijoem-08-2019-0671

Jacobson, R., & Aaker, D. A. (1987). The Strategic Role of Product Quality. *Journal of Marketing*, *51*(4), 31-44. https://doi.org/10.2307/1251246

Jin, S. H., & Choi, S. O. (2019). The Effect of Innovation Capability on Business Performance: A Focus on IT and Business Service Companies. *Sustainability*, *11*(19), 1-15. https://doi.org/10.3390/su11195246

Jogaratnam, G. (2017). How organizational culture influences market orientation and business performance in the restaurant industry. *Journal of Hospitality and Tourism Management*, *31*, 211-219. https://doi.org/10.1016/j.jhtm.2017.03.002

Kafetzopoulos, D., & Psomas, E. (2015). The impact of innovation capability on the performance of manufacturing companies: The Greek case. *Journal of Manufacturing Technology*

Management, *26*(1), 104-130. https://doi.org/10.1108/JMTM-12-2012-0117

Kale, E., Aknar, A., & Başar, Ö. (2019). Absorptive capacity and firm performance: The mediating role of strategic agility. *International Journal of Hospitality Management*, *78*, 276-283. https://doi.org/10.1016/j.ijhm.2018.09.010

Karno, C. G., & Purwanto, E. (2017). The Effect of Cooperation and Innovation on Business Performance. *Quality - Access to Success*, *18*(158), 123-126.

Lane, P. J., Koka, B. R., & Pathak, S. (2006). The Reification of Absorptive Capacity: A Critical Review and Rejuvenation of the Construct. *Academy of Management Journal*, *31*(4), 833-863. https://doi.org/10.2307/20159255

Lee, C. C., Yang, J., & Yu, L. M. (2001). The knowledge value of customers and employees in product quality. *Journal of Management Development*, *20*(8), 691-704. https://doi.org/10.1108/02621710110401419

Liu, X., Zhao, H., & Zhao, X. (2018). Absorptive capacity and business performance: The mediating effects of innovation and mass customization. *Industrial Management & Data Systems*, *118*(9), 1787-1803. https://doi.org/10.1108/imds-09-2017-0416

Martín-de Castro, G. (2015). Knowledge management and innovation in knowledge-based and high-tech industrial markets: The role of openness and absorptive capacity. *Industrial Marketing Management*, *47*, 143-146. https://doi.org/10.1016/j.indmarman.2015.02.032

Meutia. (2013). Improving Competitive Advantage and Business Performance through the Development of Business Network, Adaptability of Business Environment and Innovation Creativity. *Aceh International Journal of Social Sciences*, *2*(1), 11-20. https://doi.org/10.12345/aijss.2.1.1359

Olayeni, A., Ogbo, A., Okwo, H., Chukwu, B., Ifediora, C., & Ezenwakwelu, C. (2021). Green Strategy Effect on Financial and Environmental Performance: A Mediation Analysis of Product Quality. *Sustainability*, *13*(4), 1-17. https://doi.org/10.3390/su13042115

Pavlou, P. A., & Sawy, O. A. E. (2011). Understanding the Elusive Black Box of Dynamic Capabilities. *Decision Sciences Journal*, *42*(1), 239-273.

Penrose, E. (1959). *The Theory of the Growth of the Firm* (3rd ed.). Oxford University Press.

Pradana, M., Pérez-Luño, A., & Fuentes-Blasco, M. (2020). Innovation as the key to gain performance from absorptive capacity and human capital. *Technology Analysis & Strategic Management*, *32*(7), 822-834. https://doi.org/10.1080/09537325.2020.1714578

Prasanna, R., Jayasundara, J., Naradda Gamage, S. K., Ekanayake, E. M. S., Rajapakshe, P. S. K., & Abeyrathne, G. (2019). Sustainability of SMEs in the Competition: A Systemic Review on Technological Challenges and SME Performance. *Journal of Open Innovation: Technology, Market, and Complexity*, *5*(4), 1-18. https://doi.org/10.3390/joitmc5040100

Rehman, N., Razaq, S., Farooq, A., Zohaib, N. M., & Nazri, M. (2020). Information technology and firm performance: mediation role of absorptive capacity and corporate entrepreneurship in manufacturing SMEs. *Technology Analysis & Strategic Management*, *32*(9), 1049-1065. https://doi.org/10.1080/09537325.2020.1740192

Rua, O. L. (2018). From intangible resources to export performance: Exploring the mediating effect of absorptive capabilities and innovation. *Review of International Business and Strategy*, *28*(3/4), 373-394. https://doi.org/10.1108/ribs-02-2018-0012

Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research Methods for Business Students* (7th ed.). Pearson Education Limited.

Sekaran, U., & Bougie, R. (2016). *Research Methods For Business A Skill-Building Approach*. John Wiley & Sons Ltd.

Smith, T. M., & Reece, J. S. (1999). The relationship of strategy, fit, productivity, and business performance in a services setting. *Journal of Operations Management*, *17*, 145-161. https://doi.org/10.1016/S0272-6963(98)00037-0

Sung, T.-J., Lu, Y.-T., & Ho, S.-S. (2010). Time-Based Strategy and Business Performance under Environmental Uncertainty: An Empirical Study of Design Firms in Taiwan. *International Journal of Design*, *4*(3), 29-42.

Tejada, J. J., & Punzalan, J. R. B. (2012). On the Misuse of Slovin's Formula. *The Philippine Statistician*, *61*(1), 129-136.

Tumwine, S., Kamukama, N., & Ntay, J. M. (2012). Relational capital and performance of tea manufacturing firms. *African Journal of Business Management*, *6*(3), 799-810. https://doi.org/http://dx.doi.org/10.5897/AJBM11.659

Valentim, L., Lisboa, J. V., & Franco, M. (2015). Knowledge management practices and absorptive capacity in small and medium-sized enterprises: is there really a linkage? *R&D Management*, *46*(4), 1-15. https://doi.org/10.1111/radm.12108

Venkatraman, N., & Ramanujam, V. (1986). Measurement of Business Performance in Strategy Research: A Comparison of Approaches. *Academy of Management Review*, *11*(4), 801-814. https://doi.org/https://doi.org/10.2307/258398

Vlačić, E., Dabić, M., Daim, T., & Vlajčić, D. (2019). Exploring the impact of the level of absorptive capacity in technology development firms. *Technological Forecasting and Social Change*, *138*, 166-177. https://doi.org/10.1016/j.techfore.2018.08.018

Wahyuni, N. M., & Sara, I. M. (2020). The effect of entrepreneurial orientation variables on business performance in the SME industry context. *Journal of Workplace Learning*, *32*(1), 35-62. https://doi.org/10.1108/jwl-03-2019-0033

Wernerfelt, B. (1984). A Resource-based View of the Firm. *Strategic Management Journal*, *5*(2), 171-180.

Wilke, E. P., Costa, B. K., Freire, O. B. D. L., & Ferreira, M. P. (2019). Interorganizational cooperation in tourist destination: Building performance in the hotel industry. *Tourism Management*, *72*, 340-351. https://doi.org/10.1016/j.tourman.2018.12.015

Yang, Y., & Ju, X. F. (2017). Entrepreneurial Orientation and Firm Performance: Is Product Quality a Missing Link? *Entrepreneurship Research Journal*, *8*(1), 1-13. https://doi.org/10.1515/erj-2017-0091

Zahra, S. A., & George, G. (2002). Absorptive Capacity: A Reivew, Reconceptualization, and Extension. *Academy of Management Review*, *27*(2), 185-200.

Zhao, X., Wang, P., & Pal, R. (2021). The effects of agro-food supply chain integration on product quality and financial performance: Evidence from Chinese agro-food processing business. *International Journal of Production Economics*, *231*(1), 1-59. https://doi.org/10.1016/j.ijpe.2020.107832

Appendix

Research Gap and Previous Studies

Previous Study	Variable	Result
Liu et al. (2018)	Independent Variable: • Absorptive capacity Mediating Variable: • Innovation • Mass customization capability Dependent Variable: • Business performance	The results of the study found that absorptive capacity can be directly related to business performance. In addition, absorptive capacity can also be indirectly related to business performance through mediation of innovation and mass customization capability. The mediating effect of mass customization capability was found to be higher than the mediating effect of innovation for the relationship between absorptive capacity and business performance.
Vlačić et al. (2019)	Independent Variable: • Absorptive capacity Mediating Variable: • Innovation Dependent Variable: • Business performance	There is a positive and significant relationship between absorptive capacity to business performance. Absorptive capacity was also found to have a positive and significant relationship with Innovation. Innovation was found to have a positive and significant relationship to business performance. In addition, Innovation was found to mediate the relationship between absorptive capacity and business performance.
Ahmed et al. (2019a)	Independent Variable: • Intellectual capital, such as: human capital, organizational capital, dan social capital Mediating Variable: • potential absorptive capacity • realized absorptive capacity Dependent Variable: • Business performance	The findings of this study indicate that potential absorptive capacity does not interfere with the relationship between the components of intellectual capital and business performance. Potential absorptive capacity has no significant relationship to business performance. However, it was found that realized absorptive capacity played a positive mediating role in the relationship between the components of intellectual capital and business performance. This study emphasizes that practitioners need to realize the importance of knowledge transformation and exploitation to improve business performance.
Kale et al. (2019)	Independent Variable: • Absorptive capacity Mediating Variable: • Strategic agility Dependent Variable: • Firm performance	This study breaks down absorptive capacity into two dimensions, namely acquisition and use. This usage dimension combines three dimensions of absorptive capacity by Zahra and George (2002b), namely assimilation, transformation and exploitation. This study finds that the acquisition dimension of absorptive capacity does not have a direct effect on firm performance. However, the dimension of the acquisition of absorptive capacity has an indirect effect on firm performance through strategic agility mediation. Meanwhile, the dimensions of the use of absorptive capacity have a positive direct influence on firm performance. Thus, these results suggest that absorptive capacity needs to be re-examined in hospitality industry, even in the service industry using different scales and models.
Pradana et al. (2020)	Independent Variable: • Absorptive capacity Mediating Variable: • Human capital • Innovation Dependent Variable: • Performance	This study found that (1) absorptive capacity is directly and significantly related to human capital, (2) human capital is directly and significantly related to Innovation, (3) Innovation is directly and significantly related to performance. In addition, absorptive capacity was also found to be indirectly related to performance through human capital and innovation. So, absorptive capacity is important to improve the company's business performance.
Rehman et al. (2020)	Independent Variable: • IT infrastructure • IT technical skills Mediating Variable: • Absorptive capacity • Corporate entrepreneurship Dependent Variable: • Firm performance	This study found that IT infrastructure and IT technical skills were significantly and positively related to absorptive capacity and corporate entrepreneurship. Absorptive capacity and corporate entrepreneurship were found to be significantly related to firm performance. In addition, absorptive capacity and corporate entrepreneurship were also found to mediate the relationship between IT infrastructure and IT technical skills on firm performance. This finding emphasizes that dynamic capabilities provide opportunities for companies to remain competitive and perform well in a dynamic business environment.
Wilke et al. (2019)	Independent Variable: • Interorganizational cooperation Mediating Variable: • Absorptive capacity • Adaptive capability • Innovative capability • Competitive advantage Dependent Variable: • Performance	Interorganizational cooperation in tourist destinations is positively related to the company's absorptive capacity, adaptive capability, and innovative capability. The company's absorptive capacity, adaptive capability, and innovation capability are positively related to competitive advantage, which in turn is positively related to company performance.

Arshad and Arshad (2019)	Independent Variable: • Innovation capability • Absorptive capacity Dependent Variable: • SMEs performance	Innovation capability and Absorptive capacity significantly affect SMEs performance
Lee et al. (2001)	Independent Variable: • Knowledge acquisition rate from customers • Employee participation in knowledge dissemination Moderating Variable: • Process management • Innovation-marketing fit Dependent Variable: • Product quality	The greater the level of knowledge acquisition from customers for a new product, the higher the product quality of the new product. The more participation of employees in the dissemination of knowledge for new products, the higher the product quality of new products. Process management strengthens the positive relationship between (a) the level of knowledge acquisition from customers and (b) employee participation in the dissemination of knowledge on new product quality. Finally, this study also found that innovation-marketing fit strengthens the positive relationship between (a) the level of knowledge acquisition from customers, but does not moderate the relationship (b) employee participation in knowledge dissemination on new product quality.
Yang and Ju (2017)	Independent Variable: • Dimensions of entrepreneurial orientation into independent variables: innovativeness, autonomy, risk-taking, proactiveness, dan competitive aggressiveness Mediating Variable: • Product quality Dependent Variable: • Firm performance	Innovativeness and autonomy had a positive effect on product quality. However, risk-taking has a significant negative effect on product quality. Proactiveness and competitive aggressiveness have a U-shape effect on product quality. Finally, product quality has a positive effect on firm performance.
Zhao et al. (2021)	Independent Variable: • Internal integration Mediating Variable: • Supplier integration • Customer integration • Product quality Dependent Variable: • Financial performance	The internal integration of the agro-food supply chain has a significant positive impact on supplier integration and customer integration of the agro-food supply chain. The internal integration and integration of agro-food supply chain suppliers have a significant positive impact on the product quality of the agro-food processing business. However, the integration of customers in the agro-food supply chain does not have a positive impact on the product quality of the agro-food processing business. Internal integration, supplier integration, and customer integration of the agro-food supply chain do not have a positive impact on the financial performance of the agro-food processing business. Product quality has a significant positive impact on financial performance.
Kafetzopoulos and Psomas (2015)	Independent Variable: • Innovation capability Mediating Variable: • Operational performance • Product quality Dependent Variable: • Financial performance	This study found that there is a strong positive relationship between innovation capability and operational performance, as well as innovation capability and product quality. However, both innovation capability and product quality do not have significant positive relationship towards financial performance. Only operational performance positively significant towards financial performance.
Ahmed et al. (2019b)	Independent Variable: • Environmental practices • Quality management practices Mediating Variable: • Product quality Dependent Variable: • Firm performance	Environmental practices indirectly affect firm performance through full mediation of product quality. Quality management practices affect firm performance through partial product quality mediation.