



ANALYSIS OF PRODUCT AND PROCESS INNOVATION IN IMPROVING COMPANY PERFORMANCE (CASE STUDY ON LEATHER CRAFT INDUSTRY IN GARUT)

Ayi Tejaningrum

Universitas Ekuitas Indonesia, Department Of Management

* Corresponding Author

Email: tejaningrum2211@gmail.com

Abstract

This research analyses how product innovation and process innovation affect the rate of performance of small and medium enterprises (SMEs) in Garut, West Java, Indonesia, leather craft industry. The study used a survey method to collect data from 62 SMEs using structured questionnaires measured on a Likert scale, and analysed using Minitab 21. According to descriptive results, the mean of process innovation (mean = 30.87) and product innovation (mean = 32.55) has a moderate level of performance. The SME performance stands at relatively low to medium (mean = 7.35). Multiregression analysis shows that product innovation ($b = 0.104$; $p = 0.011$) and process innovation ($b = 0.145$; $p < 0.001$) have both a positive and significant impact on the performance of SMEs. The model describes the performance variance of 71.94 (Adjusted $R^2 = 0.719$). The results support the claim that enhancing innovation efforts, especially process innovation, is essential in enhancing profitability, absorption of labour, and business continuity amongst SMEs dealing with leather craft.

Keyword: Innovation process, innovative product, corporate performance, Performance SME, Profitably UKM.s

1. INTRODUCTION

1.1 Background

Garut Regency is famous as one of the regencies producing leather crafts from both cows and goats, with a very famous product being leather jackets. In addition to leather jackets, there are many other products produced, including bags, wallets, sandals, shoes, belts, hats, etc., but the most famous and the main icon of Garut is the Leather Jacket. The forerunner of this leather craft industry centre began with the fame of Garut because of its sheep. From these sheep, livestock produce skin, which, if sold raw, is cheap. In the 70s, several sheep farmers tried to utilise this skin into fashion-based crafts and also food. The leather tanning business in Garut is dominated by small and medium-sized home industries with reference to the criteria for SMEs of the Ministry of Cooperatives and Small and Medium Enterprises (SMEs) No. 20 of 2008, where the limits for small and medium enterprises are a turnover of 300 million to 50 billion per year and minimum assets of 50 million and a maximum of 10 M. Small and medium enterprises have a significant contribution to the absorption of labour energy, expansion of income and also increasing the use of local resources in both developed and developing countries (Isichei et al., 2020; Zygmunt, 2020). SMEs are also able to increase foreign exchange for a country through exports and imports and play a role in improving the competence of human resources. (Akehurst et al., 2009; Civelek et al., 2020; Belas et al., 2020).

Data from 2023, Indonesia currently has 66 million SMEs with a workforce absorption of 117 million or reaching 97% of the total workforce. The contribution of SMEs to GDP is 61%. To accelerate the growth of SMEs can be taken from two sides, namely expanding the market with the same product or by increasing product innovation so that it will expand consumers and also reduce consumer interest in competitor products. Eniola and Entebang (2015) stated that the ability to innovate is one part of the character of superior entrepreneurs. Besides, Baldwin and John (2005) stated that one factor driving the progress of small and medium enterprises is product and process innovation.

Many studies have shown that innovation in companies, especially small and medium enterprises, has a significant effect on profit growth, market expansion and consumer satisfaction (Love and Roper, 2015). Tidd and Bessant (2010) also stated that the survival of SMEs is greatly influenced by the ability to innovate in various aspects, especially in the production process. However, they did not focus Indonesia SMEs. Therefore, this study aims to examine the impact of product and process innovation on SME performance in the leather craft industry in Garut.

1.2 Theoretical Study

1.2.1 Innovation Concept

Innovation is one of the most critical factors of human civilisation development, and intensive innovations are seen in a variety of spheres, such as health, education, transportation, and public services. In the small and medium enterprises (SME) environment, innovation is broadly recognised as a critical factor in augmenting competitiveness and increasing organisational performance. Innovation is explained as the substantial change in commodities and services that is usually achieved through improvement of the processes through which it tries to enhance the competitiveness, the organisational knowledge, and business performance.

According to Kotler and Keller (2006), innovation involves the development of new products and services, which the consumers perceive positively, thus enhancing their satisfaction and market value. Hurley and Hult (1998) also argue that innovation is about the ability of an organisation to embrace and utilise new ideas, thus helping in the creation of unconventional products and services. Drucker (2012) highlights the efficient application of the internal resources to innovation and further states that this type of innovation is the core of creating long-term value within the dynamic competitive market. According to Rujirawanich et al. (2011), innovation has to be a culture instilled within organisations and that builds on creativity and continuous improvement.

However, innovation is a dynamic and complex process. It is affected by various factors, as well as time-sensitive, which means that its effect might be temporary. The government support in enabling the SMEs innovation network is vital as it provides the infrastructure and inspiration required to maintain the innovation (Konsti -Laakso et al., 2012). The intervention by the government allows the SMEs to network with larger firms, offers opportunities to the research and development funds, and improves technology transfer.

In organisations, there are two main types of innovation that are commonly perceived: market innovation and process innovation. Process innovation is focused on the optimisation of the internal processes to produce a better quality of the product, lower costs, and optimise operations (Hanadi and Aruna, 2013). On the other hand, market innovation aims at expanding

market scope and increasing sales by means of introducing new marketing tools, distribution or promotions. Diaconu (2011) argues that technological innovation, which includes purchasing of new equipment and using social media as a marketing tool, is essential to SMEs especially in developing nations where their access to the same may be limited.

Exploitation and exploration are the key terms in the context of SMEs, which are used to comprehend the method of innovation. Exploitation is defined as the use of the available knowledge to do refining and improvement of processes, and exploration is the search of new knowledge and ideas turned to external sources (Wu and Peng, 2022; McDermott et al., 2012). A combination of internal and external knowledge would allow SMEs to respond to market changes and develop sustainable growth. This bilateral innovation strategy can help an SME in developing to a great deal in terms of being able to compete internationally (Huggins and Johnston, 2009).

1.2.2 Process and Product Innovation

Product innovation is an activity done by an organisation as part of improving or developing completely new products to match the changing consumer needs. According to the law No. 19, 2002, product innovation is the use of scientific and technological developments in product development. In the case of SMEs, the innovation of products is often based on the external knowledge gained within the framework of research, technological development, and market trends. The aim is to have more consumer satisfaction, product differentiation over competitors and market expansion. Product innovation should then be based on customer expectations, which include issues related to product functionality, aesthetics, and uniqueness in comparison to the competitors (Diaconu, 2011).

The process innovation or exploitation of innovation refers to the process of enhancing the production process to increase efficiency, decrease the cost as well as improving the quality of the product. It involves the use of new technologies, high-quality raw materials, as well as efficient production systems. Psomas et al. (2013) categorise innovation as four (4) namely product innovation, process innovation, market innovation and organisational innovation. In the context of this research, though, process innovation would be more focused on the production chain, such as the implementation of new equipment, better quality-control structures, and a more effective system of managing materials.

Process innovation is critical in SMEs because it leads to increased efficiency, minimised expenses, and improved quality of products. The production process can also be innovated, such as the machinery upgrades, better production techniques, and more waste reduction, and overall competitiveness of the SMEs can be significantly affected. Therefore, process innovation has been viewed as a core factor in the sustainability and development of SMEs, especially in the competitive sectors (Cleff and Rennings, 1999). According to Utterback and Abernathy (2018), product and process innovation are necessary to maintain a competitive advantage for firms. The consumer tastes and expectations keep on changing and this calls on companies to be creative in their products and processes. Product innovation aims at meeting the needs of consumers, whereas process innovation is concerned with the internal processes that facilitate the effective production and delivery of the products.

Both process and product innovation are the focus of this study since process innovation ensures the emergence of quality products in the market, whilst product innovation aligns with

the market needs and expectations of consumers. Process and product innovations should be synergised in the context of SMEs that want to conquer their markets. Though organisational innovation is significant, it is classified as a process innovation in this study, since it is related to the improvement of internal systems, including human resource management, workflow optimisation, and efficiency (Laursen, 2012).

1.2.3 Theoretical Model and Logical Connection to SME Performance

The theoretical model used in this study has associated product and process innovation directly with SME performance, as both types of innovation are important in strengthening the capacity of SMEs to compete effectively. Innovation in products drives the market forward through providing new and better products as per the changing consumer demands, and innovation in the process ensures that products are produced in a manner that is cost-effective, efficient and can produce quality products. The ongoing enhancement in the two areas has a direct effect on the ability of SME to increase profitability, share, and operational effectiveness, hence affecting overall business performance.

The relationship between innovation and the performance of the SME is grounded on the fact that SMEs that have undertaken product and process innovation are in a better position to compete in dynamic markets. The resulting increased product offerings, customer satisfaction and operating efficiency are all a part of improved financial performance and long-term sustainability. Additionally, by continued innovation, SMEs adapt to changes in the market better, absorb new information, and increase their market share, which continues to strengthen the performance of the companies (Madrid et al., 2013).

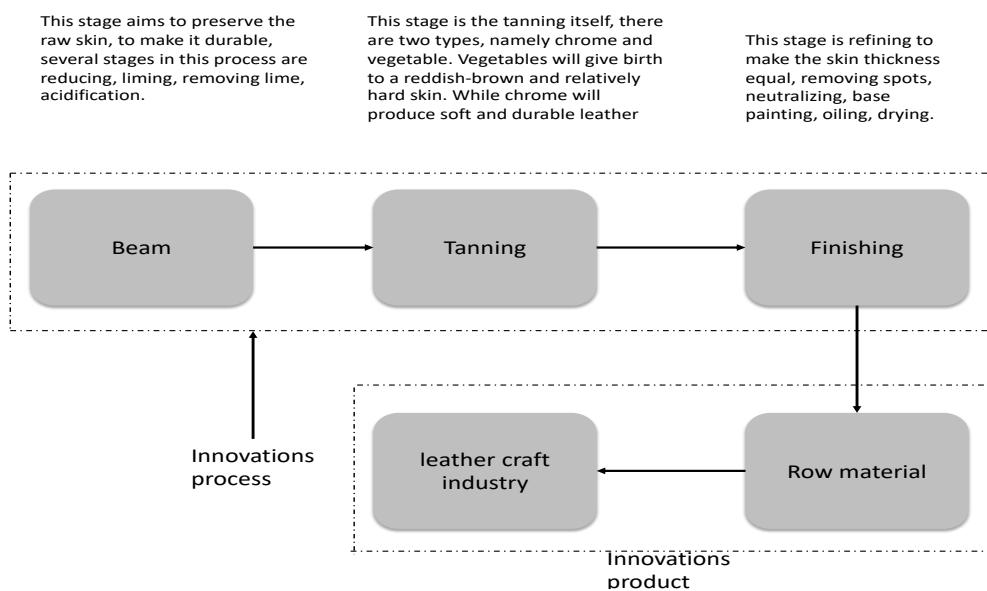


Figure 1: Leather Craft and Tanning Process

Based on the image above, you can see how the tanning process and leather work. The results of the tanning process produce raw materials for leather crafts in the form of jackets. This research analyses the innovation process in leather tanning and product innovation in

leather craft products. Process innovation focuses more on SMEs' internal efforts to generate new ideas based on existing knowledge, carrying out refinement processes by adopting new technology, simplifying procedures, improving business processes, improving the use of raw materials and so on. Based on this, the following are the indicators that will be measured in product innovation, as demonstrated in Table 1.

Table 1: Product Innovations indicator

NO	INDICATOR	DESCRIPTIONS
1	Innovation in jacket design	This relates to how SMEs make improvements to jacket designs so as to increase consumers' desire to shop
2	Innovation in jacket function	This relates to how far SMEs are able to continuously carry out updates regarding the function of leather jackets.
3	Innovation in jacket colours	Related to the ability of SMEs to innovate in the use of leather jacket colours
4	Innovation in the type of leather texture of the jacket	Related to improvements in the texture of jackets that are increasingly strong and light
5	Innovation in jacket variations	Related to variations in jacket user segments
6	Innovation in the use of jacket accessories	Related to innovation in the use of jacket accessories
7	Innovation in jacket aesthetics	Related to innovation in displaying aesthetic jackets
8	Innovation in jacket packaging	Related to innovation in jacket packaging
9	Innovation in durability	Related to innovation to strengthen the life of jackets
10	Innovation in resilience	Related to the flexibility of jackets so that they do not wrinkle easily, dry out and smell

Table 2: Process Innovations indicator

NO	INDICATOR	DESCRIPTIONS
1	Innovation in machines	Related to how SMEs innovate by using increasingly sophisticated machines and tools to produce better quality output
2	Innovations in raw material	In connection with how SMEs continuously improve processes on raw materials, so that it will support improving product quality

3	Innovation concerns the simplification of procedures	Related to the ability of SMEs to improve procedures, so that they can save process time
4	innovation at the tanning stage	Regarding improvements in carrying out the process at the tanning stage to create a quality process and save time
5	Innovation in finished material and raw material inventory systems	Related to improvements in the inventory system so that storage costs can be saved
6	innovation at the beam stage.	This is related to improvements in carrying out processes at the beam stage to produce quality processes and save time.
7	Innovation at the finishing stage	Relates to improvements in carrying out processes at the finishing stage to produce quality processes and save time
8	Innovation in the use of secondary materials	Related to improvements in the use of secondary materials, such as chemicals, dyes, etc., to produce quality products and reduce processing time
9	Innovation in waste handling	Related to innovation to strengthen jacket life
10	Innovation in business processes	Related to improving the overall process flow to save time and reduce costs

A strong and successful company is shown by the company's ability to survive in the era of competition, technology and changing consumer tastes. SMEs with a long business age show the company's ability to compete with competitors. The concept presented is in line with the concept presented by Goodspeed (2003) regarding the measurement of company performance seen from 4 perspectives, namely finance, customer value, internal business and growth learning. In SMEs, the financial aspect is shown by profit, and customer value is shown by the ability to absorb labour, because if consumer value is high, demand increases, so that it requires an increased workforce. For internal business processes related to the company's ability to produce improvements and renewals, it is analysed from the aspect of the ability to survive or the length of the business, because only companies that continuously adjust products to consumer desires will survive the onslaught of competitors.

Fourth, related to learning and growth, in the SME performance assessment process, it is not included, considering that SMEs are very high in the workforce turnover process. Meanwhile, Mahmood, K. et al. (2018), conveyed the performance of UMK from Financial, which is shown by net profit, market growth, customer retention and customer engagement, etc. The concept is implemented in SMEs in the form of Profit. Meekaewkunchorn (2021) measures the success of SMEs from company profits, market expansion, and labour absorption.

1.2.4 Theoretical Framework

The theoretical basis of this study is based on the nexus of innovation and performance of small and medium-sized enterprises (SMEs), and specifically on product and process innovation. It combines empirical and conceptual observation provided by Kotler and Keller (2006), Hurley and Hult (1998) and Drucker (2012), which in turn reiterate the importance of market and process innovation in bringing about competitive advantage to the SME. According to the study, it is desirable that SMEs that engage in product and process innovations simultaneously will report significant benefits in terms of profitability, labour absorption, and business sustainability.

The framework is based on the dualistic concepts of exploitation and exploration in the process of innovations, as defined by Wu and Peng (2022) and McDermott et al. (2012). Exploitation is the use of current knowledge to perfect and streamline the processes, and exploration is related to the need to get new knowledge outside. These two strategies are expected to come together and produce better innovation results among SMEs. Besides, the research relies on the theoretical framework expressed by Madrid et al. (2013), which directly associates product and process innovations with the performance of the SMEs. The assumption behind this is that the ability of an SME to meet consumer needs and reduce operations through perpetual, unbroken innovation contributes to better business performance.

1.2.5 Hypothesis

- H_1 : There is a significant relationship between product innovation, process innovation, and SME performance.
- H_0 : There is no significant relationship between product innovation, process innovation, and SME performance.

2. RESEARCH METHODOLOGY

The research employs a survey methodology to gather data, utilising a structured questionnaire with indicators for product innovation, process innovation, and SME performance.

Figure 2 depicts the research model where product innovation and process innovation are the independent variables, and they directly affect SME performance. The study hypothesis that was modelled is that, as innovation activities improve, there is an increased profitability, labour absorption, and business sustainability amongst leather craft SMEs.

Each of these variables is measured using a Likert scale, allowing respondents to rate their agreement with various statements on a scale from "strongly agree" to "disagree". This approach enables the researchers to quantify the respondents' perceptions of innovation and performance. The questionnaire includes 10 indicators for both product innovation and process innovation, with 3 indicators for SME performance. The survey is targeted at two groups of respondents: company leaders or representatives, who provide insights into process innovation and company performance, and resellers or consumers, who assess product innovation from an external perspective.

To determine a representative sample, the Slovin method is applied, with a 10% margin of error. The population consists of 387 leather tanning SMEs and 247 leather craftsmen SMEs, with 158 SMEs involved in both tanning and leather crafts. Using the Slovin formula, the

required sample size is calculated to be 62 SMEs, ensuring statistical reliability. This combination of the Likert scale and the Slovin sampling method allows for a robust analysis of how product and process innovations influence SME performance. By capturing both internal and external perspectives, the research can provide a comprehensive understanding of innovation's role in enhancing SME success in the leather craft industry. The categories of innovation levels in processes and products are as follows:

Table 3. Level of Innovations Product and Process

LEVEL	VALUE SCORE
Very low	<18
Low	18 - 25
Medium	26- 33
High	34 - 42
Very High	>42

The research methodology is a survey, namely by analysing samples from the population, based on the sample analysed, relative events, sample distribution and relating one variable to another. The tool to measure perception is a questionnaire whose indicators are derived from research variables, and the scale used is Likert's. For process innovation and company performance variables, use company leaders or representatives as respondents. While measuring the level of product innovation, are resellers or consumers of each SME? Prior to data analysis, instrument reliability and validity were determined. The construct validity was established using the development of indicators using the known literature, and the reliability checks provided reasonable internal consistency, with Cronbach's alpha exceeding the acceptable minimum of 0.70 for all research variables. To determine the sample using the Slovin Method (Cooper and Schindler, 2003), with the following formula:

$$n = \frac{N}{1 + Ne^2}$$

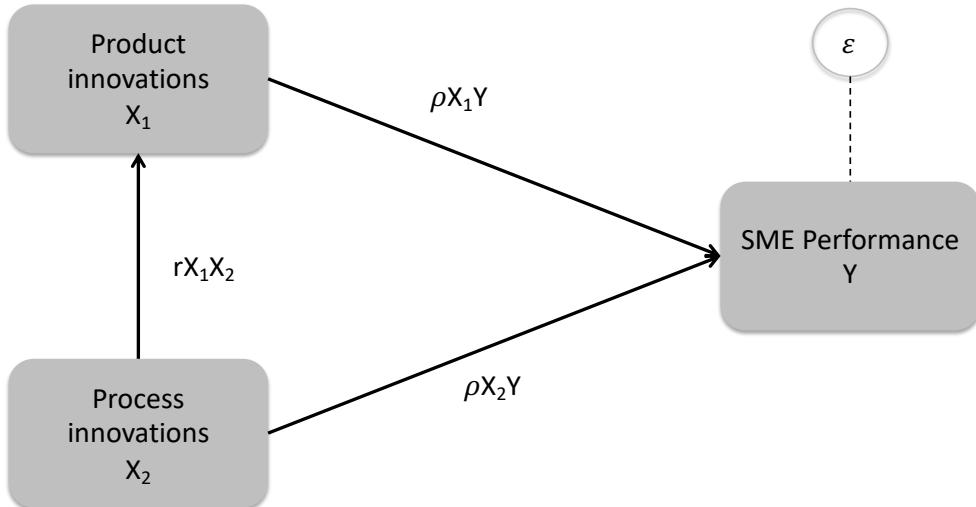


Figure 2: Research Model

2.1 Ethics Statement

Ethics approval was obtained from the Ethics Committee of PDR, Cardiff Metropolitan University, Cardiff, United Kingdom. The participants provided their informed consent to participate in this study.

3. RESULTS

3.1 Profile of Process Innovation Level

Based on field data collected from 62 tanning SMEs, the profile of the process innovation level is demonstrated in Table 4. There are 10 indicators to assess the level of process innovation using a Likert scale, so that the minimum value is 10 and the maximum value is 50. The results of data processing show that the average level of process innovation is in the moderate category, with a value of 30, meaning that SMEs are not responsive enough to carry out process innovation. This condition results in leather tanning results not changing significantly over time. Table 4 shows that Q1 (first quarter) is 25.5, meaning that 25% of the data is in the low process innovation category. While the median shows a figure of 31.5, meaning that 50% of the data has an innovation value below 31.5, and another 50% is above 31.5, where this value is in the moderate category. With a profile like this, process innovation in tanning SMEs has not run as expected. Q3 data (quartile 3) in the table is 35, meaning that 75% of the data is below the value of 35, and the remaining 25% is above the value of 35. Thus, SMEs that aggressively carry out process innovation are 25%. The following is the processing data using Minitab 21.

Table 3: Description of process innovation levels

Variable	N	N	Mean	SE	StDev	Minimu	Q1	Media	Q	Maximu
	*		Mean	Mean		m		n	3	m
innovatio	6	0	30,871	0,9849	7,7554	17	25,	31,5	35	48
ns	2		0	43	5		5			
process										

When entering into the overall picture by looking at the normal distribution (Figure 3), the average level shows that most of the data is gathered in the middle or is in the middle category, with a standard deviation level of 7.7, meaning that there is a tendency for high differences in the process of innovation in the leather tanning SMEs. There is a pattern of tendency for one SME to another to have differences in the level of innovation.

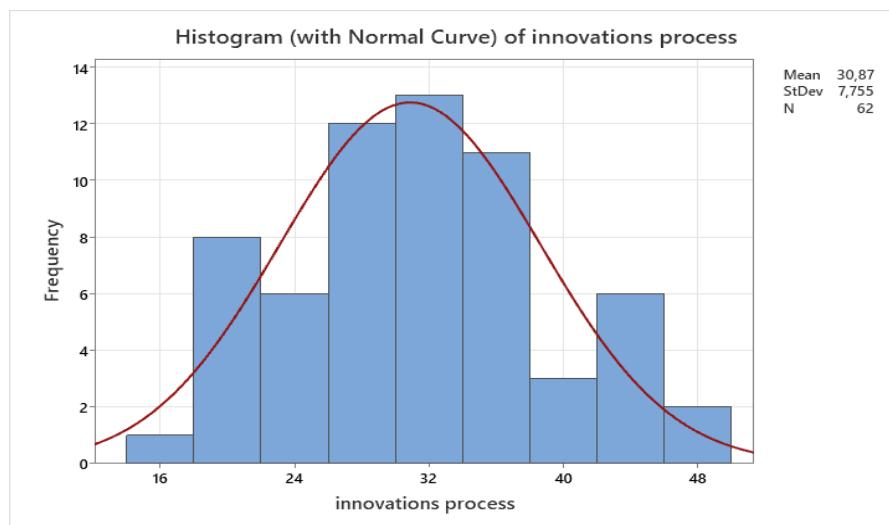


Figure 3: Frequency Distribution of Process Innovation Levels

3.2 Product Innovation Level Profile

Based on the results of the following data processing, the level of process innovation (Table 5). There are 10 indicators used to assess the level of product innovation, using a questionnaire as a tool to collect data with a Likert scale. Among 62 respondents, the average value of the product innovation level is in the medium category, with a value of 32, above the average value of process innovation. The smallest value is 20, the maximum value is 47, with Q1 of 27 points, meaning that 25% of SMEs have an average value of the product innovation level of 27 or are in the small category. While the median or middle value is 32, meaning that 50% of tanning SMEs have a value below 32 and above 32 points. For the quartile 3 (Q3) analysis, 25% of the data is in the average value of 37.25 or is in the high category.

Table 4: Descriptions of Product Innovations Levels

Variable	N	N*	Mea n	SE Mean	StDe v	Minimu m	Q 1	Media n	Q3	Maximu m
Innovations product	60	32,54	0,88905	7,000	20	2	32	37,	47	
	2	84	4	42		7		25		

The following is a distribution graph of the level of innovation of SME products with Minitab 21 processing. From the image, it can be seen that the data tends to be in the middle towards the right, meaning that the data pattern has a tendency towards a high average level.

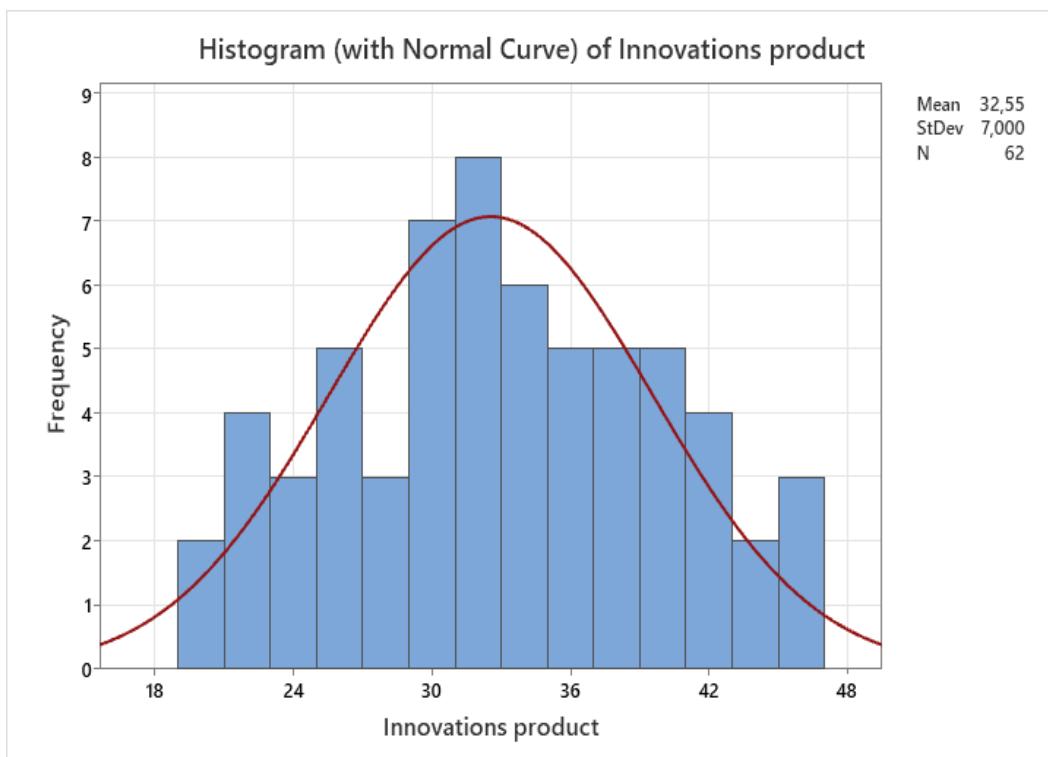


Figure 4: Frequency Distributions of Product Innovation Levels

3.3 SME Performance Profile

As stated previously, the performance of SMEs is assessed from three indicators, namely profit, employment and also the age of the business. From these conditions, classification was carried out into five categories. The following are the results obtained as in table six and figure five below. The average level of SME performance is 7, from a max value of 14, while 25% (Q1) is below the value 6, the median or middle value is 7, and as many as 25% are above the value 9. Thus, it can be seen that the performance of MSEs is at a value of 7 (performance medium) with a downward trend.

Table 5: Distribution of SME performance levels

Variable	N	N*	Mean	SE Mean	StDev	Minimu m	Q1	Media n	Q3	Maximu m
corporate performance	60	0	7,3548	0,2662	2,0968	4	6	7	9	12
	2		4	95	1					

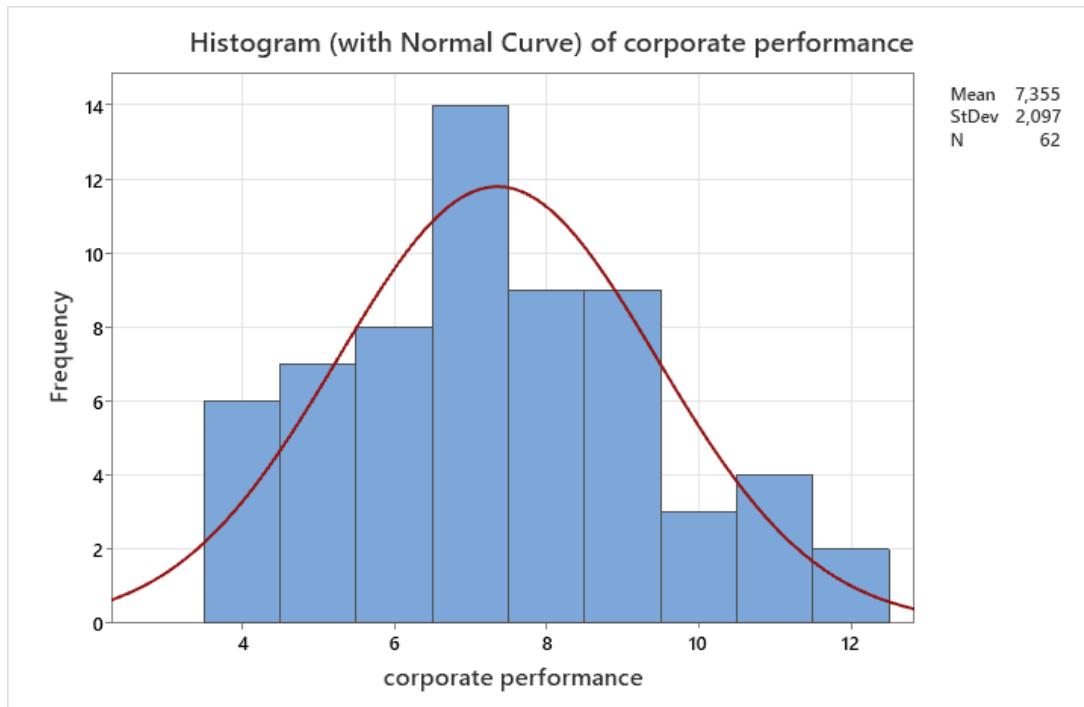


Figure 5: Frequency Distributions of SME Performance

Based on the figure and table, it can be seen that the tendency for SME performance is at the middle to lower levels. As many as 75% or Q3 were rated 9 or below, or the majority of SME performance was in the medium and low categories.

3.4 Relationship Innovations: Product and process to SME performance

Based on the results of data processing using Minitab 21, it appears that process innovation and product innovation have a significant effect on SME performance. This can be seen from the magnitude of the P value of product innovation (0.011) and process innovation (0.00) below 0.05. With this data, we can confidently state that the performance of SMEs will improve well if SMEs are able to carry out process innovation and product innovation. The magnitude of the influence of these two variables on performance is very large, namely 71.94%. The following are the results of data processing.

Table 6: Regression Correlations Innovation Product and Process to SME Performance
Coefficients

Term	Coef	SE Coef	T-Value	P-Value	VIF
Constant	-0,513	0,676	-0,76	0,451	
Innovations product	0,1041	0,0394	2,64	0,011	3,76
innovations process	0,1452	0,0356	4,08	0,000	3,76

Table 7: Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
1,11080	72,86%	71,94%	69,54%

The relationship between innovation in both products and processes and performance is positive, meaning that if innovation increases in both products and processes, it will be able to improve SME performance, or conversely, if the level of innovation is low, SME performance will be low.

Table 8: Analysis of Variance

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Regression	2	195,395	97,6977	79,18	0,000
Innovations product	1	8,608	8,6081	6,98	0,011
innovations process	1	20,563	20,5632	16,67	0,000
Error	59	72,798	1,2339		
Lack-of-Fit	52	68,798	1,3230	2,32	0,122
Pure Error	7	4,000	0,5714		
Total	61	268,194			

The results of data processing using different tests, Anova (analysis of variance), Minitab 21 software, show that the P value for product innovation is 0.011 and process innovation is 0.000, indicating a P value below 0.005, it can be concluded that there is a significant difference in the level of process innovation and the level of product innovation at different levels (very low, low, medium, high and very high) on the performance of SMEs. Thus, it can be concluded that SMEs, in order to improve company performance in increasing profits, maintaining business life and increasing workforce absorption, must continuously innovate in processes and products. The source of innovation can be from internal improvements as part of the problem-solving process that occurs, or it can also be in the process of improving the quality of the process, both from saving time and costs.

4. DISCUSSION

The research examined the level of process and product innovation and its relation to the performance of the company using 62 SMEs which operate in the leather tanning and leather craft industry. The results suggest process innovation in the tanning industry is moderately

developed, whereby there is a balanced distribution of low to high innovation. However, process innovation is relatively underdeveloped, and the majority of SMEs have to depend on internally created knowledge to achieve building block improvement. This fact supports the previous studies by Tejaningrum (2020) that stressed high labour turnover and a managerial orientation based on ownership, thus limiting the use of the available knowledge in process innovation. The need to combine external knowledge, as pursued by Christopher M. Prajoko (2012), can be observed here, as there is no possible way process innovation can be properly effective in maintaining cost efficiency, waste reduction and competitiveness of the products unless external knowledge is introduced.

Lack of knowledge management within the organisation, especially in terms of internal knowledge, is one of the major problems that SMEs face during the process of innovation, as Asad et al. (2020) discovered, potentially leading to the inability to leverage operational improvements and consumer-driven innovations. Strong knowledge management is obligatory, as it allows the SMEs to exchange operational issues into new knowledge and, as a result, expedite product and process development. Entrepreneurship and innovation are complementary to each other, and the success of an entrepreneur is often determined by the ability to implement innovations, which enable a business to grow the market and produce a social impact, including the creation of jobs (Daraojimba et al., 2023). Nevertheless, financial constraints prevent the innovation of the SMEs because of the low investment in the sphere of knowledge management and the adoption of technology. This weakness is further compounded by restricted research and development investment, and this burden is more burdensome to SMEs than the larger companies (Stuart and Podolny, 1996).

The interviews involving the participating SMEs indicate a tendency to make regular process enhancements, which are based on the available knowledge. However, these improvements rarely result in any considerable modification of the quality of the product or its performance. One of the reasons is the poor integration of the external knowledge into the process innovation, which would have, in turn, allowed the SMEs to respond to market forces and strengthen their competitive position. As Ozen and Ozturk-Kose (2023) emphasise, the ability to have a strong sales performance requires both internal and external knowledge, especially in the form of competitive intelligence and research partnerships. Within the current research, SMEs are faced with an internal resistance to change where employees view process changes as an additional burden, and the owners doubt the effectiveness of innovations to stimulate sales. These results are resonant with Rujirawanich et al. (2011), who claimed that process innovation is intrinsically complicated and usually short-lived unless there is substantial support and management.

In the case of product innovation, the average scores of SMEs in the leather craft industry were higher compared to those of process innovation. The external knowledge leads to product innovation, which aims at increasing design, colour, functionality and other qualities to meet the consumer expectations. Innovation in SMEs on this front has been aided by the easy access to knowledge on competitor products, especially via easy platforms, like social networks. However, the internal resistance remains a major obstacle; owners and employees are often reluctant to apply changes, and they are afraid that product innovation will not help earn more sales (De Faria et al., 2020). Even with this reluctance, external knowledge integration in product innovation is vital to the survival of SMEs in the market.

The other relevant obstacle to innovation is low investments in knowledge acquisition, education, training, and technological infrastructure. The cost of innovation is usually a big stumbling block to SMEs, who are unable to access the resources to bring about process and product changes. Governmental support, according to Audretsch and Belitski (2023), is a central factor that can help an SME to access technology and knowledge, thus alleviating these financial limitations. Lastly, the research indicates that SME performance, in the variables of profit, labour absorption, and business longevity, is inclined towards the medium to low range. This observation justifies the significance of innovation in improving the performance of SMEs. Data analysis revealed that there were significant performance differences between the high, medium and low performing SMEs, with high levels of innovation in processes and product-based innovation being associated with high performance. These findings are in line with Cleff and Rennings (1999), who proposed that innovation has a direct impact on the performance of SMEs, especially in industries that are faced with serious environmental problems in terms of waste generation, water pollution and soil contamination.

The current research confirms conceptual models that associate innovation more so in product and process realms with improved performance of SMEs. It supports the assumption that SMEs should combine both internal and external sources of knowledge in order to trigger innovation and enhance organisation. The results also shed light on the fact that innovation in SMEs is rather complex in nature and requires a more moderate approach to combining both internal and external knowledge. In the case of SMEs, the findings highlight the importance of the development of an innovation culture that incorporates knowledge, both internal and external. The policymakers can be very instrumental in ensuring that the necessary infrastructure, finances, and training are offered to facilitate the process of SME innovation. By making R&D funds, technology tools and market insights available to the SMEs, financial barriers to innovation will be overcome. In addition, internal resistance to innovation management programmes and knowledge sharing programmes in organisations will be critical to the effective implementation.

5. CONCLUSION

Based on the results of data analysis, it can be concluded that most leather tannery SMEs have relatively low process innovation values, as well as most of the jacket craft industries also have relatively low product innovation values. The results of field studies show that innovation is significantly related to company profits, employment and length of business. Process innovation is related to MSEs' efforts to improve processes either as a result of problems or actually in order to improve them in a better direction. Process innovation is related to the efforts of SMEs with the knowledge they have and the problems that occur, which will give birth to new ideas which are implemented so as to reduce costs, reduce processing time and also reduce scrap.

6. Implications

The empirical evidence shows that innovation is one of the key determinants of SME performance, which significantly affects profitability, employment of labour, and business sustainability. Process innovation adoption allows SMEs to be more efficient in their operations, reduce costs, and maintain a competitive edge. At the same time, the product

innovation is able to respond to emerging customer needs, thus increasing market penetration and customer satisfaction. However, the internal barriers, especially the opposition to change among the workers and the owners, are the obstacles to the complete adoption of innovations.

7. Limitations

The major limitation of the current study is that it relies on self-reported information of SMEs, which can be biased or inaccurate. Besides, the sample of the research is limited to the SMEs involved in the leather-craft industry in Garut, which may not be applicable to the general population of SMEs. The information related to product innovation was mostly obtained by the external perspectives (ex, resellers, consumers), thus potentially missing information regarding the internal difficulties that SMEs face during the innovation process.

8. Future Research

Future studies must examine how government support can affect SME innovation, particularly in terms of access to R and D funding and technological support. The longitudinal impacts of process and product innovation on the growth of SMEs and their competitiveness should be further investigated by incorporating a wider sample of various industries and geographical areas. In addition, a closer look at certain internal obstacles, including resistance on the managerial level and limited resources, would provide implementation-focused insights on how to increase the innovation potential of SMEs.

9. Disclosure Statement:

No potential conflict of interest was reported by the author(s).

10. Declaration of Competing Interest:

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

11. Acknowledgements:

This research was undertaken with funding from the United Kingdom Research and Innovation (UKRI) Strength in Places Fund project, 'Media Cymru' [grant number 99911].

12. REFERENCES

Akehurst, G., Comeche, J.M. and Galindo, M.A., 2009. Job satisfaction and commitment in the entrepreneurial SME. *Small business economics*, 32(3), 277-289. <https://cyberleninka.org/article/n/900300.pdf>

Asada, A., Basheerb, M.F., Irfanc, M., Jiangd, J. and Tahir, R., 2020. Open-Innovation and knowledge management in Small and Medium-Sized Enterprises (SMEs): The role of external knowledge and internal innovation. *Revista Argentina de Clínica Psicológica*, 29(4), 80-90. <https://doi.org/10.24205/03276716.2020.808>

Audretsch, D.B., Belitski, M., Caiazza, R. and Phan, P., 2023. Collaboration strategies and SME innovation performance. *Journal of Business Research*, 164, 114018. <https://doi.org/10.1016/j.jbusres.2023.114018>

Baldwin, J.R., 1995. Innovation: the key to success in small firms. *Statistics Canada Working Paper*, 76. <https://papers.ssrn.com/sol3/Delivery.cfm?abstractid=4300>

Belas, J., Amoah, J., Petraková, Z., Kljuchnikava, Y. and Bilan, Y., 2020. Selected factors of SMEs management in the service sector. *Journal of Tourism and Services*.

https://publikace.k.utb.cz/bitstream/handle/10563/1010156/Fulltext_1010156.pdf?sequence=1&isAllowed=y

Civelek, M., Gajdka, K., Světlík, J. and Vavrečka, V., 2020. Differences in the usage of online marketing and social media tools: evidence from Czech, Slovakian and Hungarian SMEs. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 15(3), 537-563. <https://doi.org/10.24136/eq.2020.024>

Cleff, T. and Rennings, K., 1999. Determinants of environmental product and process innovation. *European environment*, 9(5), 191-201.

https://www.researchgate.net/profile/Thomas-Cleff-2/publication/247952072_Determinants_of_environmental_product_and_process_innovation/links/61e3f9c8c5e31033759b83ab/Determinants-of-environmental-product-and-process-innovation.pdf

Cooper, D.R., Schindler, P.S. and Sun, J., 2003. Business research methods. https://sutlib2.sut.ac.th/sut_contents/H139963.pdf

Daraojimba, C., Abioye, K.M., Bakare, A.D., Mhlongo, N.Z., Onunka, O. and Daraojimba, D.O., 2023. Technology and innovation for the growth of entrepreneurship and financial boost: a decade in review (2013-2023). *International Journal of Management & Entrepreneurship Research*, 5(10), 769-792. <https://doi.org/10.51594/ijmer.v5i10.593>

De Faria, P., Noseleit, F. and Los, B., 2020. The influence of internal barriers on open innovation. *Industry and Innovation*, 27(3), 205-209. <https://doi.org/10.1080/13662716.2020.1726730>

Diaconu, M., 2011. Technological Innovation: Concept, Process, Typology and Implications in the Economy. *Theoretical & Applied Economics*, 18(10). https://www.ebsco.ectap.ro/Theoretical_&_Applied_Economics_2011_October.pdf#page=127

Eniola, A.A. and Entebang, H., 2015. SME firm performance, financial innovation, and challenges. *Procedia-Social and Behavioural Sciences*, 195, pp.334-342.

Foreman-Peck, J. (2013). Effectiveness and efficiency of SME innovation policy. *Small Business Economics*, 41, 55-70. <https://doi.org/10.1016/j.sbspro.2015.06.361>

Goodspeed, S.W., 2003. *Translating strategy into action: The balanced scorecard*. Medical University of South Carolina-College of Health Professions.

Grant, R.M., 1996. Toward a knowledge-based theory of the firm. *Strategic management journal*, 17(S2), 109-122. https://d1wqxts1xzle7.cloudfront.net/12301361/grant_r_m_1996_toward_a_knowledge-based_theory_of_the_firm_strategic_management_journal_17_%28winter_special_issue%29_109-122.-libre.pdf

Hanadi, A. and Aruna, M., 2013. Technology innovation for SME growth: A perception for the emerging economies. *Technology*, 4(3), 156-162. https://d1wqxts1xzle7.cloudfront.net/30751512/Technology_Innovation_for_SME_Growth-libre.pdf

Huggins, R. and Johnston, A., 2009. Knowledge networks in an uncompetitive region: SME innovation and growth. *Growth and change*, 40(2), 227-259. https://d1wqxts1xzle7.cloudfront.net/42801174/Huggins_and_Johnston_-Growth_and_Change-libre.pdf

Hurley, R.F. and Hult, G.T.M., 1998. Innovation, market orientation, and organisational learning: an integration and empirical examination. *Journal of Marketing*, 62(3), 42-54. https://www.researchgate.net/profile/G-Tomas-M-Hult/publication/228137751_Innovation_Market_Orientation_and_Organizational_Learning_An_Integration_and_Empirical_Examination/links/55e2175408aecb1a7cc83301/Innovation-Market-Orientation-and-Organizational-Learning-An-Integration-and-Empirical-Examination.pdf

Isichei, E.E., Emmanuel Agbaeze, K. and Odiba, M.O., 2020. Entrepreneurial orientation and performance in SMEs: The mediating role of structural infrastructure capability. *International Journal of Emerging Markets*, 15(6), 1219-1241. <https://doi.org/10.1108/IJOEM-08-2019-0671>

Kleinknecht, A., 1987. Measuring R & D in small firms: How much are we missing?. *The journal of industrial economics*, 253-256. <https://doi.org/10.2307/2098417>

Konsti-Laakso, S., Pihkala, T. and Kraus, S., 2012. Facilitating SME innovation capability through business networking. *Creativity and Innovation management*, 21(1), 93-105. https://www.researchgate.net/profile/Timo-Pihkala/publication/228216135_Facilitating_SME_Innovation_Capability_Through_Business_Networking/links/5acef04da6fdcc87840f3fe5/Facilitating-SME-Innovation-Capability-Through-Business-Networking.pdf

Kotler, P. and Keller, K.L., 2006. Marketing Management, penerjemah Benyamin Molan, 2007.

Laursen, K. and Salter, A., 2006. Open for innovation: the role of openness in explaining innovation performance among UK manufacturing firms. *Strategic management journal*, 27(2), 131-150. <https://onlinelibrary.wiley.com/doi/pdf/10.1002%2Fsmj.507>

Laursen, K., Masciarelli, F. and Prencipe, A., 2012. Regions matter: How localised social capital affects innovation and external knowledge acquisition. *Organisation science*, 23(1), 177-193. <http://dx.doi.org/10.1287/orsc.1110.0650>

Li, Q., Maggitti, P.G., Smith, K.G., Tesluk, P.E. and Katila, R., 2013. Top management attention to innovation: The role of search selection and intensity in new product introductions. *Academy of Management Journal*, 56(3), 893-916. <https://journals.aom.org/doi/abs/10.5465/amj.2010.0844>

Littunen, M. V. H., 2010. Types of innovation, sources of information and performance in entrepreneurial SMEs. *European Journal of Innovation Management*, 13 (2), 128 – 154. <http://dx.doi.org/10.1108/14601061011040221>

Love, J.H. and Roper, S., 2015. SME innovation, exporting and growth: A review of existing evidence. *International small business journal*, 33(1), 28-48. <http://dx.doi.org/10.1177/0266242614550190>

Madrid-Guijarro, A., García-Pérez-de-Lema, D., and Van Auken, H., 2013. An investigation of Spanish SME innovation during different economic conditions. *Journal of Small Business Management*, 51(4), 578-601. <https://www.tandfonline.com/doi/abs/10.1111/jsbm.12004>

Mahmood, K., Lanz, M., Toivonen, V., and Otto, T., 2018. A performance evaluation concept for production systems in an SME network. *Procedia CIRP*, 72, 603-608. <https://pdf.sciedirectassets.com/282173/1-s2.0-S2212827118X00079/1-s2.0-S221282711830341X/main.pdf>

McDermott Christopher M., Daniel I. Prajogo, 2012, Service innovation and performance in SMEs, International Journal of Operations & Production Management Vol. 32 No. 2, 2012 pp. 216-237. <http://dx.doi.org/10.1108/0144357121120863>

Meekaewkunchorn, N., Szczepańska-Woszczyna, K., Muangmee, C., Kassakorn, N., and Khalid, B., 2021. Entrepreneurial orientation and SME performance: The mediating role of learning orientation. *Economics & Sociology*, 14(2), 294-312. <https://www.proquest.com/openview/208d9bf29d58b3043251016b44ada014/1?pq-origsite=gscholar&cbl=1416337>

Ozen, O., and Ozturk-Kose, E., 2023. Management innovation: The role of internal, external factors, and business group affiliation. *Journal of Business Research*, 164, 113964. <https://doi.org/10.1016/j.jbusres.2023.113964>

Patel, P., and Pavitt, K., 1997. The technological competencies of the world's largest firms: complex and path-dependent, but not much variety. *Research policy*, 26(2), 141-156. <https://d1wqxts1xzle7.cloudfront.net/118452216/s0048-733328972900005-x20240926-1-5kqtme-libre.pdf>

Psomas, E. L., Pantouvakis, A., & Kafetzopoulos, D. P., 2013. The impact of ISO 9001 effectiveness on the performance of service companies. *Managing Service Quality: An International Journal*, 23(2), 149-164. <http://dx.doi.org/10.1108/09604521311303426>

Rahman, N. A., Yaacob, Z., and Radzi, R. M. (2016). An overview of technological innovation on SME survival: a conceptual paper. *Procedia-Social and Behavioural Sciences*, 224, 508-515. <https://doi.org/10.1016/j.sbspro.2016.05.427>

Ramayah, T., Yan, L. C., and Sulaiman, M., 2005. SME e-readiness in Malaysia: Implications for Planning and Implementation. *Sasin Journal of Management*, 11(1), 103-120. https://www.researchgate.net/profile/T-Ramayah/publication/238692828_SME_e-readiness_in_Malaysia_Implications_for_Planning_and_Implementation/links/00b7d52d3f44d86e26000000/SME-e-readiness-in-Malaysia-Implications-for-Planning-and-Implementation.pdf

Rujirawanich, P., Addison, R., and Smallman, C., 2011. The effects of cultural factors on innovation in a Thai SME. *Management Research Review*, 34(12), 1264-1279. <http://dx.doi.org/10.1108/01409171111186397>

Stuart, T. E., and Podolny, J. M., 1996. Local search and the evolution of technological capabilities. *Strategic management journal*, 17(S1), 21-38. https://d1wqxts1xzle7.cloudfront.net/84359711/Local_search_and_the_evolution-libre.pdf

Tejaningrum, A., 2020. Relationship of total quality management to quality product and corporate performance. *Malaysian E Commerce Journal (MECJ)*, 4(1), 20-23. <http://doi.org/10.26480/mecj.01.2020.20.23>

Tidd, J. and Bessant, J., 2010. *Managing Innovation: Integrating Technological, Market and Organisational Change*. 4th Ed. West Sussex: John Wiley and Sons. Ltd.

UU No 20 tahun 2008, tentang usaha kecil menengah Republik Indonesia

Wellalage, N. H., and Fernandez, V., 2019. Innovation and SME finance: Evidence from developing countries. *International Review of Financial Analysis*, 66, 101370. <https://researchcommons.waikato.ac.nz/server/api/core/bitstreams/a6cd2efc-9ede-401a-ae62-30ca1adfca6d/content>

Wu, Z., and Peng, X., 2022. Exploratory versus exploitative innovation: SME performance implications of managerial ties and empowering leadership in China. *Asian Journal of Technology Innovation*, 30(2), 313-341. <https://doi.org/10.1080/19761597.2020.1848439>

Zygmunt, J., 2020. The effect of changes in the economic structure on entrepreneurial activity in a transition economy: the case of Poland. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 15(1), 49-62. <http://dx.doi.org/10.1287/orsc.1110.0650>