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Analyzing the Determinants Factors of Dynamic Capability Towards Production Performance: A Case Study of Blacksmith SMEs in Kampar, Riau

Dede Iskandar Siregar, Alum Kusumah, Arista Tri Astuti, and Wan Laura Hardilawati
Universitas Muhammadiyah Riau

Abstract. *This study aimed to investigate the relationship between dynamic capability and production performance in manufacturing SMEs. Conceptual models were developed with cost efficiency, quality, flexibility, and speed as outcome variables and dynamic capability as exposure. A sample of 120 respondents was collected using questionnaires, and the data was analyzed using Smart PLS Statistical Software and Structural Equation Modeling. The study's results indicated that dynamic capability significantly impacts product quality, cost efficiency, production flexibility, and production speed. All hypotheses were accepted, highlighting the critical importance of dynamic capability and production performance for manufacturing SMEs, especially in the blacksmith business, where prior research is limited. The study's contribution is significant, as it uniquely integrates dynamic capability, production performance, and manufacturing SMEs. The findings suggest that SMEs can enhance their position for success by improving their dynamic capabilities and production performance. Overall, this study provides valuable insights into the importance of dynamic capability in enhancing production performance for manufacturing SMEs, and its implications can be useful for practitioners, policymakers, and scholars interested in SMEs' growth and competitiveness.*

Keywords: *Dynamic capability, production performance, cost efficiency, quality, flexibility, production speed.*

Abstrak. *Penelitian ini bertujuan untuk menganalisis hubungan antara kemampuan dinamis dan kinerja produksi pada UKM manufaktur. Untuk mencapai tujuan ini, model konseptual telah dikembangkan yang melibatkan variabel hasil seperti efisiensi biaya, kualitas, fleksibilitas, dan kecepatan produksi, serta kemampuan dinamis sebagai faktor eksposur. Sampel diambil dari 120 responden melalui penggunaan kuesioner, dan data dianalisis menggunakan Smart PLS Statistical Software dan Structural Equation Modeling. Temuan penelitian menunjukkan bahwa semua hipotesis telah diterima, yang mengindikasikan bahwa kemampuan dinamis memiliki dampak signifikan pada kualitas produksi, efisiensi biaya, fleksibilitas produksi, dan kecepatan produksi. Penelitian ini menekankan pentingnya kemampuan dinamis dan kinerja produksi pada UKM manufaktur, terutama dalam bisnis pandai besi, di mana penelitian sebelumnya sangat terbatas. Dengan meningkatkan kemampuan dinamis dan kinerja produksi, organisasi UKM dapat memperbaiki posisi mereka untuk mencapai kesuksesan. Pendekatan unik penelitian ini, yang mengintegrasikan kemampuan dinamis, kinerja produksi, dan UKM manufaktur, menegaskan kontribusi unik dari penelitian ini. Oleh karena itu, penelitian ini memberikan kontribusi yang berharga bagi pemahaman kita tentang pentingnya kemampuan dinamis dan kinerja produksi dalam meningkatkan kinerja UKM manufaktur.*

Kata kunci: *Kapabilitas dinamis, kinerja produksi, efisiensi biaya, kualitas, fleksibilitas, kecepatan produksi.*

*Corresponding author. Email: dedeiskandarsiregar@umri.ac.id
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Introduction

Economic globalization encourages companies to increase efficiency to have strong competitiveness both at local and international levels. Globalization raises challenges and opportunities for small to large-scale business entities, where globalization simultaneously brings together international markets and investment. Furthermore, success in today's competitive environment also demands the company's ability to manufacture high-quality products at low costs and provide first-class customer service (Kaplan, 2009). Operational performance becomes essential to assess how operations support overall business objectives. Production performance is the company's ability to produce products or services using economies of scale; the better the performance and the company's opportunity to distribute products to customers as end-users (Robert Johnston et al., 2003). For manufacturing firms, production performance is crucial, considering its position reflects its overall performance (Trojanowska et al., 2018), and failure to meet production performance can harm the company's sustainability.

Small and medium-sized industries (SMEs) are one of the main pillars of the government in creating jobs, primarily due to the pandemic accompanied by a decline in global economic performance that began in early 2020. SMEs are a vital part of a country's economy, including Indonesia. SMEs are indispensable according to the opinion expressed by (Render et al., 2018) mentioned that the performance of SMEs tends to be better in producing a productive workforce. SMEs often increase their productivity through investment and actively follow technological changes, and SMEs believe to have an advantage in flexibility compared to large businesses. SMEs have several advantages not found in corporations: (1) many people are willing to take chances and establish a business in this sector because of the low startup costs; (2) the operational process does not involve many people; management can prioritize an improvised approach to product selection and how to produce it; (3) improvisational abilities characterized SMEs as flexible business organizations.

Teece et al. (1997) in their seminal book explained that dynamic capabilities are composed of four components. First, environmental sensing capabilities, where top managers and technical experts understand market development opportunities in greater depth. Companies should deepen their understanding of industry laws and catch changing trends. Second, changed and updated capabilities. Dynamic capabilities include the ability to develop, configure, and integrate resources and also to integrate, innovate, and update operational processes. Third, is technology flexibility capability. Today's technology should be continuously improved to meet customer needs for various products and services. Fourth, organizational flexibility capability. This capability relates to organizational structure attributes that pay attention to decision-making authority procedures, information flow and task configuration. The author in this study compels to narrow the emphasis of the research approach to "changed and updated capabilities (develop, configure, and integrate resources and also to integrate, innovate, and update operational processes)" as a result of definitions and explanations provided by various experts.

Rumbio Jaya Steel (RJS) is the SME blacksmith manufacturing industry located in Kampar, Riau, founded in 1951 and initially only produced kris and swords for use in traditional celebrations and cultural performances. Over time, they produced agricultural equipment in hoes, axes, palm-cutting tools, and machetes. From the observations on this SMEs found that business owners faced raw material problems. The primary material for making agricultural tools is metal, mainly obtained from traditional collectors with minimal management capacity. Many of the materials supplied were rotten with age, and when processed, they become porous, making the product less attractive. The use of scrap metal also makes the production time longer due the forging process begins, and employees must carry out continuous checks to ensure products meet the criteria.

According to the problems faced by Rumbio Jaya Steel blacksmith, Tiantian et al. (2014) explained the need to have dynamic capabilities. Dynamic capability is the company's ability to access knowledge from internal and external sources and then apply it to drive business process efficiency (Chmielewski & Paladino, 2007; Hitt et al., 2001) and operational effectiveness (Zollo & Winter, 2002). Dynamic capabilities are essential to help companies renew, combine, and reconfigure available resources to respond to changes in the business environment (Gao & Tian, 2014; Eisenhardt & Martin, 2000).

The objective of this study is to investigate the determinant factors of dynamic capability that impact the production performance of Blacksmith SMEs in Kampar, Riau, using RJS as a case study. The study aims to analyze the relationship between dynamic capability and product performance and identify the critical factors that affect the dynamic capability of Rumbio Jaya Steel. The study will use quantitative research methods, including survey data collection, statistical analysis, and regression modelling, to provide a comprehensive understanding of the determinants of dynamic capability and production performance in the steel industry. The findings of this study will have significant implications for the management of RJS and other Blacksmith SMEs in improving their dynamic capability and enhancing firms' production performance.

By responding to previous studies, this study contributes to the associated body of knowledge and practice, which discusses the role of dynamic capabilities in corporate life (Tiantian et al., 2014; Fainshmidt et al., 2016; Hernández-Linares et al., 2021; Peng et al., 2019), dynamic capabilities and competitive advantage (Correia et al., 2020), dynamic capabilities and business sustainability (Mohaghegh et al., 2021). However, no studies were found linking dynamic capabilities with production performance in SMEs, particularly in the blacksmith manufacturing sector.

Production performance is crucial for SMEs such as Rumbio Jaya Steel because it determines overall performance. Therefore, this study examines the role of dynamic capabilities in improving production performance in Indonesia's small and medium manufacturing industries, by analyzing data to answer the proposed hypotheses.

The study expects to enrich the understanding related to the behaviour and performance of the company amid limited resources. This also proposes a new perspective on the sustainability of dynamic capabilities and production performance frameworks for Indonesia's small and medium-scale manufacturing industries.

A company or organization's dynamic capability is the ability to modify its existing resources to add value in a dynamic business environment (Denrell & Powell, 2015). Teece (2018) divides dynamic capability into sensing, seizing, and transforming dimensions. Sensing is the company's ability to scan, study, create, interpret and change information or knowledge from internal and external sources. Protogerou et al. (2012) described that seizing is the company's ability to develop, detect opportunities and threats, maximize strengths, and minimize weaknesses. While transforming is the ability to combine or reconfigure available assets as the business environment changes (Teece, 2018).

Saunila (2014) defines operational or production performance as the company's ability to improve resource effectiveness through raw materials, production capacity, optimizing lead time, and production costs. Production performance is assessed based on the quality, speed, cost efficiency and flexibility of production issued by the company (Siregar et al., 2023; Quadros et al., 2001; Neely, 2007). For manufacturing companies, the effectiveness and efficiency of the production system are crucial for the performance of the business as a whole and failure to maximize production performance can harm the company's sustainability (Gunday et al., 2011).

Hypothesis Development

It is undeniable that production quality becomes necessary and determines the company to build trust and reputation. Companies must ensure product quality (Pavletic & Sokovic, 2009)obtained with an adequate manufacturing system and dynamically adapted to changes in the business environment. Previous studies confirm the role of dynamic capabilities in improving product quality. Dyduch et al. (2021) explain that the company's dynamic capabilities allow management to make changes or adjustments to the production system to improve product quality. Innovative solutions offered by dynamic capabilities can drive quality outcomes (Gunday et al., 2011; Dyduch et al., 2021).

Sensing can drive performance as a component of dynamic capabilities (Anggadini et al., 2021) because it implies how companies interpret product-related information expected by the market(Lisboa et al., 2011). Sensing helps to identify the need for changes/adjustments to the production system (Nurhayati & Hendar, 2021; Dyduch et al. (2021) for better product quality (Drnevich & Kriauciunas, 2011; Gunday et al., 2011). The quality of production can be improved if the company equips with a seizing capability that helps the company obtain information from various parties (Breznik et al., 2019). Likewise, transformation capabilities encourage increased production quality (Teece et al., 1994) because this flexibility will guide the adaptation, integration, and reconfiguration following the demands of changing business environments (Teece, 2007).

H1: Dynamic capability contributes to improving production quality.

A point must be ensured mainly in manufacturing to have an advantage in facing business competition. Minimizing production costs is done by shortening production time and reducing energy use and raw material costs. These need to be supported by dynamic capabilities so that adjustments to the production process can minimize costs (Teece, 2018).

Previous studies found the role of dynamic capabilities in improving financial performance. For example, Wilhelm et al. (2015) underlined that dynamic capabilities implement to develop and maintain the sustainability of the company's operational costs. This process is carried out by streamlining the production system (Arend, 2014); Rahmandad, 2012) and costs become affordable (Koufteros & Marcoulides, 2006). Sensing helps managers to detect innovation opportunities in the production system to reduce costs (Zott, 2003) if implemented on time and pay attention to production design systems and business models (Teece, 2018).

H2: Dynamic capability contributes to driving production cost efficiency.

Manufacturing companies are currently facing demands for production system flexibility due to significant changes in customer demand specifications, technological developments and high product variety (Lafou et al., 2016). The flexibility of the production system will help companies respond to customers with different variations (Boyer & Leong, 1996). Dynamic capabilities determine production flexibility (Sandberg, 2020).

Khattab (2017) confirmed a positive relationship between dynamic capability and technical and or production flexibility. Changes in operational systems are possible if the company can adapt to changes in technology and fluctuations in the supply system (Rojo et al., 2018; Christopher & Holweg, 2011). Adjustment of production strategy becomes manageable if supported by the power of innovation (Singh et al., 2013). The sensing dimension positively impacts the company's ability to adapt to the environment (Aslam et al., 2018; Alshanty & Emeagwali, 2019).

In other words, the absorption of information from internal and external will encourage adjustments so that companies can become more adaptive and dynamic in responding to changes in the business environment. Likewise, confining knowledge into operational practices can encourage innovation and production flexibility (Li et al., 2018).

H3: Dynamic capability contributes to improving production flexibility.

The company operates in an environment that meets customer demands. Failure to meet demand results in a loss of income (Owen & Blumenfeld, 2008). Dynamic capabilities in systems or manufacturing processes allow companies to fulfil customer orders without worrying about sudden changes in demand. In other words, the production system's dynamic capability helps companies ensure their operational systems' sustainability (Wilhelm et al., 2015).

Dangol (2012) confirmed that renewal or operational efficiency and flexibility maintain the operating production system. The dynamic capabilities will help the product development process, competitive analysis, preparation and adjustment of strategies and production processes (Singh et al., 2013).

Alternatively, in other words, dynamic capabilities represent the ability to carry out manufacturing and product development processes to respond to changes in the business environment (Helfat & Winter, 2011) through simplifying systems, minimizing lead times, and accelerating production processes (Calantone et al., 2003).

H4: Dynamic capability contributes to increasing production speed.

A business entity such as RJS should be able to see an internal perspective by carefully examining its resources and how to combine them to obtain core competencies and competitive advantages (Prahalad & Hamel, 2009). These capabilities refer to as dynamic capabilities. Figure 1 illustrates the research model that is tested in this study. The capacity of a system to meet the demand for delivery or performance defines as production performance. Production performance is also expressed in quality, cost efficiency, flexibility, and speed (Das & Mishra, 2019). This study proposes hypotheses that are formulated into a framework of thought, shown in Figure 1.

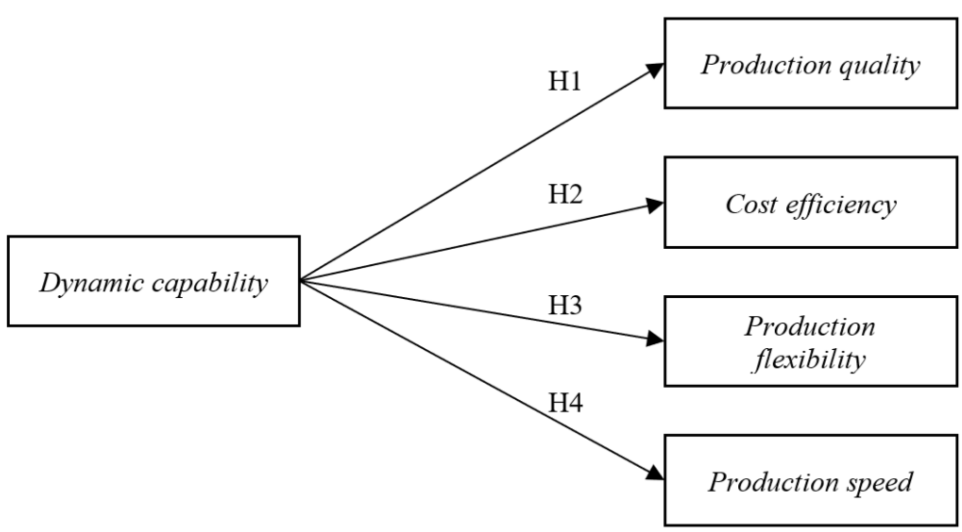

Figure 1.
Research Framework

Research Methodology

The data used in this study obtains by distributing questionnaires to blacksmith business owners who are also members of SMEs Rumbio Jaya Steel Industries. The saturated sample uses to select the sample, ensuring that everyone had the opportunity to become respondents and fill out the disseminated questionnaires. 120 SMEs from Rumbio Jaya Steel Industries comprise the population, which is entirely used as a sample. The industrial group coordinator helps distribute the questionnaires to the population.

In unpredictable environments, a company's dynamic capability is its ability to alter available resources to create product or service value (Teece, 2018). A total of eight items in this variable for measuring dynamic capability. According to Saunila (2014), production performance relates to a company's ability to maximize resource allocation through utilizing raw materials, and production capacity/facilities, minimizing waiting time, and reducing expenditures. Quality, speed, cost efficiency, and production flexibility consider when evaluating production performance (Quadros et al., 2001; Neely, 2007). The comprehensive statements for this variable include eleven items.

Structural Equation Modeling (SEM) with Smart PLS Statistical Software is used to test the research hypothesis. The value of the coefficient determination and the path coefficient utilize to analyze the Independent variable's direct influence on the dependent variables. PLS was chosen because of its ability to function with small samples and complex models (J. F. Hair et al., 2017). PLS can be used to support theories as well (Chin, 1999) and investigate path analysis with mediation and moderation in the model (Joe et al., 2014).

Results and Discussion

Through the use of questionnaires, 120 samples were obtained for this study and distributed to respondents. The distribution process carries out with the assistance of the head of the industrial centre. Table 1 reveals the general characteristics of respondents grouped in terms of gender, age, education level, and duration of being a craftsman. In this study, the respondents who filled out the questionnaire were all male, indicating that females were not involved in the blacksmith industry. The respondent's average age is between 31-40 years, assuming that those involved in the survey are generally men of productive ages. The majority are junior high school graduates with between 11 and 20 years of experience as craftsmen.

Table 1.
Respondent Profile

Gender	Male			Female
	120 (100%)			-
Age	25-30 y.o.	31-40 y.o	41-50 y.o	>50 y.o
	27 (23%)	70 (58%)	17 (14%)	6 (5%)
Education	Elementary school	Junior high school	Senior high School	Undergraduate
	19 (16%)	68 (56%)	31(26%)	2 (2%)
Experience as a craftsman	1-10 years	11-20 years	21-30 years	>30 years
	30 (25%)	75 (63%)	15 (12%)	-

Validity and Reliability Testing

In this study, SEM-PLS is used to test the measurement and structural models. The measurement model was performed to verify whether the research indicators utilised had good validity and reliability for measuring variables, with the results displayed in Tables 2 and 3.

The instrument/measuring tools in qualitative research have an impact on measurement quality, especially in quantitative research. The typical of these measurements may be seen in terms of validity and reliability, as well as the ease of use (Boris Blumberg et al., 2014), making validity and reliability vital to be undertaken. As a result, two validity tests, convergent and discriminant validity, and reliability, employing Cronbach alpha and composite reliability, are used in this work. In this study, validity was assessed using content and construct techniques. The purpose of content validity is to determine how well the instrument represents the research being undertaken (Boris Blumberg et al., 2014).

By looking at the employed item or questionnaire, the researchers' subjective judgement can be used in this. In contrast, construct validity includes both convergent and discriminant validity. Convergent validity refers to the notion that the measurement of a construct has a strong association (Joe et al., 2014), whereas discriminant validity refers to the principle that there is no strong correlation. In addition, convergent validity is demonstrated by a loading factor greater than 0.7 and an average variance extracted (AVE) value greater than 0.5 (Chin, 1998). Joe et al. (2014) contend that the loading factor should be more than 0,7 and that values between 0.4 and 0.7 can be added while those below must be removed from the study.

Table 2.
Convergent And Discriminant Validity Test Results

Variable s	Items	Convergen t validity		Discriminant validity				
		Loading factor	AVE Value	CE	DC	PF	PQ	PS
CE	3	0.837 -0.925	0.757	**0.87**				
DC	8	0.718 -0.878	0.672	0.64	**0.82**			
PF	4	0.720 -0.856	0.639	0.719	0.736	**0.799**		
PQ	2	0.977 -0.980	0.958	0.619	0.467	0.605	**0.979**	
PS	2	0.928 -0.936	0.868	0.745	0.575	0.768	0.794	**0.932**

Table 2 shows that all of the loading factors have AVE values greater than 0.5. As a result, all of the items within the variables employed in this study have adequate convergent validity (Chin, 1998). It is also established that the discriminant validity of the test result illustrates that the square root is higher than others, for example, the value of dynamic capability is higher than those three variables, making its discrimination different from the other variables.

Furthermore, as in this study, a reliability test is carried out to confirm the accuracy and consistency of the measurements. This measurement is required to understand how consistency measurements work in a new environment or iteratively. This can be accomplished by employing composite reliability, where the score must meet or be higher than 0.7 (Joe et al., 2014; Hair et al., 2021). Table 3 shows that all of the variables have composite reliability (the result above the threshold), implying that they are all dependable.

Table 3.
Reliability Test Result

Variable	Cronbach's Alpha	Composite Reliability
Dynamic Capability (DC)	0.930	0.942
Production Quality (PQ)	0.956	0.978
Cost Efficiency (CE)	0.838	0.903
Production Flexibility (PF)	0.811	0.875
Production Speed (PS)	0.848	0.929

Hypotheses Testing
Following the completion of the validity and reliability models, the structural model should be tested. In this study, structural model testing is used to determine the link or influence of the variables. The coefficient of determination and the path coefficient is used to measure the data. (Hair et al., 2017). As indicated in Figure 2 and Table 4, the structural model is investigated first by establishing a relationship between the independent and dependent variables and the coefficient of determination test findings. In this study, the dynamic capability is used as a predictor variable for production quality, cost efficiency, production flexibility, and speed.

Table 3 shows how the variance of the determinant of the dynamic capability to the subsequent factors varies. Because the adjusted R square of production quality is 21.2%, dynamic capability is the precedent of production quality, and the remainder (78.8%) is driven by factors outside of the scope of this study. According to Hair et al. (2021), the model's contribution is marginal. The value of R square at 0,537 confirms the moderate contribution of the dynamic capability to production flexibility. As a result, dynamic capability can influence more than half of the production flexibility of the firms.

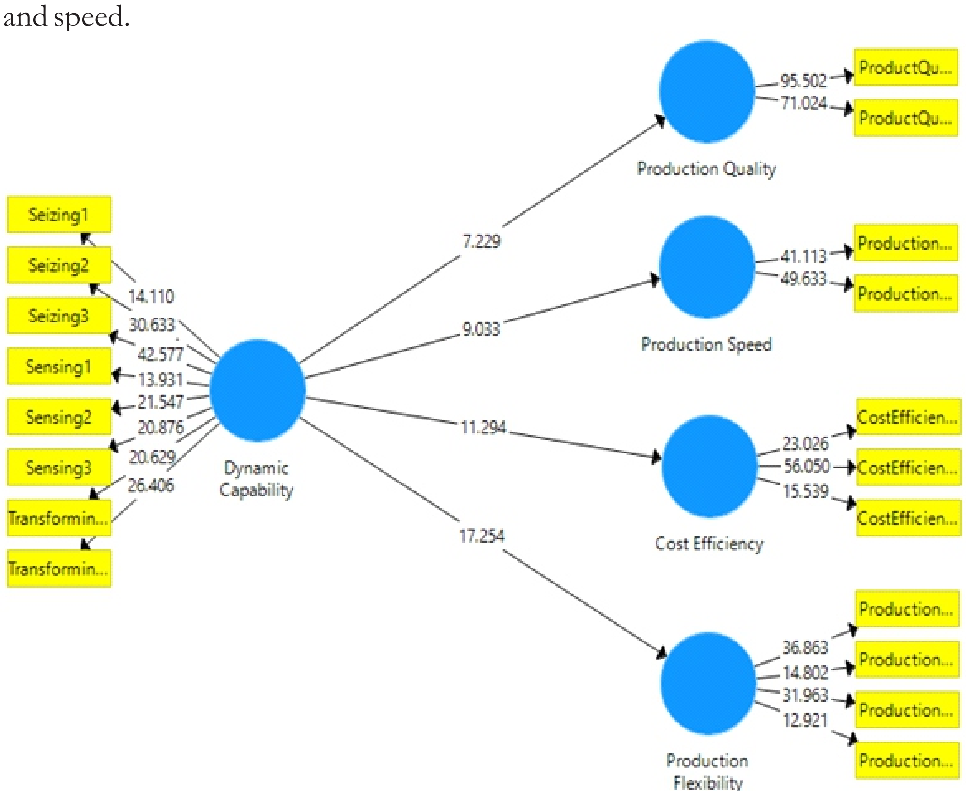

Figure 2.
Research Model Test Result

The cost-efficiency coefficient of determination is 0.405, production flexibility is 0.537, production quality is 0.212, and production speed is 0.325, according to the test results provided in Figure 2 and Table 4. According to (J. F. Hair et al., 2017), the model's strength coefficients are as follows: $R^2 < 0.25$ indicates very weak, $0.25 \leq R^2 < 0.50$ indicates weak, $0.50 \leq R^2 < 0.75$ indicates moderate, and $R^2 \geq 0.75$ indicates substantial.

In this study, the hypothesis is measured by comparing the value of the *t-statistic* to the score of the *t-table*. The criteria are based on the presumption that the hypothesis can be verified when the t-score statistics are higher than the *t-critical table's* value.

The *t-statistic* value is calculated using bootstrapping processes derived from path analysis. The t-table score in this study is one-tailed, with 1.645 at the 5% significance level and 2.326 within the 1% significance level. The investigation revealed that the value of *t-statistics* inside all variables has a higher score than the value of the *t-table*, as demonstrated in table 5. As a result, all of the hypotheses in this investigation are confirmed within 1% of significance. In other words, the link between independent variables and dependent variables is positive, confirming the hypothesis provided in this study.

Table 4.
Coefficient Of Determination Test Result

Variabl e	R Square	Adjusted R Square
Production quality	0.218	0.212
Cost efficiency	0.410	0.405
Production flexibility	0.541	0.537
Production speed	0.330	0.325

Table 5.
Hypothesis Testing

Hypotheses	Path	Original Sample (O)	T Statistics	P Values
H1	Dynamic capability -> Production quality	0.467	7.229	0.000
H2	Dynamic capability -> Cost efficiency	0.640	11.294	0.000
H3	Dynamic capability -> Production flexibility	0.736	17.254	0.000
H4	Dynamic capability -> Production speed	0.575	9.033	0.000

Table 5 indicates that all hypotheses are accepted with a significance level of 1%. It indicates that dynamic capability influences production quality, cost efficiency, production flexibility, and production speed.

Discussion

Contribution of dynamic capability in encouraging production quality

Based on the testing result, the hypothesis that dynamic capability has a significant positive effect on product quality is supported.

Therefore, one potential improvement suggestion for RJS SMEs is to focus on enhancing their dynamic capability, such as by investing in new technologies and training their employees to be more adaptable and innovative. This can lead to improved production processes, better quality products, and ultimately, increased customer satisfaction and competitiveness in the market. It is also recommended to regularly monitor and evaluate the impact of dynamic capability on production quality to ensure continuous improvement.

For manufacturing SMEs, conceptualizing new ideas, as part of the dynamic capability, in product development is crucial to enhance performance through providing and offering the quality standard product. Dynamic capability in this sense can facilitate firms to enhance organizational processes so that quality management practices, particularly in the production process, can be attained (Shuaib et al., 2021). RJS advised making changes or adjustments to the production system to improve product quality through a solutive approach in the form of quality development through innovative solutions, implementation of standard operating procedures and implementation of integrated quality control. These are therefore resulted from the sensing capability of SMEs that ended in the transformation (production stages) (Park & Kim, 2013).

Previous research has also supported the positive relationship between dynamic capability and production quality. For example, Adeniran (2012) found that dynamic capability significantly influenced production quality in Nigerian manufacturing firms. Hernández-Linares et al. (2021) conducted a study on Colombian manufacturing firms and found that dynamic capability positively affected product innovation and quality. In the same vein, Zahra et al. (2006) found that dynamic capability positively influenced firm performance, which included quality as a key component. Tempelmayr et al. (2019) conducted a study on Austrian manufacturing firms and found that dynamic capability positively influenced product innovation and quality. These previous studies support the importance of enhancing dynamic capability for improving product quality in SMEs.

Contribution of Dynamic capability in driving production cost-efficiency

The results of the hypothesis testing suggest a noteworthy positive association between dynamic capability and cost efficiency in the RJS context. Hence, these blacksmith SMEs should concentrate on enhancing their capabilities dynamically to improve their cost efficiency. Based on these findings, some recommendations for Rumbio Jaya Steel SMEs include: first, enhance dynamic capabilities by investing in research and development activities, fostering innovation, and improving their ability to adapt to changing market conditions. This can help them to become more efficient and effective in their operation process. Second, develop a cost-efficient culture by encouraging employees to find ways to reduce costs, minimise waste, and optimise processes. This can help them to reduce their expenses and improve their profitability. Third, Rumbio Jaya Steel SMEs can establish performance metrics to measure and monitor their dynamic capabilities and cost efficiency. This can help them to identify areas for improvement and track their progress towards their goals. Fourth, these SMEs can collaborate with other SMEs in their industry to share best practices and learn from each other. This can help them to stay competitive and improve their operations.

Overall, RJS can benefit from focusing on improving its dynamic capabilities and cost efficiency, which can help them to become more competitive and successful in its industry. Dynamic capability influences production cost efficiency. Teece (2018) argues that the competitive advantage of business entities stems from dynamic capabilities rooted in high-performance routines & low but reasonable production costs.

Dynamic capability has been identified as an important factor in improving cost efficiency in SMEs. Previous studies have found a positive relationship between dynamic capability and cost efficiency in various industries and contexts (Khouroh et al., 2020; Aramand & Valliere, 2012; Arend, 2014). For example, a study by Khouroh et al. (2020) found that dynamic capability has a significant positive effect on cost efficiency in the context of Iranian SMEs. Another study by Aramand and Valliere (2012) found that dynamic capability has a positive impact on cost efficiency in Canadian SMEs. These findings support the importance of enhancing dynamic capabilities in SMEs to improve their cost efficiency.

Contribution of Dynamic capability in encouraging production flexibility

The results of the hypothesis testing indicate a significant positive correlation between dynamic capability and production flexibility in RJS. Thus, these SMEs should concentrate on improving their dynamic capabilities to enhance their production flexibility. Some improvement suggestions for Rumbio Jaya Steel SMEs based on the testing result are: First, firms can invest in technology to improve their production processes and become more flexible in responding to changing market conditions. This can involve adopting new manufacturing technologies, such as automation or robotics, to enhance their production flexibility. Second, Rumbio Jaya Steel SMEs can foster a culture of continuous improvement by encouraging employees to identify opportunities for process optimization and innovation. This can help them to become more agile and responsive to changing market conditions. Third, they also can work on enhancing their supply chain management by developing closer relationships with their suppliers and customers. This can help them to be more responsive to changes in demand and reduce lead times, improving their production flexibility. Last, RJS can cross-train their employees to increase its flexibility and agility in responding to changing market conditions. This can involve providing training and development opportunities to help employees acquire new skills and knowledge.

Overall, SME firms such as RJS can benefit from focusing on enhancing their dynamic capabilities to improve their production flexibility, which can help them to become more competitive and successful in their industry. By investing in technology, fostering a culture of continuous improvement, enhancing their supply chain management, and cross-training their employees, Rumbio Jaya Steel SMEs can improve their production flexibility and become more agile and responsive to changing market conditions.

One previous study that supports the relationship between dynamic capability and production flexibility in SMEs is the research conducted by Wu and Wu (2014) in Taiwan. They found that dynamic capability positively affects production flexibility in manufacturing SMEs. Another study by Hasan et al. (2018) examined the impact of dynamic capability on the performance of Pakistani SMEs and found that dynamic capability has a significant positive effect on production flexibility. In the same vein, Chou et al. (2018) investigated the relationship between dynamic capability and the operational performance of Taiwanese SMEs and found that dynamic capability has a positive impact on production flexibility.

Contribution of Dynamic capability in increasing production speed

As the last hypothesis results, it can be inferred that there is a significant positive relationship between dynamic capability and production speed in Rumbio Jaya Steel SMEs. Therefore, it is recommended that RJS focus on enhancing its dynamic capabilities to improve its production speed. Some improvement suggestions are streamlining the production processes by reviewing their production processes and identifying areas where they can reduce waste, eliminate inefficiencies, and improve throughput. This can help them to improve their production speed and overall efficiency. Second, investing in automation (automation technologies) such as robotics or artificial intelligence, to increase their production speed and reduce manual labour costs. This can help them to become more efficient and effective in their operations.

Third, developing a culture of innovation by encouraging employees to suggest new ideas and improvements. This can help them to identify opportunities to improve their production speed and overall performance. Fourth, optimize inventory management by implementing just-in-time inventory systems or adopting other lean manufacturing principles. This can help them to reduce inventory carrying costs and improve their production speed.

Overall, RJS SMEs can benefit from enhancing their dynamic capabilities to improve their production speed, which can help them to become more competitive and successful in their industry. By streamlining their production processes, investing in automation, fostering a culture of innovation, and optimizing their inventory management, Rumbio Jaya Steel SMEs can improve their production speed and become more efficient and effective in their operations. The findings align with Gupta and Malhotra (2013) studied the impact of dynamic capabilities on the performance of Indian manufacturing SMEs. Their findings suggested that dynamic capabilities have a positive impact on various aspects of performance, including production speed.

Gao and Li (2019) investigated the relationship between dynamic capabilities and firm performance in Chinese SMEs. Their results showed that dynamic capabilities, including innovation capability and organizational learning capability, positively influence firm performance, including production speed. In a study of Malaysian SMEs, Abidin and Zainuddin (2015) found that dynamic capabilities, including technological capability, market sensing capability, and learning capability, positively influence firm performance, including production speed.

Conclusion

This study discusses the development of a conceptual framework to demonstrate the role of dynamic capability in improving product quality, cost efficiency, production flexibility, and production speed. The test results found that dynamic capability influences the formation of the variables of production quality, cost efficiency, flexibility, and speed. SMEs cannot be separated from the actual performance faced by most businesses, especially micro, small and medium enterprises in Indonesia. The most prominent are low productivity, low added value, and low product quality. One alternative to increase the productivity of SMEs is to modernize the business system systematically and with government support through a program to strengthen the competitiveness of SMEs. One of the limitations in conducting this research, such as the population used as a sample is only limited to SMEs RJS. In developing research, further researchers can expand the scope of the population and sample with broader criteria. The next researcher conducts research focusing on dynamic capability variables that are assumed to have influenced the formation of other related variables outside this study, such as strategic capabilities, R&D innovation capabilities and management capabilities (Sharma and Martin, 2018).

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