Relation Between E-Commerce Implementation, Product Innovation, Financial Knowledge And Risk Taking On The Performance Of Smes

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The contribution of SMEs to Gross Domestic Income and labor absorption shows how important they are to the growth of the Indonesian economy. By creating new jobs and absorbing a large number of workers, SMEs lower unemployment rates and contribute to the reduction of poverty rates. Businesses in the small and medium-sized enterprise (SME) sector are resilient to economic downturns and market fluctuations. SME potential must therefore be increased. The purpose of this study is to estimate and evaluate how SMEs' performance is impacted by the use of e-commerce, product innovation, financial literacy, and risk-taking. In this study, 100 small and medium-sized enterprises served as the sample. Purposive sampling is the method used for sampling, and the respondent criterion is that SMEs' asset sizes fall between small and medium. SMEs that manufacture goods. SMEs with e-commerce implementations. Warp PLS is used by the analysis tool. The study's findings indicate that, while risk-taking has no effect on SMEs' success, e-commerce deployment, product innovation, and financial literacy.

Keywords: SMEs Performance, Implementation of E-commerce, Product Innovation, Financial Knowledge, Financial Management Model, Risk Taking.

INTRODUCTION

Performance of Small and Medium Enterprises (SMEs) assesses the state of the business within a certain period of time, based on the results or achievements affected by business operations and the utilization of available resources (Saraswati & Sudarmiatin, 2024). This performance is an important indicator to determine whether SMEs are successful in meeting their business objectives. SMEs have an important role in Indonesia's economic development, especially through their contribution to job creation. Technological advancement, e-commerce is emerging as an effective platform for SMEs to expand their markets and increase their labor productivity. Through the use of e-commerce, SMEs are able to improve the welfare of society in general and also contribute to economic growth on a global scale (Purwantini et al., 2024).

SMEs are necessary for the economy of Indonesia. There are 64.19 million SMEs in Indonesia as of right now, and they provide a noteworthy 60.5% of the country's GDP. Furthermore, SMEs employ 97% of the labor force in the country, which means they contribute significantly to job creation and unemployment reduction (Hidranto, 2022). Many problems that affect SMEs' ability to compete and stay a sustainable firm still need to be resolved. These obstacles include a lack of creativity, restricted access to technology, a lack of funding, inadequate human resources, and problems with marketing, branding, legality, certification, and standardization (Gamage et al., 2020). The difficulties SMEs confront during the pandemic are getting more complicated, particularly when it comes to adjusting to the advancement of digital technologies.

SMEs have to adapt more swiftly and innovatively to the dynamic market as a result of the epidemic. Consequently, there is a pressing need to change SMEs through the use of digital technology (Limanseto, 2022). SMEs may increase their market penetration, boost operational effectiveness, and create more flexible business plans with the use of digital technology. In order to do this, SMEs need to have flexible strategies and abilities to take advantage of opportunities and increase their competitiveness in a market that is getting more and more congested (Savitri et al., 2021). Not only is the use of innovation and technology essential for overcoming obstacles, but it also opens up opportunities for future growth.

This also applies to SMEs. The number of SMEs in Indreagiri Hulu, Riau Province has significantly increased yearly. The number of SMEs was 1,902 business units in 2021 and grew to 2,264 business units in 2022, according to data from the Indragiri Hulu, Riau Province UMKM Office. The increase in SMEs is a sign of the community's enthusiasm for starting and running companies. But the caliber of business has not increased to match this expansion. The government has not noted any appreciable improvement in SMEs firms, as evidenced by the physical state of the small-scale enterprises that remain in Indragiri Hulu, Riau Province. There are still a lot of SMEs that began as tiny shops but now operate in larger commercial premises like shophouses. This suggests that the growth of businesses has stalled (Riaukepri, 2020). Lack of capital for their businesses is one of the problems preventing SMEs entrepreneurs from expanding their operations. The underuse of digital technology, such as e-commerce platforms, is another obstacle. Due to a lack of technical use in marketing, MSME products are unable to reach a bigger market, which results in limited customer access. In spite of these obstacles, it will be difficult for the government and business leaders in Indragiri Hulu, Riau Province, to support SMEs in growing more quickly.

Using e-commerce is one sort of marketing strategy to maintain sales and expand a business. There are a minimum of six advantages to integrating e-commerce into corporate operations: it increases output, lowers costs, provides companies more control over their offerings, improves the supply chain and distribution system, and fosters closer relationships between suppliers and customers.(Anisah et al., 2024). People's increased interest in shopping online for necessities rather than going outside during the pandemic is evidence of this. The impact of e-commerce adoption on SMEs performance has been demonstrated by a number of earlier research, such as Octavia et al., (2020), Kilay et al., (2022), and Anisah et al. (2024). Meanwhile, research by Tiandra et al., (2019) and Suhada et al. (2021) shows that the application of e-commerce has no effect on the performance of SMEs.

One of the most important things SMEs can do to stay competitive and raise the added value of their products is to innovate their products. Savitri and Syahza (2021), assert that To

survive in a market that is getting more and more competitive, SMEs must capitalize on innovation's potential. In order to better satisfy customer requests, this innovation entails the capacity to create entirely new products and improve ones that already exist. According to Saraswati and Sudarmiatin (2024), SMEs are compelled by the dynamic business environment to constantly innovate and adapt. They also highlighted the significance of assessing and creating new concepts in order to boost sales, earnings, and overall business performance. SMEs' capacity for innovation, which also creates value, strengthens their competitive advantage (Savitri et al., 2023). Prior research, including studies by Nur et al., (2024), Saraswati and Sudarmiatin (2024) and Razak et al., (2024), demonstrates that product innovation has a major role in enhancing MSME performance. However, there are also studies such as those conducted by Larios and Ferasso (2023) and Yaskun et al. (2023) which found that product innovation does not always affect SMEs performance. These results imply that, while innovation is crucial, it is not always the only element that determines SMEs' success; instead, creativity needs to be bolstered by other elements like effective leadership and a thorough grasp of the market.

SMEs will gain more from improved business performance and sustainability if their business actors are skilled in handling their money, which is crucial (Saria et al., 2023). SMEs who possess sound financial knowledge will be able to better manage their business finances, reduce debt ratios, save money, and have more focused finances (Foenay, 2021). According to studies by Foenay (2021), Saria et al., (2023) and Marissa and Fitriyah (2023) demonstrate that financial knowledge affects SMEs' performance. On the other hand, the findings of a study by Rosyadah et al., (2022) indicated that SMEs' performance is unaffected by financial expertise.

Another factor that affects SME performance is risk-taking. For SMEs employees, risk-taking is not just an act of bravery, but also a challenge that encourages them to make important decisions. These decisions are often related to opening new market opportunities and developing innovative products. As stated by Theresa and Hidayah (2022), SMEs employees who are able to innovate and carefully analyze and measure the risks that may be faced will have the potential to improve their business performance. This is in line with Suriani (2023), which shows that risk-taking has a positive influence on SMEs performance, in line with previous findings by Theresa and Hidayah (2022) and Pratono (2018). However, other studies such as those conducted by Dahlan et al., (2023) suggest different results, where risk taking does not show a significant effect on SMEs performance. This difference in research results reflects the existence of other factors that may also influence the relationship between risk-taking and SMEs performance, such as market conditions, the level of competition, and the internal readiness of businesses to face these risks.

The novelty in this study is analyze e-commerce implementation, because implementing e-commerce will make it easier for business actors to market, sell and transact and can expand market share. Then the authors add financial knowledge variables because financial knowledge is very important for business actors in seeing business financial health, optimizing the use of resources, and avoiding financial risks. Furthermore, this study aims to determine and analyze the effect of e-commerce implementation, product innovation, financial knowledge and risk taking on MSME performance.

LITERATURE REVIEW

Resource Based View (RBV) Theory

Resource Based View (RBV) theory explains that a company can achieve competitive advantage by relying on resources so that it can direct the company to be sustainable continuously (Barney Jay, 1986). The success of a company is determined by the resources and capabilities it has so that it can turn these resources into economic benefits. Resources have two types, namely intangible and tangible. Tangible resources, for example, are machines, medical devices, land, buildings, and so on while intangible resources such as expertise, perception, culture, and so on (Barney, 1991). This theory states that the sources of competitive advantage that are competitive and can continue to be sustainable in the company are resources that are valuable, rare, cannot be imitated, and there are no substitutes (Savitri and Syahza, 2019).

SMEs Performance

The performance of SMEs is an important indicator of the success of an enterprise over a certain period of time. According to Rosyadah et al. (2022), this performance is measured by evaluating the financial activities carried out by SMEs and reflects the extent to which the company achieves its goals. Meanwhile, Saraswati & Sudarmiatin (2024) emphasize that SME performance involves the completion of activities or tasks that achieve the organizational goals, vision and mission in various aspects such as finance, production, sales and marketing. This view suggests that the success of SMEs is not only measured in financial terms, but also includes various other operational aspects that support the overall performance of the company. Suriani (2023) believes that SME performance is the result or evaluation of the company's work, which is affected by the division of activities into tasks and roles within a certain period of time.

E-commerce Implementation

E-commerce is the process of buying and selling transactions using electronics such as telephones and the internet, e-commerce as a new concept that can describe the process of buying and selling goods or services on the internet (Anisah et al., 2024). Online sales or e-commerce is an application and business process that connects stores and consumers through electronic transactions that can help stores maximize product marketing (Octavia et al., 2020). Meanwhile, e-commerce or electronic commerce is a general term to express the process of selling and buying supported by electronic means (Sawlani, 2021).

Product Innovation

Product innovation is the development and application of new ideas or changes to the products offered by SMEs with the aim of increasing added value and meeting consumer needs (Razak et al., 2024). Product innovation is a functional improvement of a product that refers to changes that make a product more attractive so that it is seen and attracted by consumers (Nur et al., 2024). Meanwhile, according to Saraswati and Sudarmiatin (2024) product innovation is creating new products to meet consumer needs and desires, thus enabling buyers to buy products as expected.

Financial Knowledge

Financial knowledge is a person's mastery of things related to the financial world which consists of financial tools and financial skills (Foenay, 2021). Financial Knowledge is knowledge that refers to what individuals know about financial matters as measured by their level of knowledge of various financial concepts so that it helps in making better decisions regarding investment, financial management and debt management (Marissa and Fitriyah, 2023). Meanwhile, according to Rosyadah et al., (2022), namely a number of abilities and knowledge about finance that a person has to be able to manage or use a certain amount of money to improve living standards and aim to achieve business welfare.

Risk Taking

Risk-taking is an attitude of business actors that refers to the company's willingness to take advantage of opportunities in an uncertain business environment (Pratono, 2018). SMEs always face a risky environment so that they are faced with taking calculated risks for business sustainability. Risk taking refers to the willingness of SMEs to engage in activities that are uncertain but have a significant potential profit impact (Dahlan et al., 2023). Meanwhile, according to Suriani (2023) risk taking is a psychological aspect inherent in individuals resulting from a series of processes, including identification of alternative choices, assessment of consequences, assessment of consequences, evaluation of possibilities/opportunities, risk assessment and synthesis of information to make decisions.

Conceptual Framework and Hypothesis Development Development

Effect of E-commerce Implementation on SMEs Performance

The application of e-commerce can help SMEs improve business activities such as sales, procurement, and marketing by using electronic systems such as the Internet (Sawlani, 2021). By implementing e-commerce, SMEs can improve efficiency, save costs, increase control over goods, improve distribution chains/supply chains, help companies maintain better relationships with customers, and help companies maintain better relationships with suppliers (Anisah et al., 2024). Companies can improve their performance levels by expanding market share and increasing sales, accompanied by an increase in business profits (Octavia et al., 2020).

According to the Resources Based View theory, e-commerce can help UMKM businesses develop sustainable growth strategies that are aimed at increasing productivity through the use of information technology and internet resources. Because e-commerce makes transactions easier and more convenient for customers to complete whenever and wherever they happen, it may also greatly increase operational efficiency for firms and human resource management. According to the findings of the research by Octavia et al., (2020), Kilay et al., (2022), and Anisah et al., (2024), the findings indicate that e-commerce negatively affects UMKM employees' work lives. E-commerce is regarded as a business transaction platform that assists in growing businesses that would ultimately negatively impact the earnings of business owners. The hypothesis is as follows:

H1: The implementation of e-commerce affects the performance of SMEs.

Effect of Product Innovation on SMEs Performance

To stay competitive and raise the added value of their products, SMEs must harness the potential of innovation (Savitri and Syahza, 2021). According to Nur et al. (2024), product innovation is defined as a functional improvement of a product that can make it significantly more appealing than rival products in order to meet consumer needs, attract and retain customers, accelerate sales growth, and expand market segments / market growth.

These resources are scarce, valuable, non-replaceable, and unimitateable, according to Resource Based View (RBV) philosophy. (Savitri and Syahza, 2019). Entrepreneurs need to be able to assess, create, and present novel concepts and goods. Product innovation is a means for organizations to gain a competitive edge by satisfying market demands and by increasing sales, earnings, and overall business performance (Saraswati and Sudarmiatin, 2024). According to the findings of Nur et al., (2024), Saraswati and Sudarmiatin (2024) and Razak et al., (2024) which shows that product innovation has a positive effect on the performance of SMEs. So that based on the description above and previous research, the hypothesis is as follows:

H2: Product innovation affects the performance of SMEs.

The Effect of Financial Knowledge on SMEs Performance

Financial responsibility and financial literacy are strongly associated. Strong financial literacy is a prerequisite for responsible and efficient use of funds, spending restraint, investing, and timely payment of debts by business actors. Financial employees can benefit from having a basic understanding of finance, which can assist them manage their business's finances and give investors more confidence when seeking out new funding for the company's expansion. Business performance will increase over time if employees in SMEs businesses make sound financial judgments and possess sufficient financial understanding (Foenay, 2021).

In order to manage SMEs' financial resources effectively, the Resource Based View (RBV) theory highlights the significance of internal resources, particularly financial expertise. SMEs can manage finances, make the best use of resources, and steer clear of unforeseen financial issues by having a solid understanding of finances.

The Resource Based View (RBV) paradigm emphasizes the value of internal resources, such as financial expertise, in efficiently managing SMEs' financial resources. SMEs that are financially literate can manage funds, make the most use of resources, and steer clear of unforeseen financial issues. Business employee who have the ability or knowledge to use, allocate and manage financial resources effectively and efficiently will have an impact on business performance and sustainability (Foenay, 2021). This is consistent with studies (Foenay, 2021), (Saria et al., 2023) and (Marissa & Fitriyah, 2023) which show that financial knowledge affects the performance of SMEs. So that based on previous research and descriptions, the hypothesis of this study is as follows:

H3: Financial knowledge affects the performance of SMEs.

The Effect of Risk Taking on SMEs Performance

Risk taking is an important part of running and managing a business, business growth depends on operating the right level of risk. Business actors who take the right risks will provide great opportunities for the performance of the business being run (Pratono, 2018). Risk-taking SMEs

employee can attain greater long-term growth and profitability as well as the targeted performance (Zaato et al., 2020).

Risk-taking in the context of RBV encompasses human resources, such as intelligence and intellect, as well as a businessperson's capacity to accomplish organizational objectives. Appropriate risk-taking will open up new opportunities to increase sales growth and generate greater profits for the business. When a business takes profitable risks, investors will notice and be willing to lend money in the form of loans to grow into new markets, increase the number of products it offers to gain a greater market share, and hire more staff to manage operations (Merna and Al-Thani, 2018). Consistent with studies carried out by Suriani (2023), Theresa and Hidayah (2022) and Pratono (2018) stated that risk taking has a significant effect on the performance of SMEs. So that based on previous research and the description above, the hypothesis:

H4: Risk Taking has a positive effect on the performance of SMEs

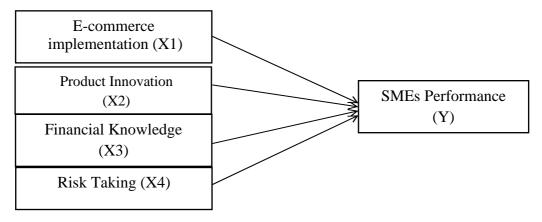


Figure 1: Research Model

Based on the chart above, it can be concluded that there is an influence between the variables of e-commerce implementation, product innovation, financial knowledge and risk taking on the performance of SMEs.

METHODS

Type and Source of Data

This type of research is quantitative research used to research on certain populations or samples, data collection and using research instruments, data analysis is quantitative / statistical, with the aim of testing predetermined hypotheses. With primary data sources obtained directly from the original source, namely the answers of respondents of MSME actors to interviews and questionnaires distributed. The research questionnaire refers to measuring variable indicators of e-commerce implementation, product innovation, financial knowledge, risk taking and SMES performance.

Population and Sample

The population in this study were 2.264 SMEs employees in Indragiri Hulu, Riau Province This study uses the slovin formula with a 10% error rate with the formula:

$$n = \frac{N}{N. (d^2) + 1}$$

Description:

n = Sample size

N = otal population

d = Real level or 10% error limit

The following is the sample calculation using the Slovin formula above:

Through the above calculations, it can be seen that the sample used in this study was 100 (rounded) for SMEs in Indragiri Hulu, Riau Province. The sampling technique in this study was purposive sampling, namely by selecting respondents who met certain criteria. The criteria for respondents in this study are: SMEs registered at the Indragiri Hulu, Riau Province SMEs Office, SMEs that are classified as small and medium, SMEs that produce products, and SMEs that have implemented e-commerce.

Data Collection Technique

This study uses a questionnaire method by providing sheets of questions or statements directly to SMEs actors to obtain information regarding the application of e-commerce, product innovation, financial knowledge and risk taking to SMEs performance. This questionnaire consists of an attachment to the respondent's identity, a list of statement items for each variable. In order to obtain a score for each variable, the statements in the questionnaire are measured based on a Likert measuring scale which has five points, namely strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5).

Table 1: Operational Definition and Measurement of Variables

Variable	Definition	Indicator
SMES	MSME performance is a form of	1. Sales growth rate
Performance	evaluation to see the extent of the	2. Capital growth rate
(Y)	success rate of a business in a certain	3. High labor growth rate
	period based on the financial activities	4. Broad market growth rate
	that have been carried out (Rosyadah	5. Profit growth rate
	et al., 2022).	(Rosyadah et al., 2022)

E-commerce (X1)	e-commerce or electronic commerce is a general term to express the process of selling and buying supported by electronic means (Sawlani, 2021).	1. Marketing 2. Sales 3. Payment (Sawlani, 2021).
Product Innovation (X2)	Product innovation is a functional improvement of a product that refers to changes that make a product more attractive so that it is seen and attracted by consumers (Nur et al., 2024)	1. Product Line Expansion 2. Imitation / imitation products 3. New product (Nur et al., 2024)
Financial Knowledge (X3)	Financial knowledge is a number of abilities and knowledge about finance that a person has to be able to manage or use a certain amount of money to improve living standards and aim to achieve business welfare (Rosyadah et al., 2022).	1. General financial knowledge (general knowledge) 2. Savings and loans (saving and borrowing) (Rosyadah et al., 2022).
Risk Taking (X4)	isk taking is the attitude of business actors that refers to the company's willingness to take advantage of opportunities in an uncertain business environment (Pratono, 2018)	 Dare to make decisions Innovate Confidence in taking opportunities. (Pratono, 2018)

Data Analysis Method

The data analysis method used in this research is path analysis using Structural Equation Modeling (SEM) with the help of the warp PLS 8.0 program. PLS is an alternative method in Structural Equation Modeling which is used in order to overcome the problems that arise with very complex variables but small data sample size dimensions. PLS describes latent variables (not directly measured) and is measured using indicators (Willy et al., 2015)

RESULTS AND DISCUSSION

Description of Respondents

Table 2: Results of Respondent Demographic Data

N	No.	Respondent Characteristics	Description	Number of Respondents	Percentage
1	1. Gender	a. Male	46	46%	
1		b. Famale	54	54%	

2.	Age	a. 17-25 years b. 26-35 years c. 36-45 years d. 46-55 years e. 56-65 years	5 28 41 19 7	5% 28% 41% 19% 7%
3.	a. Crafts b. Convection and fast		5 25 25 6 39	5% 25% 25% 6%
4.	Education level	a. Junior high school/middle school b. Sunior high school c. D3 d. S1/D4	4 56 3 37	4% 56% 3% 37%

Source: Processed Data, 2024

Based on table 2 of the characteristics of respondents based on gender, the majority of SMEs in Indragiri Hulu, Riau Province are female, namely 54 people or around 54%. This is because women often need flexible time as housewives and workers so that managing this MSME is one of the suitable alternatives for women to do, often women have limited access to employment, so most MSME business actors are female.

Based on age group, respondents in the age range of 36-45 years dominated as many as 41 people or 41%. The 36-45 age range is often a time when individuals experience career changes or life transitions, such as wanting to have more control over work schedules or prioritizing family life, so starting an MSME business can be an attractive option in dealing with these changes.

Based on the type of business, the majority are trading/manufacturing businesses, namely 39 businesses or around 39%, this is because this type of business sells finished goods but also processes goods/produces its own goods. Based on the level of education, the majority of SMEs in Indragiri Hulu, Riau Province are high school graduates, namely 56 people or around 56%. this is due to limited employment opportunities for high school graduates and are motivated to start small and medium enterprises because they have relatively low capital and have a desire to be independent and not depend on office work

Table 3: Descriptive Statistics Results

Variable	N	Min	Max	Mean	Stdv
E-commerce implementation	100	1	5	4,38	0,578
Product Innovation	100	1	5	4,22	0,743
Financial Knowledge	100	1	5	4,26	0,722
Risk taking	100	1	5	4,15	0,545
MSME Performance	100	1	5	4,19	0,724

Source: Processed Data, 2024

From the table 3, it shows that the application of e-commerce has been implemented well, it can be seen that SMEs employee in Indragiri Hulu, Riau Province have implemented and utilized e-commerce features that can facilitate marketing, sales and business payments. Then, the mean value for the product innovation variable shows that SMEsproduct innovation in Indragiri Hulu, Riau Province is good, they have innovated products by adding new variants/types, new packaging and making new products inspired by existing trends.

Furthermore, the mean value for the financial knowledge variable shows that the financial knowledge of SMEs in Indragiri Hulu, Riau Province is good, it can be seen from the knowledge and ability of business owners to read and analyze financial reports to determine the financial health of the business. Then, the mean value for the risk-taking variable shows that the risk-taking of SMEs in Indragiri Hulu, Riau Province is good, they agree that taking risks can open up new opportunities in increasing sales growth. Furthermore, the mean value for the SMEs performance variable shows that the performance of SMEs in Indragiri Hulu, Riau Province is good based on sales growth, capital growth, labor growth, market growth and business profit growth.

Outer Model Measurement Results

1. Convergent validity

Convergent validity is carried out by looking at the value of the outer loading of each variable and can be strengthened from the AVE value of each variable. With an assessment of outer loading> 0.5 so it can be said that the questionnaire is valid. While the AVE (Average variance extracted) assessment of each variable must be> 0.5, which means that at least half can explain the indicator.

Table 4: Outer Loading

					Y			P-
	X1	X2	X3	X4		Type	SE	Value
X1_1	(0.868)	-0.534	0.031	-0.112	-0.176	Reflective	0.080	< 0.001
X1_2	(0.854)	-0.554	0.027	-0.011	-0.062	Reflective	0.080	< 0.001
X1_3	(0.857)	-0.487	0.016	-0.084	-0.108	Reflective	0.080	< 0.001
X1_4	(0.768)	-0.092	-0.247	-0.118	0.256	Reflective	0.082	< 0.001
X1_5	(0.840)	0.073	-0.370	-0.007	0.369	Reflective	0.081	< 0.001
X1_6	(0.909)	0.027	0.168	-0.163	0.033	Reflective	0.079	< 0.001
X1_7	(0.865)	0.161	0.178	-0.042	-0.009	Reflective	0.080	< 0.001
X1_8	(0.868)	0.052	0.196	-0.075	-0.142	Reflective	0.080	< 0.001
X1_9	(0.847)	0.007	0.066	-0.009	-0.120	Reflective	0.080	< 0.001
X1_10	(0.696)	0.324	-0.057	-0.136	0.194	Reflective	0.084	< 0.001
X1_11	(0.832)	0.126	0.016	0.083	-0.002	Reflective	0.081	< 0.001
X1_12	(0.773)	0.140	0.259	0.022	-0.013	Reflective	0.082	< 0.001
X1_13	(0.663)	0.346	-0.176	0.310	-0.174	Reflective	0.085	< 0.001

X1 14	(0.663)	0.346	-0.176	0.310	-0.174	Reflective	0.085	< 0.001
X1 15	(0.793)	0.316	-0.044	0.162	0.127	Reflective	0.082	< 0.001
X2 1	0.398	(0.728)	-0.128	-0.127	-0.014	Reflective	0.083	< 0.001
X2 2	0.539	(0.788)	-0.041	-0.108	-0.101	Reflective	0.082	< 0.001
X2 3	0.200	(0.860)	0.180	-0.138	-0.228	Reflective	0.080	< 0.001
X2 4	-0.016	(0.875)	0.065	0.005	-0.159	Reflective	0.080	< 0.001
X2 5	0.073	(0.865)	0.145	-0.035	-0.223	Reflective	0.080	< 0.001
X2_6	-0.103	(0.835)	-0.200	0.082	0.270	Reflective	0.081	< 0.001
X2_7	-0.261	(0.775)	-0.343	0.208	0.388	Reflective	0.082	< 0.001
X2_8	-0.041	(0.860)	-0.127	-0.021	0.305	Reflective	0.080	< 0.001
X2_9	-0.057	(0.841)	-0.043	-0.021	0.165	Reflective	0.081	< 0.001
X2_10	0.360	(0.644)	0.019	0.058	-0.060	Reflective	0.085	< 0.001
X2_11	-0.181	(0.811)	-0.019	0.109	-0.132	Reflective	0.081	< 0.001
X2_12	-0.066	(0.878)	0.224	-0.049	-0.125	Reflective	0.080	< 0.001
X2_13	-0.376	(0.877)	0.183	0.046	-0.038	Reflective	0.080	< 0.001
X2_14	-0.093	(0.832)	-0.155	0.002	0.075	Reflective	0.081	< 0.001
X2_15	-0.245	(0.753)	0.190	0.006	-0.111	Reflective	0.082	< 0.001
X3_1	-0.018	-0.030	(0.717)	-0.053	-0.134	Reflective	0.083	< 0.001
X3_2	0.114	0.053	(0.753)	0.161	-0.511	Reflective	0.082	< 0.001
X3_3	-0.223	0.137	(0.862)	0.178	-0.007	Reflective	0.080	< 0.001
X3_4	0.034	-0.047	(0.807)	-0.021	-0.361	Reflective	0.081	< 0.001
X3_5	-0.224	0.129	(0.882)	0.095	-0.036	Reflective	0.080	< 0.001
X3_6	0.163	-0.043	(0.801)	-0.065	0.395	Reflective	0.081	< 0.001
X3_7	0.133	0.123	(0.746)	-0.117	-0.417	Reflective	0.083	< 0.001
X3_8	-0.025	-0.048	(0.789)	-0.052	0.280	Reflective	0.082	< 0.001
X3_9	-0.099	-0.014	(0.791)	-0.055	0.231	Reflective	0.082	< 0.001
X3_10	0.196	-0.274	(0.807)	-0.098	0.497	Reflective	0.081	< 0.001
X4_1	0.162	-0.073	0.435	(0.556)	0.225	Reflective	0.087	< 0.001
X4_2	-0.129	0.176	0.061	(0.818)	-0.218	Reflective	0.081	< 0.001
X4_3	0.005	-0.204	-0.262	(0.788)	0.167	Reflective	0.082	< 0.001
X4_4	-0.129	0.176	0.061	(0.818)	-0.218	Reflective	0.081	< 0.001
X4_5	0.005	-0.204	-0.262	(0.788)	0.167	Reflective	0.082	< 0.001
X4_7	0.124	-0.007	0.630	(0.490)	0.096	Reflective	0.089	< 0.001
X4_8	0.342	-0.349	0.101	(0.648)	0.368	Reflective	0.085	< 0.001
X4_9	-0.319	0.428	-0.258	(0.767)	0.003	Reflective	0.082	< 0.001
X4_10	0.031	0.204	-0.080	(0.729)	0.146	Reflective	0.083	< 0.001
X4_11	-0.515	0.622	-0.294	(0.761)	0.174	Reflective	0.082	< 0.001
X4_12	0.269	-0.452	0.186	(0.796)	-0.288	Reflective	0.082	< 0.001
X4_13	0.145	-0.185	-0.075	(0.770)	-0.043	Reflective	0.082	< 0.001
X4_14	0.037	-0.074	0.052	(0.815)	-0.201	Reflective	0.081	< 0.001
X4_15	0.112	-0.105	0.059	(0.785)	-0.168	Reflective	0.082	< 0.001
Y_1	0.024	0.272	-0.078	0.024	(0.878)	Reflective	0.080	< 0.001
Y_2	0.167	0.020	-0.058	0.071	(0.881)	Reflective	0.080	< 0.001

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Y_3	0.152	0.077	-0.040	0.083	(0.893)	Reflective	0.079	< 0.001
Y_4	0.003	0.050	-0.041	0.035	(0.899)	Reflective	0.079	< 0.001
Y_5	0.059	-0.073	-0.034	0.071	(0.888)	Reflective	0.079	< 0.001
Y_6	-0.097	0.164	0.223	-0.055	(0.841)	Reflective	0.080	< 0.001
Y_7	0.132	0.021	0.108	0.105	(0.866)	Reflective	0.080	< 0.001
Y_9	-0.148	-0.179	0.266	-0.129	(0.699)	Reflective	0.084	< 0.001
Y_10	0.005	-0.022	0.197	-0.192	(0.763)	Reflective	0.082	< 0.001
Y_11	0.067	-0.128	-0.344	-0.064	(0.695)	Reflective	0.084	< 0.001
Y_12	0.085	-0.503	-0.420	-0.022	(0.743)	Reflective	0.083	< 0.001
Y_13	0.200	-0.565	-0.433	-0.041	(0.766)	Reflective	0.082	< 0.001
Y_14	-0.049	-0.389	-0.297	-0.052	(0.776)	Reflective	0.082	< 0.001
Y_15	0.060	-0.446	-0.305	-0.062	(0.799)	Reflective	0.081	< 0.001
Y_16	-0.076	-0.064	0.240	0.062	(0.861)	Reflective	0.080	< 0.001
Y_17	0.051	0.095	0.287	0.021	(0.886)	Reflective	0.080	< 0.001
Y_18	-0.357	0.429	0.014	0.111	(0.659)	Reflective	0.085	< 0.001
Y_20	0.323	0.050	-0.100	0.018	(0.786)	Reflective	0.082	< 0.001
Y_21	-0.036	0.465	0.017	-0.122	(0.790)	Reflective	0.082	< 0.001
Y_22	-0.230	0.423	0.136	-0.070	(0.862)	Reflective	0.080	< 0.001
Y_23	-0.105	0.028	0.169	0.029	(0.882)	Reflective	0.080	< 0.001
Y_24	-0.042	0.017	0.163	0.043	(0.875)	Reflective	0.080	< 0.001
Y_25	-0.248	0.134	0.177	0.067	(0.839)	Reflective	0.081	< 0.001
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Source: Processed Data Warp PLS 8.0, 2024

In the table 4, it can be seen that most of the indicators on each variable in this study have a loading factor greater than 0.5, which indicates that the indicator is considered valid.

2. Discriminant validity

Discriminant validity can be measured using the square root value of AVE and cross loading. If the AVE value> 0.5 is said to be valid. The cross loading value in the same indicator block must be greater than the correlation value between other latent variables.

Table 5 : AVE value results

Variabel	X1	X2	Х3	X4	Y
Composite					
Reliability	0,966	0,968	0,945	0,945	0,979
Cronbach's					
Alpha	0,962	0,964	0,936	0,936	0,978
AVE	0,656	0,668	0,635	0,554	0,675

Source: Processed Data Warp PLS 8.0, 2024

In table 5, shows all constructs have an AVE value greater than 0.5 for the risk-taking variable has the lowest AVE value, namely (0.554) and the product innovation variable has the highest AVE value, namely (0.668). The data above has met the minimum AVE value limit of 0.5. Then the next step is to compare the square root value of AVE with the correlation between

model constructs. The following summarizes the results of the data in this study regarding the correlation between constructs and the square root value of AVE.

Table 6: Results of Correlation Between Constructs and AVE Square Root Value

	X1	X2	X3	X4	Y
X1	(0.810)	0.788	0.684	0.557	0.796
X2	0.788	(0.817)	0.634	0.393	0.737
X3	0.684	0.634	(0.797)	0.453	0.789
X4	0.557	0.393	0.453	(0.744)	0.548
Y	0.796	0.737	0.789	0.548	(0.822)

Source: Processed Data Warp PLS 8.0, 2024

From table 6, the AVE square root value of the data on each construct is greater than the correlation value, the data above shows that the AVE square root value in parentheses for each construct is greater than the correlation value between the construct and other block constructs. These results indicate that discriminant validity is met, which means that the measured variable really measures and describes the variable and can distinguish it from the other constructs studied.

3. Composite Reliability

Reliability test using composite reliability and Cronbach's alpha values. A construct can be said to be reliable if the composite reliability value is> 0.7, while the Cronbach's alpha value is more than 0.6.

Tabel 7: Results of Composite Reliability and Cronbach's AlphaVariables

	Cronbach's	Composite	
Variabel	Alpha	Reliability	Decision
E-commerce Implementation	0.962	<mark>0.966</mark>	Reliabel
Product Innovation	<mark>0.964</mark>	<mark>0.968</mark>	Reliabel
Financial Knowledge	<mark>0.936</mark>	0.945	Reliabel
Risk Taking	0.936	0.945	Reliabel
MSME Performance	0.978	0.979	Reliabel

Source: Processed Data Warp PLS 8.0, 2024

In table 7 shows, the results of composite reliability and Cronbach's alpha, show that all variables have met the criteria because they have a Cronbach's alpha value> 0.6 and a composite reliability value> 0.7 so it is concluded that all variables have a high level of reliability or have a strong and consistent correlation so that the indicators and question items used are reliable.

Structural Model Testing Results (Inner Model)

Inner model testing is carried out to test the relationship between the dependent variable and the independent variable. The structural model test can be seen from the path coefficient value,

model fit test and R-square. This study uses four measures of model fit, namely the Average Path Coefficient (APC) index, Average R-Square (ARS), Average Adjusted R-Squared (AARS) and Average Block Variance Inflation Factor (AFVIF). These four fit measures are measured based on the p-value which must be <0.05.

Table 8: Output General SEM Analysis Results

	Indeks	P-Value	Criteria	Description
APC	0,208	0,007	P<0.05	Accepted
ARS	0,820	< 0.001	P<0.05	Accepted
AARS	0,810	< 0.001	P<0.05	Accepted
AVIF	2.948		AVIF<5	Accepted

Source: Processed Data, 2024

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Model Fit And Quality Indices	
Average path coefficient (APC) = 0.258 , P= 0.002	
Average R-squares (ARS) = 0.782 , P< 0.001	
Average adjusted R-squared ($\triangle \Delta RS$) = 0.772 P<0.001	

Average adjusted R-squared (AARS) = 0,772, P<0.001 Average block VIF (AVIF) = 2.667, acceptable if <5, ideally <3.3

Source: Processed Data, 2024

Based on the table 8, it is concluded that in these criteria the APC, ARS and AARS values have met the specified requirements because the p-value <0.05. Then the AVIF value is 2.667 which indicates that the AVIF value is <5, so it is concluded that the structural model is acceptable.

Furthermore, the R-Square value is as follows:

Table 9: R-squared Value

_	RSquared Coefficients
E-Commerce Implementation	
Product Innovation	
Financial Knowledge	
Risk Taking	
MSME Performance	0,78

Source: Processed Data, 2024

SMEs performance produces an R-squared value of 0.78. This means that 78% of SMEs performance variables are influenced by the variables of e-commerce implementation, product innovation, and financial knowledge, while the remaining 22% or others are likely to be influenced by other variables.

Hypothesis Testing Results

Hypothesis testing is carried out to determine the direction of the relationship between the independent variable and the dependent variable, by looking at the path coefficient value. If the results show a positive correlation coefficient, then the direction of the relationship is positive and vice versa. A hypothesis will be accepted or rejected based on its significance level, the significance level used in this study is 5%. If the p-value ≤ 0.05 , it can be concluded that it is significant and there is an influence between one independent variable on the dependent variable. The following shows a picture of the correlation between each variable which states the effect of e-commerce implementation, product innovation, financial knowledge and risk taking on SMEs performance.

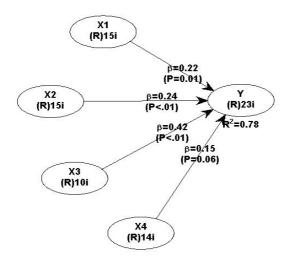


Figure 2: Processed Data Warp PLS 8.0, 2024

Based on Figure 2, the following information was obtained:

Table 8: Summary of Hypothesis Testing Results

Hypothesis Testing Results	Path Coefficient	P-values	Description
Implementation of e-commerce (H ₁)	0,22	0,011	Accepted
Product Innovation (H2)	0,23	0,008	Accepted
Financial Knowledge (H ₃)	0,42	<0,001	Accepted
Risk Taking (H ₄)	0,15	0,061	Rejected

Source: Processed Data, 2024

In table 8, shows that implementation of e-commerce, product innovation, financial knowledge have effects on SMEs performance. But risk taking has not effect on SMEs Performance.

DISCUSSION

The Effect of E-commerce Implementation on SME Performance

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The application of e-commerce affects the performance of SMEs. The higher the application of e-commerce in managing and running a business, it will improve the performance of SMEs and vice versa, if the lower the application of e-commerce, it will have an impact on reducing the performance of SMEs. Based on marketing indicators, SMEs have recognized that they already understand how to do marketing through e-commerce such as Shopee, Tokopedia, Gojek, Grab. E-commerce makes it easy to market products with various features such as product search and filtering features, product page features, chat features that make it easy to communicate with customers so as to facilitate marketing and reach a wider market so as to facilitate transactions and boost sales turnover (Purwantini et al., 2024).

Based on sales indicators, business actors have understood how to make sales through e-commerce. The buying and selling process in e-commerce is faster and more efficient than traditional methods, customers can make purchases anytime and anywhere so that they can attract more consumers with a wider market, make it easier for consumers to access products and prices and information that can be accessed more quickly and accurately so as to facilitate the buying and selling process (Octavia et al., 2020). With increased demand, of course, additional labor is needed to assist business activities so that they can be completed in a shorter time, which in turn can increase business income/profit and support the overall improvement of SMEs performance.

E-commerce platforms have revolutionized payment methods for businesses, particularly for SMEs, by offering a variety of payment options that are both easy to implement and convenient for customers. Among these methods are electronic wallets such as Dana, Gopay, and OVO, as well as virtual accounts, mobile banking transfers, and debit or credit card transactions. These digital solutions enable faster, more secure, and efficient payment processes, making it easier for businesses to manage transactions. For SMEs, the ability to offer such a range of payment options significantly enhances the sales cycle. Payments can be processed quickly, ensuring a smoother transition from order to payment. This, in turn, saves time and reduces the risk of financial loss, as digital transactions tend to have lower error rates and are more secure compared to traditional methods. The integration of these payment systems also reduces transaction costs, increases data accuracy, and boosts overall business efficiency (Kilay et al., 2022).

This is in line with the RBV theory which states that companies must maximize existing resources as much as possible, in this case, namely the use of information technology such as e-commerce to facilitate sales, marketing and payments to support increased sales. The results of this study are supported by Octavia et al., (2020), Kilay et al., (2022), and Anisah et al., (2024) which show the results that e-commerce affects the performance of SMEs. However, this is different from research conducted by Tiandra et al., (2019) and Suhada et al., (2021) which state that the application of e-commerce has no effect on the performance of SMEs because not all SMEs have the capability to use and implement e-commerce to the fullest.

Effect of Product Innovation on SMEs Performance

Product innovation is essential for enhancing SMEs' performance. By developing or innovating the products they offer, SMEs can attract greater consumer interest, maintain sales, and ultimately increase profits (Prameswari et al., 2024). Product innovation enables SMEs to remain competitive in an increasingly tight market, as consumers tend to be drawn to new

products or those with added value. Conversely, if the level of product innovation is low, SMEs will struggle to capture consumer attention, leading to a decline in sales and a reduction in profits. This, in turn, negatively affects the overall performance of SMEs. Therefore, product innovation is not merely an option, but a necessity for SMEs to survive and thrive in the long term.

SMEs need to utilize the power of innovation to maintain competitiveness and increase the added value of SMEs products (Savitri & Syahza, 2021). With product innovation, indirectly the products sold are one step ahead compared to other products sold by competitors who do not innovate products, because modified products attract more consumer interest and attention so that there is sales growth, and increased profits (Nur et al., 2024).

SMEs growth has been reflected in the extension of their product lines, which they have achieved through updating more appealing packaging or by introducing new and distinctive flavors. When an SMEs has the latest innovations, indirectly the products sold are one step ahead compared to the products sold by competitors who do not innovate products so that they can meet consumer needs, add and retain consumers, accelerate growth and increase market growth (Nur et al., 2024).

Imitation products refer to a business strategy where new products are created by drawing inspiration from popular and highly demanded trends in the market. These products are designed and tailored to meet customer needs and preferences, ensuring the business remains relevant in a dynamic competitive environment. By following emerging trends, companies can respond to consumer demands more quickly and accurately, allowing for increased sales during specific periods. Imitation products are often developed to address specific needs within a certain time frame, enabling businesses to capitalize on the trend's popularity to maximize profits. This strategy also helps companies remain competitive and flexible in adapting to rapid changes in market demand.

Based on the indicators of new products, SMEs can create new products such as the royan terrace business, they produce new products with different designs, namely green chili cassava chips, special sesame royan chili chips. Their new products are rarely found so that they attract buyers to try unique products. New products can open up opportunities to enter new markets that were previously untapped. This expands market reach and creates new sales opportunities so that SMEs will continue to excel in business competition to achieve competitive advantage and encourage improved business performance (Saraswati and Sudarmiatin, 2024).

This product innovation is in line with the RBV theory that valuable, rare, non-imitable resources can create sustainable competitive advantage (Barney, 1991). This innovative ability represents intangible assets in SMEs, which ultimately strengthens the competitive advantage of SMEs (Savitri et al., 2023). If business actors always update their products in accordance with customer demand and tastes, they will be able to withstand competition.

The results of this investigation are consistent with previous research by Nur et al., (2024), Saraswati and Sudarmiatin (2024) and Razak et al., (2024) which state that there is an influence between product innovation on SMEs performance. However, this is different from the research conducted by Larios and Ferasso (2023) and Yaskun et al. (2023) which shows that product innovation has no effect on MSME performance, this is due to limitations in terms

of infrastructure, lack of training and assistance in increasing creativity and innovation for SMEs employee.

The Effect of Financial Knowledge on SMEs Performance

Financial knowledge has an effect on improving the performance of SMEs. With an increase in the knowledge and insight of business actors in managing and developing their business, it will have an impact on improving the performance of SMEs and vice versa, if the lower the knowledge and insight of business actors, it is difficult to develop their business, which has an impact on reducing the performance of SMEs.

Based on indicators of general financial knowledge, SMEs realize that it is important to have a basic understanding of the relevant financial aspects in managing a business. SMEs already have good financial knowledge, they need accounting in managing their business finances, they already understand how to read and analyze financial reports to see a picture of the health of their business and evaluate the overall business performance of the business. If MSME business actors have adequate financial knowledge, the business and financial decisions made will go in a better direction over time and encourage improved business performance (Foenay, 2021).

Based on the indicators of savings and loans, business actors recognize and have saved. By saving, SMEs can build a reserve of funds to meet urgent needs or for investment. This is also related to business owners' knowledge about loans. The majority of SMEs in Indragiri Hulu, Riau Province have more loans, this is because they need additional access to capital such as bank credit loans in managing and developing their businesses. With this loan, it can increase the growth of business capital for development and increase business sales.

In connection with the RBV theory which states that if the company has the ability to manage resources to be more valuable, rare, inimitable and irreplaceable, it will achieve growing performance and gain a sustainable competitive advantage (Barney, 1991). Financial Knowledge is one of the valuable and very important resources in managing a business. By increasing the financial knowledge of MSME actors and managers, it can help in managing business finances, conducting better financial planning, managing financial risks, optimizing the use of financial resources, and increasing profitability and achieving better overall performance.

This is in line with research Foenay (2021), Saria et al., (2023) and (Marissa and Fitriyah (2023) which state that there is an influence between financial knowledge on SMEs performance. However, in contrast to the results of research conducted by Rosyadah et al. (2022) which concluded that financial knowledge or financial knowledge has no effect on the performance of SMEs, this is due to the lack of financial knowledge possessed by business owners or employees in providing and using existing accounting information to develop businesses.

The Effect of Risk Taking on SMEs Performance

Risk taking cannot have an influence on improving the performance of SMEs. This could be due to its ineffective implementation or not carried out consistently, so that it does not have the expected impact on improving MSME performance. Risk does not always produce the desired results, SMEs often have limited resources, including capital, human resources, and market access. Risk-taking that is not supported by adequate resources or appropriate strategies

can result in loss or failure, so businesses need to carefully consider the risks to be taken and ensure that the steps taken to manage those risks are appropriate to their business needs and conditions.

On average, respondents agreed to take risks, but in practice, these risks are not applied in a way that can influence and improve SMEs performance. For example, in the "royan chips" business, they produced a new variant but did not conduct market research beforehand, did not see what demand was being sought after so that the demand for the new product was less attractive and caused losses. Another example is the Damsto clothing store, their business location is located in a small alley and they do not have the courage to move to a more strategic location in the middle of the , this is based on limited capital and resources to move locations. Lack of experience and knowledge in making risky decisions can cause these risks to have a negative impact on the performance of SMEs.

The results of this study do not support the RBV theory which is the theoretical basis for this study. The findings of this study indicate that there is a possibility that good risk taking cannot affect the performance of SMEs. This could happen because even though MSME business actors in Indragiri Hulu, Riau Province agree on average with the question items on the risk-taking variable, the level of risk may not be high enough to have a significant impact on improving SMEs performance. The findings of this study are in line with research by Dahlan et al., (2023) which shows that risk taking has no effect on the performance of SMEs, if MSME owners are less willing to take risks, the company's financial performance will be better due to limited business capital to take risks, but in contrast to research conducted by Suriani (2023), Theresa and Hidayah (2022) and Pratono (2018) which state that risk taking affects the performance of SMEs.

CONLUSION

Implementing e-commerce can facilitate marketing, sales, and payments, which will enhance the performance of SMEs. As a result, e-commerce adoption has an impact on SMEs' performance. Product innovation affects SMEs' success because it helps them satisfy the constantly shifting demands of the market, which enhances their performance. Financial information affects how well SMEs perform since it can give an indication of how healthy a company is and help secure further funding for expansion, both of which can boost SMEs' performance. The lack of resources, bravery, and experience in managing and taking on risks prevents SMEs from performing well, which impedes their ability to grow and develop.

SUGGESTION

SMEs need to be able to make the most of information technology when it comes to promoting their companies, always adjusting to shifting market demands. the government should serve as the foundation for any policies created in order to support the continued growth of SMEs. to serve as a guide and foundation for future studies that look into the performance of SMEs.

The implications of this study are that SMEs can maximize the implementation of e-commerce on various existing e-commerce platforms such as Shopee, Tokopedia, Lazada, Grab and increase knowledge about e-commerce through training/seminars to expand market share and increase sales. Identify successful product innovation strategies, so that SMEs can focus on developing products that meet market needs and have added value. Increase financial knowledge through financial training. Increase knowledge and increase experience in taking

risks, managing and producing effective risk levels and risk management so that it can improve SMEs performance.

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