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THE INFLUENCE OF ENTREPRENEURIAL CHARACTERISTICS AND BUSINESS CAPITAL ON PERFORMANCE IN SMES BASED ON SEAFOOD PRODUCTS MEDIATED BY PRODUCT INNOVATION IN TANJUNG JABUNG BARAT REGENCY

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ABSTRACT

The purpose of this study is to analyze and explain the influence of entrepreneurial characteristics and business capital on the performance of SMEs with product innovation as a mediating variable in SMEs based on seafood products in Tanjung Jabung Barat Regency. The research method used is a quantitative descriptive analysis method with primary data, a sampling technique using saturated samples with a total of 166 business actors. The analysis tool used by the SEM (Structural Equation Modeling) method, using Smart PLS ver 3, uses stages, namely outer model analysis, inner model, and indirect effect. The results of the study show that the characteristics of entrepreneurship, business capital, and product innovation directly affect the performance of SMEs based on processed food products in Tanjung Jabung Barat Regency. Business capital directly affects the innovation of products based on seafood products in West Tanjung Jabung Regency. Business capital affects the performance of SMEs based on seafood products in West Tanjung Jabung Regency, with product innovation as a mediating variable. Entrepreneurial characteristics have no effect on product innovation based on processed food products in West Tanjung Jabung Regency. Entrepreneurial characteristics have no effect on the performance of SMEs based on processed food products in West Tanjung Jabung Regency, with product innovation as a mediating variable.

Keywords: Characteristics of Entrepreneurship, Business Capital, Product Innovation, SME Performance

1.0 INTRODUCTION

SMEs based on processed seafood products can also enter the scope of the creative economy because they have their own characteristics. Because the culinary sector is also included in one aspect of the scope in the creative economy, namely the culinary industry involving restaurants, packaged food, and culinary experiences, is also part of the creative economy (Riswanto, Ari, et al., 2023). In line with the Ministry of Tourism and Creative Economy (Kemenparekraf), the creative economy is defined as a sector that depends on the welfare and creation of jobs on individual creativity, skills, and talents, by creating and utilizing creativity and creativity (Kemenparekraf, 2020).

The seafood sector, especially in coastal areas such as Tanjung Jabung Barat Regency, Jambi Province. Taking advantage of the great potential of existing marine resources. Fisheries are an economic activity that has a significant role in the economy of coastal communities, as well as contributing to the food security of a region. In addition, fisheries are a sector that depends on natural resources and contributes to economic development (Anna, 2019), and has the opportunity to be further developed into value-added products that can penetrate domestic and international markets. With the abundant utilization of marine potential, SMEs in this sector can play a strategic role in strengthening the local economy and opening wider markets and can encourage countries to increase competitiveness (Oum and Wang, 2020).

Based on the existing issues, SMEs play an important role in addition to contributing to the creation of the Gross Domestic Product (GDP), MSMEs also play a key role socially by reducing unemployment (Woźniak et al., 2019). SMEs are the main pillars for the industry, as well as encouraging a solid commercial sector, which spurs innovation and creativity in supporting and accelerating the industrialization process (Haryati et al., 2021). Thus, it is important to re-analyze how entrepreneurial characteristics and business capital affect the performance of MSMEs, with product innovation as a connecting variable, especially in the processed food sector. In some studies, SME performance is measured through two alternative indicators: increased production capacity and improved quality of products or services offered by companies (Exposito and Sanchis-Llopis, 2018). Innovation strategy is the most crucial factor for small and medium-sized industries, especially in improving operational reliability. (Hewitt & van Rensburg, 2020). Product innovation is one of the most important competitive factors for success, given the rapidly changing business environment. Therefore, the existence of innovation is expected to be able to overcome the obstacles faced by SMEs (Malerba and McKelvey, 2020).

Several perspectives are used to explain the characteristics of entrepreneurship, such as according to Doern et al. (2019), who state that entrepreneurship is the process of utilizing creativity and innovation in solving problems and finding opportunities to improve the quality of life. An entrepreneur is an individual who is able to identify and evaluate business opportunities and understand the resources needed to seize those opportunities, then take the right steps to achieve success. Thus, entrepreneurship is a behavior that directs resources towards the achievement of future goals using tricks and strategies in their business operations (Saraswati, 2020). There are four dimensions in entrepreneurial behavior, namely (1) individuals, (2) organization, (3) process, and (4) the environment. The soul of the individual will always be involved in business, including confidence, confidence in abilities in the business world, and the courage to face risks that are the hallmark of every entrepreneur (Adomako et al., 2018).

According to Artaya et al. (2018) describe the characteristics of entrepreneurship include (1) self-confidence; (2) focus on tasks and results; (3) Ability to take risks; (4) Leadership skills; (5) Creativity; and (6) Vision for the future. Meanwhile, according to (Adomako et al., 2018), it describes several characteristics of entrepreneurship, including (1) the drive to achieve excellence; (2) personal liability; (3) moderate risk-taking tendencies; (4) the ability to predict outcomes; (5) motivation through feedback; (6) energetic activities; (7) orientation to the future; (8) skills in organizing organizations; and (9) a cautious attitude towards financial management. In the same context, Malerba and McKelvey (2020) note that 13 entrepreneurial characteristics are not much different from the opinions of the two experts above, which include elements of motivation to return capital immediately and motivation to excel compared to others. Based on the opinions of various experts, the most important of all entrepreneurial characters is the power of individuals who feel able to organize all resources through a process to achieve the goal of making the environment a business habitat.

One of the crucial resources in running a business is business capital. Business capital is the result of the production process that is used again for further production activities (Era, 2020). In contrast to the more specific explanation (Shvets et al., 2019), capital can be in the form of cash, credit, the right to produce and sell a product or patent, as well as the machinery and buildings owned. Capital can also include total ownership rights over the investment amount, surplus, and undivided profits. This is more related to the description of the company's wealth and liabilities listed on the balance sheet, which indicates that capital constitutes a long-term fund for the company; all items on the right side of the

company's balance sheet, except current liabilities (Fatica, 2018). Thus, business capital includes the wealth and liabilities of individuals that are used to gain or increase wealth. In terms of the source, business capital can come from internal or external sources (Andjarwati et al., 2021).

A number of previous studies have revealed that entrepreneurial characteristics have a positive and significant effect on business performance (Saraswati, 2020). However, some studies also show that entrepreneurial characteristics have a negative and significant impact on business performance (Aisyah et al., 2017; Hyuk et al., 2019; Jin et al., 2017) examined the dimensions of entrepreneurial behavior related to business performance, and found that entrepreneurial traits such as confidence, courage to take risks, and leadership have a positive influence on business success.

In addition, the role of business capital is also important in obtaining optimal business performance. (Fatica, 2018) said that the business capital factor has a positive and significant influence on business growth, which is in line with the results of research (Shvets et al., 2019) which shows that Business Capital partially has a positive effect on business performance. Based on the above background, there are several reasons why this research is worth doing. First, West Tanjung Jabung Regency has great potential for the seafood industry. Second, the research model of SME operational performance related to entrepreneurial characteristics, business capital, and product innovation still needs to be reviewed considering that different findings were still found in previous studies.

2.0 LITERATURE REVIEW

Grand Theory Knowledge-Based View

Based on the theory of Knowledge-Based View (KBV), it is explained that the most important business management must be accompanied by knowledge; therefore, to achieve success in doing business, knowledge must be possessed by human resources. Company performance can be seen from various aspects such as leadership, being able to meet the needs of customers, being able to produce quality products, generating income, and most importantly, having a high level of knowledge (Ermawati & Arumsari, 2021).

Entrepreneurship

Entrepreneurship is the process of identifying, developing, and bringing a vision to life. The vision can be in the form of innovative ideas, opportunities, or a better way to run things. The result of this process is the creation of new businesses that are formed under conditions of risk or uncertainty. In line with developments and challenges such as the economic crisis, the understanding of entrepreneurship, both through formal education and training at all levels of entrepreneurial society, is developing. People who carry out entrepreneurial activities are called entrepreneurs. The question arises as to why an entrepreneur has a different way of thinking from humans in general. They be motivated, soul calling, perceptions, and emotions that are closely related to values, attitudes, and behaviors as superior human beings (Wicaksana & Rachman, 2018).

SME Performance

Performance is the success obtained by a person based on the activities carried out in carrying out their work (Puspitasari & Darwin, 2021). Business performance is the result of efforts made by an individual, which are completed through their tasks in the company within a certain period. These results are associated with a measure of the value or standards of the company for which the individual works. These measures include long-term profitability, increased sales, liquid resources, capacity to invest, and customer loyalty. (Latifah et al., 2021). Meanwhile, according to Fatica (2018). Business performance is the level of achievement of a company in a given period. Optimal business performance is characterized by good sales growth, continuously increasing profits, and continuous capital increases. According to Anifowose & Ghasemi (2022), measures the variables of SME business performance using several indicators, namely. SME customer satisfaction, 2. SME quality development, 3. SME cost management, 4. SME Responsiveness, 5. SME Productivity.

Characteristics of Entrepreneurs

Entrepreneurship is the ability to create new and unique things (Locke, 2000). Meanwhile, Doern et al. (2019) explained that entrepreneurship is the process of applying creativity and innovation in answering problems and finding opportunities to improve the quality of life. (Saraswati, 2020) states that an entrepreneur is an individual who is able to identify and evaluate every business opportunity as well as the resources needed to take advantage of it and take the right steps to ensure success. Therefore, entrepreneurship is a form of behavior that utilizes resources to achieve future goals by

using tricks and strategies through a process that makes the environment a business habitat. According to (Malerba & McKelvey, 2020), measuring the characteristics of an entrepreneur using several indicators, namely: 1. Motivation to return capital immediately, 2. Motivation to be the best, 3. Confidence, 4. Ability to manage assets, connections, and workforce, 5. Ability to manage risk

Business Capital

One of the important resources in running a business is business capital. Business capital is the product of production that is used again for further production activities (Era, 2020). However, (Shvets et al., 2019) explain in more detail that capital can be in the form of cash, credit, the right to produce and sell things, patents, machinery, buildings, as well as ownership rights over investment amounts, surpluses, and undivided profits. Capital is often interpreted as the wealth and liabilities of a company listed on the balance sheet, which means capital is the company's long-term funds; balance sheet except for short-term liabilities (Fatica, 2018). According to (Shvets et al., 2019), measuring the characteristics variables of entrepreneurship uses several indicators, namely: 1. Availability of Human Resources, 2. Access to Financing, 3. Infrastructure, 4. Community Involvement, 5. Government Policies.

Product Innovation

Product innovation is a process that involves the development and launch of new goods or services that offer superior features, benefits, or quality to products already on the market. Product innovation does not only include the creation of new goods, but can also include significant improvements to existing products, such as in terms of design, function, or the application of new technologies to improve the performance and attractiveness of products in the eyes of consumers. The goal of product innovation is to meet the changing needs of the market, improve customer satisfaction, and create a competitive advantage (Tryon, 2016). According to (Antunes et al., 2021), measuring product innovation variables uses several indicators, namely: 1. Different and innovative new products/services. 2. New and innovative technology. 3. Innovative products/services in the past two years. 4. Product/service innovation to increase market share and yield.

3.0 METHODOLOGY

Data analysis was carried out using the Partial Least Squares (PLS) method. PLS is a multivariate statistical technique that performs comparisons between multiple dependent variables and multiple independent variables. PLS is a variant-based SEM statistical method designed to solve multiple regressions when specific problems occur in the data, such as small research sample sizes, missing data, and multicollinearity (Ghozali, 2016). The selection of the PLS method is based on the consideration that in this study, there are three latent variables that are formed with formative indicators and form a moderating effect. The formative model assumes that a latent construct or variable influences the indicator, where the direction of the causality relationship is from the construct to the indicator or manifest (Ghozali, 2016). Furthermore, Ghozali states that the formative model assumes that indicators affect the construct, where the direction of the causal relationship is from the indicator to the construct (Ghozali, 2016). The PLS approaches the shift from measurement analysis of model parameter estimation to relevant prediction measurement. So the focus of analysis shifts from just estimating and interpreting the significance of parameters to the validity and accuracy of predictions.

Partial Least Squares (PLS) Method Measurement

The estimation of parameters in PLS includes 3 things, namely (Ghozali, 2016): 1) The weight estimate is used to create a latent variable score. 2). Path estimation that connects latent variables and load estimation between latent variables and indicators. 3). Means and location parameters (regression constant values, intercepts) for indicators and latent variables. Obtaining these three estimates, PLS uses a three-stage literacy process and each iteration stage produces an estimate. The first stage produces a weight estimate, the second stage produces an estimate for the inner model and the outer model, and the third stage produces an estimation of means and location (constant). In the first two stages, the iteration process is carried out with a deviation approach (deviation) from the mean value (average). In the third stage, the estimation can be based on the original data matrix and/or the results of estimating the weight and coefficient of the path in the second stage. The purpose is to calculate and locate the parameters (Ghozali, 2016).

Partial Least Squares (PLS) Steps

Here are the steps in the analysis with PLS (Ghozali, 2016): 1) Step One: designing a structural model (inner model). At this stage, the researcher formulates a model of the relationship between contracts. 2) Step Two: Designing a

Measurement Model (outer model) At this stage, the researcher defines and specifies the relationship between the latent construct and its indicator, whether it is reflective or formative. 3) Step Three: Constructing a path chart. The main function of building a path chart is to visualize the relationship between indicators and their constructs, as well as between constructs, which will make it easier for the researcher to see the model as a whole. The relationships between variables in the flowchart can help in describing the series of causal relationships between constructs of the theoretical model that has been built in the first stage. A flowchart depicting the relationship between constructs with arrows drawn straight, showing the direct causal relationship of one construct to another. Exogenous constructs are known as independent variables that are not predicted by other variables. An exogenous construct is a construct that is addressed by a line with one arrow tip (Ghozali, 2016). Measurement model equation:

Exogenous Constructs

$$X = \Lambda X \epsilon + \vartheta$$

Exogenous Constructs

$$X = \Lambda yn + \varepsilon$$

The mathematical equation in this study which has been explained in the path diagram, is the structural model equation (inner model) (Ghozali, 2016)*:*

$$\eta 2 = \gamma\xi + \beta 1\ \xi 1 + \beta 2\ \xi 2 + \varepsilon$$

$$\eta 1 = \gamma\xi + \beta 1\ \xi 1 + \beta 2\ \xi 2 + \eta 2 + \varepsilon$$

Information:

ξ1	= Entrepreneurial Characteristics (X1)
ξ2	= Working Capital (X2)
η1	= SME Performance (Y)
η2	= Product Innovation (Z)
λ	= Weight of Variable Latent Factor with Its Indicator
δ	= Measurement Error of Exogenous Latent Variable Indicator
ε	= Measurement Error of Endogenous Latent Variable Indicator
γ	= Direct Influence Coefficient between Exogenous Latent Variables and Endogenous Latent Variable
β	= Coefficient of Direct Influence between Endogenous Variable and Endogenous Latent Variable

Analytical Techniques

In this study, the analysis technique used is Partial Least Square (PLS). This PLS is a Structural Equation Modeling (SEM) equation model with an approach based on variance. According to (Ghozali, 2016) PLS is an alternative approach that changes from a covariance-based SEM approach to a variance-based approach. PLS is a powerful method of analysis that does not rely on many assumptions. This approach to Partial Least Square does not assume specific data. It can be nominal, category, sequential number, interval, and ratio. This data analysis uses Smart PLS software which uses a bootstrapping or random duplication method. This PLS technique is divided into two stages, namely: 1). Measurement model test, to test the validity and reliability of the design of each indicator. 2). Structural model test, to find out if there is an influence between variables between constructs.

4.0 FINDINGS AND DISCUSSION

The design of the PLS measurement model is important because it is related to indicators that are reflective or formative. The reflective model mathematically places indicators as sub-variables that are influenced by latent variables, so that these indicators are said to be influenced by the same factors, namely the latent variables. The model used in this study is reflective. This study uses SmartPLS software version 3.00 to perform inputs and calculations for each indicator. In the study, all latent variables had indicators that were reflective.

Convergent Validity Testing

Convergent validity aims to determine the validity of each relationship between an indicator and its latent construct or variable. There are two types of validity in PLS SEM, namely convergent validity and discriminant validity. Convergent validity means that a set of indicators represents a single latent variable and that underlying the latent variable.

Loading Factor

Outer loading testing is carried out to prove that an indicator in a construct has the largest loading factor in the construct it forms than the loading factor with other constructs. The results of the initial model calculation of the research can be seen in the following figure:

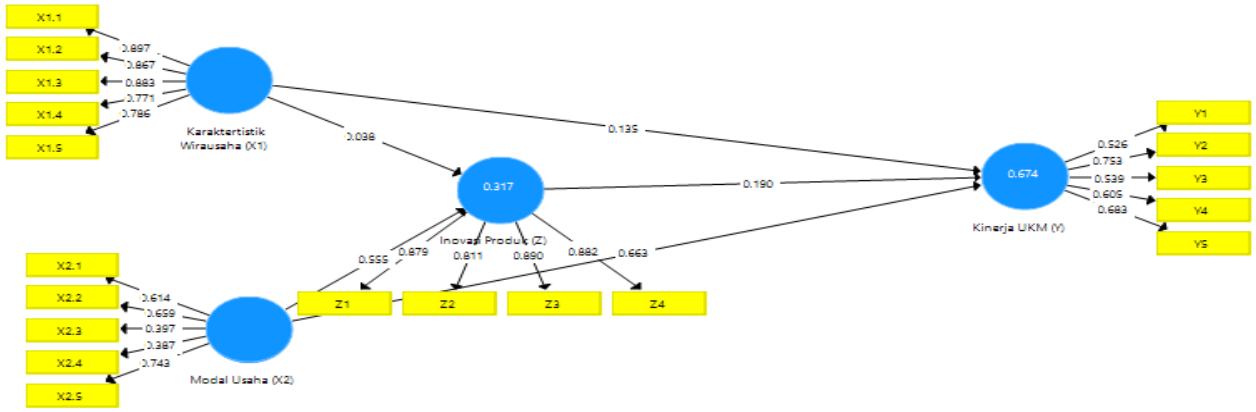

Figure 1.
Results of the Initial Research Model Calculation

Information:
Entrepreneurial Characteristics (X1)
Working Capital (X2)
SME Performance (Y)
Product Innovation (Z)
Source: Smart PLS 3 Processed Data (2025)

The image above is the first step to answer research objectives 1 to 7. The figure above shows that there are several indicators of the external loading value below 0.70 called the loading factor value, namely in the Business Capital (X2) variable indicators number 1, 2, 3 and 4, then for the SME Performance variable (Y) it is in numbers 1, 3, 4 and 5. For more details, please see the following table:

Table 1
Outer Loading

	Entrepreneurial Characteristics (X1)	Working Capital (X2)	SME Performance (Y)	Product Innovation (Z)
X1.1	0,897			
X1.2	0,867			
X1.3	0,883			
X1.4	0,771			
X1.5	0,786			
X2.1		0,614		
X2.2		0,659		
X2.3		0,397		
X2.4		0,387		
X2.5		0,743		
Y.1			0.526	
Y.2			0.753	
Y.3			0.539	
Y.4			0.605	
Y.5			0.683	
Z.1				0.879
Z.2				0.811
Z.3				0.890
Z.4				0.882

Source: Smart PLS 3 Processed Data (2025)

Based on Figure 1 and Table 1, it shows that there is a part of each loading factor variable that is below 0.70. The results of the calculation of the third model are considered unreliable because there are several loading factors that are below 0.70 according to the set criteria (Ghozali, 2016). From the loading factor test, there are some that do not pass or the loading factor value is below 0.70, then the indicators that do not meet the requirements are eliminated, the results of the model calculation after the elimination of some of these indicators are seen in the following image:

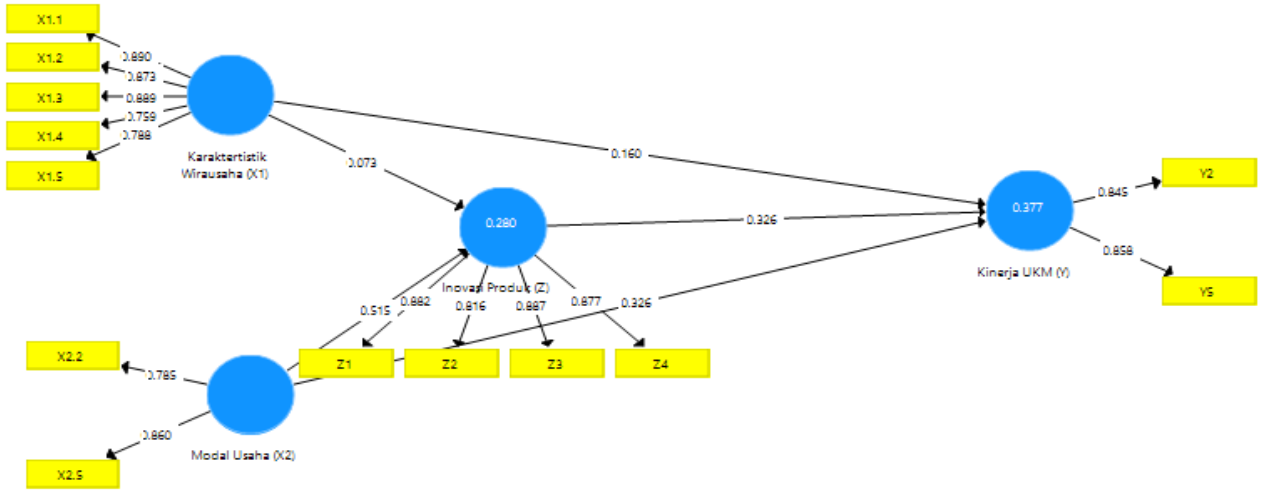

Figure 2.
Calculation Results of the Initial Model with Deleted Indicators

Information:
Entrepreneurial Characteristics (X1)
Working Capital (X2)
SME Performance (Y)
Product Innovation (Z)
Source: Smart PLS 3 Processed Data (2025)

After the removal is carried out, the outer loading table For more details, you can see table 2:

Table 2
Outer Loading

	Entrepreneurial Characteristics (X1)	Working Capital (X2)	SME Performance (Y)	Product Innovation (Z)
X1.1	0,890			
X1.2	0,873			
X1.3	0,889			
X1.4	0,759			
X1.5	0,788			
X2.2		0,785		
X2.5		0,860		
Y.2			0.845	
Y.5			0.858	
Z.1				0.882
Z.2				0.816
Z.3				0.887
Z.4				0.877

Source: Smart PLS 3 Processed Data (2025)

Figure 2 and Table 2 are the results after the removal of indicators that do not meet the requirements of the loading factor, so that it shows that all indicators of each variable have an outer loading value above 0.70, so it can be said that the variables are already in a realistic condition.

Average Variance Extracted **(AVE)**

Next, we move on to another measure to determine the convergent validity at the construct level, which is the average variance extracted (AVE). The provision in the outer measurement model that AVE is considered to have met the validity of the convergence if the AVE value is greater than the average of the extract variant with a value of 0.50. AVE value results are as follows:

Table 3
Average Variance Extracted Value

Variable	AVE Value	Information
Entrepreneurial Characteristics (X1)	0.750	Valid
Working Capital (X2)	0.708	Valid
SME Performance (Y)	0.725	Valid
Product Innovation (Z)	0.678	Valid

Source: Smart PLS 3 Processed Data (2025)

Table 3 shows that all of the AVE values above show a value of >0.50 where the AVE value of each construct or indicator on the variables characteristics of entrepreneurship (0.750), business capital (0.708), SME performance (0.725), and Product Innovation (0.678) can be declared valid. Based on this, it can be concluded that the construct has met the validity test at the convergence stage. The next stage is to conduct a discriminant validity test. In PLS testing that discriminant validity test uses cross-loadings. Cross-loadings are an approach that is carried out at the beginning in assessing the validity of the discriminant indicator and continued with Cronbah'c Alpha. The discriminant validity test uses cross loading values and is carried out to ensure that each concept of each latent variable is different from the other variables. The indicator is declared to meet discriminant validity if the cross loading value is greater than 0.70. The results of the discriminant validity test are as follows:

Table 4
Cross Loading

	Entrepreneurial Characteristics (X1)	Working Capital (X2)	SME Performance (Y)	Product Innovation (Z)
X1.1	**0,890**	0.139	0.230	0.132
X1.2	**0,873**	0.065	0.201	0.098
X1.3	**0,889**	0.162	0.269	0.183
X1.4	**0,759**	0.053	0.127	-0.022
X1.5	**0,788**	-0.019	0.055	0.053
X2.2	0.195	**0,785**	0.386	0.384
X2.5	0.030	**0,860**	0.461	0.474
Y.2	0.188	0.452	**0.845**	0.421
Y.5	0.230	0.429	**0.858**	0.462
Z.1	0.185	0.439	0.508	**0.882**
Z.2	0.053	0.506	0.380	**0.816**
Z.3	0.117	0.426	0.442	**0.887**
Z.4	0.119	0.448	0.463	**0.877**

Source: Smart PLS 3 Processed Data (2025)

Based on table 4, it can be seen that all indicators in the research variable have a cross loading value greater than 0.70. Based on the results obtained, it can be stated that the indicators used in this study have good discriminant validity in compiling the variables because all indicators have a cross loading value greater than 0.70. Based on the results obtained, it can be stated that the indicators used in this study have good discriminant validity in compiling their respective variables.

Reliability Testing

The composite reliability test is carried out to find out the value that shows the extent to which a measuring instrument can be trusted to be used. (Ghozali, 2016) All variables are declared reliable if the loading factor value is above 0.70. The composite reliability and Cronbach Alpa values of each variable can be seen in table 5 as follows:

Table 5
Composite Reliability

Variable	Composite Reliability	Cronbach Alpa	Information
Entrepreneurial Characteristics (X1)	0,924	0,904	Reliable
Working Capital (X2)	0,807	0,528	Reliable
SME Performance (Y)	0,841	0,621	Reliable
Product Innovation (Z)	0,923	0,888	Reliable

Source: Smart PLS 3 Processed Data (2025)

Based on table 5 of the results of the composite reliability test and Cronbach Alpa, it shows that the value of all variables can be said to be reliable because it has a composite reliability value greater than 0.70. This means that the variables of Entrepreneurial Characteristics (0.924), Business Capital (0.807), SME Performance (0.841), and Poduk Innovation (0.923) can be said to be realistic in the research data that can be used to produce the best research.

Inner Model Evaluation

Testing and evaluation of the inner model was carried out for the hypothesis of the influence of exogenous variables on endogenous variables by comparing the results of the p value of the path coefficient with the significance level of $\alpha = 0.05$. The test can be said to be very significant if the p value is less than or equal to 0.05 (p value $\leqslant 0.05$) or uses a table t-value of 1.96 with the criteria of rejecting and accepting the hypothesis, i.e. if the t-statistic > t calculates, the hypothesis is rejected, and if the t-statistic < t calculates, then the hypothesis is accepted. Structural model testing in SEM-PLS analysis uses SmartPLS.3 i.e. determination coefficient (R^2) to measure how far the model is able to explain the variance of bound variables. Ghozali (2016) revealed that the determination coefficient is a measure of the combined ability of exogenous latent variables to predict endogenous variable constructs, that is, the coefficient represents the sum of variance in endogenous constructs described by all exogenous constructs associated with it. The R^2 value ranges from 0 to 1, with higher levels indicating a higher level of prediction accuracy as with multiple regressions, the adjusted determination

coefficient (Adjusted R^2) is used as a criterion to avoid bias towards complex models. This criterion is modified according to the number of constructions of exogenous variables (Ghozali, 2016).

R Square

In assessing the model with PLS it starts by looking at the R-Square for each dependent latent variable (Ghozali, 2016). Table 4.16 is the result of R-square estimation using SmartPLS 3 in:

Table 6
R-Square Value

Variable	R-Square	Adjusted R Square
SME Performance (Y)	0.377	0.366
Product Innovation (Z)	0.280	0.271

Source: Smart PLS 3 Processed Data (2025)

Table 6 shows the results for the R-square value of SME performance of 0.377 and product innovation of 0.280. This shows the influence of entrepreneurial characteristics, and business capital on the performance of SMEs based on seafood products in West Tanjung Jabung Regency by 37.70 percent, including the category of quite strong. Then the influence of entrepreneurial characteristics, and business capital on product innovation based on seafood products in West Tanjung Jabung Regency of 28.00 percent is included in the category of quite strong. The internal evaluation of the model was carried out by bootstrapping test which produced the values of the R square and Q square determination coefficients, and hypothesis testing. The results of the internal model evaluation are described as follows.

Q Square

The test value of the Q^2 structural model is carried out by testing the value of Q^2 (predictive revelance). The value in Q^2 can be used to measure how well the observations are produced by the model and the estimation of its parameters. A Q^2 value greater than zero indicates that the model is good and a Q^2 value greater than 0 indicates that the model does not have predictive revelance.

Table 7
Construct Crossvalidated Redundancy

Variable	SSO	SSE	Q^2 (=1-SSE/SSO))
Entrepreneurial Characteristics (X1)	830.000	830.000	
Working Capital (X2)	332.000	332.000	
SME Performance (Y)	332.000	245.859	0.259
Product Innovation (Z)	664.000	530.667	0.201

Source: Smart PLS 3 Processed Data (2025)

Based on table 7, the value of Q2 is the endogenous variable of SME performance, which is 0.259 > 0 and product innovation is greater by 0.201 > 0 so that the predictions made are considered correct**.**

Model Structural Testing

In the analysis of PLS SEM, the value of the structural model in this study can be seen from the value of direct effects or the term is also called the path coefficient. Furthermore, the measurement of path coefficients between constructs is carried out to see the significance and strength of the relationship and also to test the hypothesis. By estimating the path coefficient, which is the estimated value for the path relationship in the structural model obtained by the bootsrapping method. This test aims to minimize problems with the research data. If the P-values are smaller than the predetermined significance ($P < 0.05$), the relationship between the variables can be considered significant. The test results using the bootsrap method from the PLS SEM analysis are:

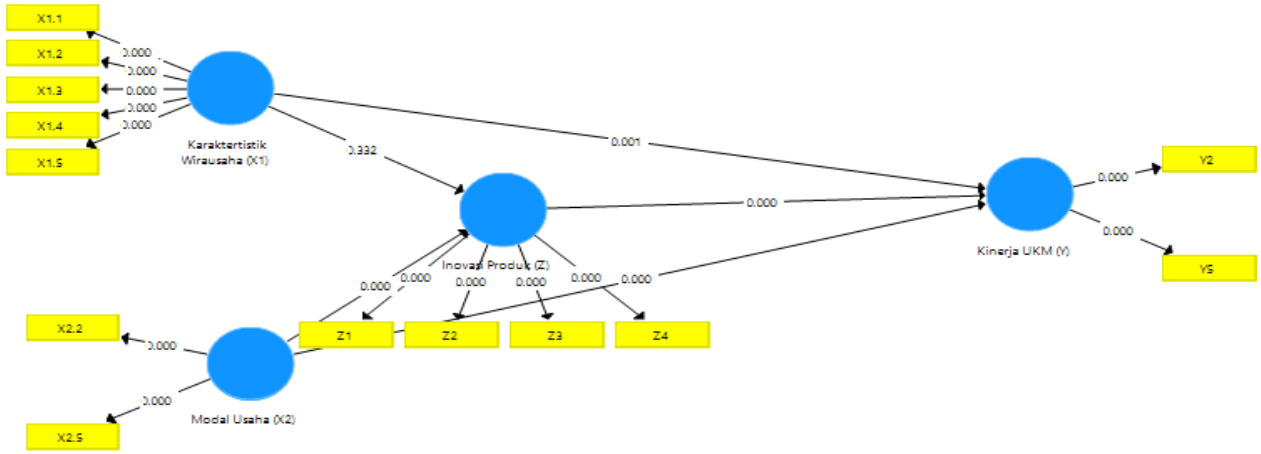

Figure 3
Bootstrapping

Source: Smart PLS 3 Processed Data (2025)

To find out the structural model in this study, you can see the following table:

Table 8
Path Coefficient

	Path Coefficient	P Values
Entrepreneurial Characteristics (X1) -> SME Performance (Y)	0,160	0.001
Entrepreneurial Characteristics (X1) -> Product Innovation (Z)	0,073	0.332
Working Capital (X2) -> SME Performance (Y)	0,326	0.000
Working Capital (X2) -> Product Innovation (Z)	0,515	0.000
Inovasi Produk (Z) -> SME Performance (Y)	0,326	0.000
Entrepreneurial Characteristics (X1) -> Product Innovation (Z) -> SME Performance (Y)	0,024	0.353
Working Capital (X2) -> Product Innovation (Z) -> SME Performance (Y)	0,168	0.000

Source: Smart PLS 3 Processed Data (2025)

Based on the results of the patch coefficient analysis in table 8 above, it can be concluded as follows: The direct influence of entrepreneurial characteristics has a significant effect on the performance of SMEs based on seafood products in West Tanjung Jabung Regency because the p value is 0.001< 0.05 and has a coefficient value of 0.160 which means that if the characteristics of entrepreneurs increase by one percent, the performance of SMEs based on seafood products in West Tanjung Jabung Regency can be increased by 16.0%. This influence is positive.

The direct influence of entrepreneurial characteristics does not have a significant effect on product innovation based on seafood products in West Tanjung Jabung Regency because the p value is 0.332 > 0.05 and has a coefficient value of 0.073 which means that if the entrepreneurial characteristics increase by one percent, the innovation of products based on seafood products in West Tanjung Jabung Regency can increase by 7.3%. This influence is positive.

The direct influence of business capital has a significant effect on the performance of SMEs based on seafood products in West Tanjung Jabung Regency because the p value is 0.000 < 0.05 and has a coefficient value of 0.326 which means that if business capital increases by one percent, the performance of SMEs based on seafood products in West Tanjung Jabung Regency can increase by 32.6%. This influence is positive.

The direct influence of business capital has a significant effect on the innovation of products based on seafood products in West Tanjung Jabung Regency because the p value is 0.000 < 0.05 and has a coefficient value of 0.515 which means that if the business capital increases by one percent, the innovation of products based on seafood products in West Tanjung Jabung Regency can increase by 51.5%. This influence is positive.

The direct influence of product innovation has a significant effect on the performance of SMEs based on seafood products in West Tanjung Jabung Regency because the p value is 0.000 < 0.05 and has a coefficient value of 0.326 which means that if product innovation increases by one percent, the performance of SMEs based on seafood products in West Tanjung Jabung Regency can increase by 32.6%. This influence is positive.

The indirect influence of entrepreneurial characteristics does not have a significant effect on the performance of SMEs based on seafood products in West Tanjung Jabung Regency through product innovation because the p value is 0.353 > 0.05 and has a coefficient value of 0.024 which means that if the characteristics of entrepreneurs increase by one percent, the performance of SMEs based on seafood products in West Tanjung Jabung Regency can increase indirectly through product innovation by 2.4%. This influence is positive.

The indirect influence of business capital has a significant effect on the performance of SMEs based on seafood products in Tanjung Jabung Barat Regency through product innovation because the p value is 0.000 < 0.05 and has a coefficient value of 0.168 which means that if the business capital increases by one percent, the performance of SMEs based on seafood products in Tanjung Jabung Barat Regency can increase indirectly through product innovation by 16.8%. This influence is positive.

Hypothesis Testing

The significance of the estimated parameters provides very useful information about the relationship between the study variables. The basis used in testing the hypothesis is the value found in the output result for inner weight. Table 9 provides the estimated output for the structural model test.

Table 9
Dirrect Effects

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Entrepreneurial Characteristics (X1) -> SME Performance (Y)	0,160	0,171	0,048	3,321	0,001
Entrepreneurial Characteristics (X1) -> Product Innovation (Z)	0,073	0,085	0,075	0,970	0,332
Working Capital (X2) -> SME Performance (Y)	0,326	0,326	0,085	3,832	0,000
Working Capital (X2) -> Product Innovation (Z)	0,515	0,513	0,071	7,250	0,000
Inovasi Produk (Z) -> SME Performance (Y)	0,326	0,318	0,076	4,272	0,000

Source: Smart PLS 3 Processed Data (2025)

Based on table 9 in the PLS testing statistically each hypothesized relationship is carried out using simulations. In this case, the Bootstrapping method is carried out on the sample. Testing with bootstrapping is also intended to minimize the problem of abnormalities of research data. The results of the test with bootstrapping from the PLS analysis are as follows:

Hypothesis Test of the Influence of Entrepreneurial Characteristics on SME Performance

The results of the hypothesis test showed that the relationship between the variable characteristics of entrepreneurship and the performance of SMEs based on processed food products in Tanjung Jabung Barat Regency showed a path coefficient of 0.160. The t-value of statistics is 3.321 > 1.96 and the P value is 0.001 less than 0.05 so that the H1 hypothesis is accepted. With these results, it can be stated that the variables of entrepreneurial characteristics have a positive and significant effect on the performance of SMEs. This means that if the characteristics of entrepreneurship increase, it will affect the performance of SMEs based on processed food products in Tanjung Jabung Barat Regency will increase.

Hypothesis Test of the Influence of Entrepreneurial Characteristics on Product Innovation

The results of the hypothesis test showed that the relationship between the variable characteristics of entrepreneurship and product innovation based on seafood products in Tanjung Jabung Barat Regency showed a path coefficient of 0.073. The t-value of the statistics is 0.970 < 1.96 and the P value is 0.332 greater than 0.05 so that the H2

hypothesis is rejected. With these results, it can be stated that the variable characteristics of entrepreneurship do not have a positive effect on product innovation. This means that if the characteristics of entrepreneurs are getting better, product innovation based on seafood products in Tanjung Jabung Barat Regency will increase.

Hypothesis Test of the Influence of Business Capital on SME Performance

The results of the hypothesis test showed that the relationship between business capital variables and the performance of SMEs based on seafood products in Tanjung Jabung Barat Regency showed a path coefficient of 0.326. The statistical t-value is 3.832 > 1.96 and the P value is 0.000 smaller than 0.05 so that the H3 hypothesis is accepted. With these results, it can be stated that the variable of business capital has a positive and significant effect on the performance of SMEs. This means that if the business capital is getting better, the performance of SMEs based on processed food products in Tanjung Jabung Barat Regency will increase.

Test of the Hypothesis of the Influence of Business Capital on Product Innovation

The results of the hypothesis test showed that the relationship between business capital variables and product innovation based on seafood products in Tanjung Jabung Barat Regency showed a path coefficient of 0.515. The t-values of 7.250 > 1.96 and the P values are 0.000 smaller than 0.05 so that the H4 hypothesis is accepted. With these results, it can be stated that the variable of business capital has a positive and significant effect on product innovation. This means that if the business capital is getting better, product innovation based on seafood products in Tanjung Jabung Barat Regency will increase.

Hypothesis Test of the Influence of Product Innovation on SME Performance

The results of the hypothesis test showed that the relationship between product innovation variables and the performance of SMEs based on seafood products in West Tanjung Jabung Regency showed a path coefficient of 0.326. The t-value of statistics is 4.272 > 1.96 and the P value is 0.000 less than 0.05 so that the H5 hypothesis is accepted. With these results, it can be stated that product innovation variables have a positive and significant effect on the performance of SMEs. This means that if product innovation increases, the performance of SMEs based on processed food products in Tanjung Jabung Barat Regency will increase.

In looking at the indirect effect, it can be explained in the results of indirectrect effects described in the following table:

Table 10
Indirrect Effects

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Entrepreneurial Characteristics (X1) -> Product Innovation (Z) -> SME Performance (Y)	0,024	0,027	0,026	2,930	0,353
Working Capital (X2) -> Product Innovation (Z) -> SME Performance (Y)	0,168	0,163	0,044	3,793	0,000

Source: Smart PLS 3 Processed Data (2025)

Hypothesis Test of the Influence of Entrepreneurial Characteristics on SME Performance through Product Innovation

The results of the hypothesis test showed that the relationship of entrepreneurial characteristics variables to the performance of SMEs based on seafood products in West Tanjung Jabung Regency through product innovation as a mediation variable showed a path coefficient of 0.024 with a t-statistical value of 2.930 < 1.96 and the P value of 0.353 greater than 0.05 so that the H6 hypothesis was rejected. With these results, it can be stated that entrepreneurial characteristics have a positive and significant effect on the performance of SMEs through product innovation. This means that through product innovation, it is not able to indirectly affect the characteristics of entrepreneurship on the performance of SMEs based on processed food products in West Tanjung Jabung Regency.

Test of the Hypothesis of the Influence of Business Capital on SME Performance through Product Innovation

The results of the hypothesis test showed that the relationship of business capital variables to the performance of SMEs based on seafood products in West Tanjung Jabung Regency through product innovation as a mediation variable showed a path coefficient of 0.168 with a statistical t-value of 3.793 > 1.96 and the P value of 0.000 was less than 0.05 so that the H7 hypothesis was accepted. With these results, it can be stated that business capital has a positive and significant effect on the performance of SMEs through product innovation. This means that through product innovation, it is able to indirectly affect business capital on the performance of SMEs based on processed food products in West Tanjung Jabung Regency.

5.0 CONCLUSION

The results of the study directly show that entrepreneurial characteristics affect the performance of SMEs based on processed food products in West Tanjung Jabung Regency. Entrepreneurial characteristics have no effect on product innovation based on processed food products in West Tanjung Jabung Regency. Business capital affects the performance of SMEs based on seafood products in West Tanjung Jabung Regency. Business capital has an effect on product innovation based on seafood products in West Tanjung Jabung Regency. Product innovation directly affects the performance of SMEs based on processed food products in West Tanjung Jabung Regency. The results of the research indirectly show that product innovation does not moderate the influence of entrepreneurial characteristics on the performance of SMEs based on processed food products in West Tanjung Jabung Regency. Meanwhile, product innovation is able to moderate the influence of business capital on the performance of SMEs based on seafood products in the Tanjung Jabung Barat Regency.

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