Characteristics and entrepreneurship behavior of strawberry farmers in Serang Village, Karangreja District, Purbalingga

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Abstract. Entrepreneurship is an important mechanism that facilitates the transfer of knowledge and skills that ultimately results in economic growth. Entrepreneurship is needed by strawberry farmers in Serang Village to face future challenges. This research aims to; 1) identify the internal and external entrepreneurial characteristics of strawberry farmers, and 2) analyze the influence of entrepreneurial characteristics on the entrepreneurial behavior of strawberry farmers. Respondents were determined using the census method, namely all 40 farmers who did strawberry farming. Data analysis using Structural Equation Modeling (SEM) with Partial Least Squares. The results of the study show several characteristics which are internal and external entrepreneurship. The characteristics of internal entrepreneurship are reflected by indicators of farming experience as well as age, education, and extroversion. Meanwhile, external entrepreneurial characteristics are reflected by the economic, social, physical, and institutional environments. In addition, the results also show that the characteristics of internal and external entrepreneurial characteristics of strawberry farmers have a positive and significant influence on entrepreneurial behavior. The results of this study indicate that level of institutional awareness needs to be increased in collaboration of strawberry farmers, even though strawberry farmers are independent, but to increase maximum yields certain parties are needed to help them.

1 Introduction

The development of the world economy towards a global market requires every entrepreneur to have an entrepreneurial spirit, including farmers engaged in agriculture. An important role of entrepreneurship is the ability to plan, implement, monitor, and evaluate ongoing agricultural enterprises. In agriculture, entrepreneurship plays a role in planning, implementation, monitoring, and evaluation. According to [1] in running an agricultural business there are two things that farmers need to have about the field of entrepreneurship, namely managerial competence and entrepreneurial spirit. Entrepreneurship is one way to

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improve the family and community economy, to create a better quality of life and environment in the future. Progressive farmers generally have high entrepreneurial competence, and always try to maximize profits through various innovations without fear of failure [2]. Farmers who have entrepreneurial competence can develop a good business plan, carry out the plan in their farming activities, carry out continuous monitoring and evaluation. [3] stated that today's farmers are required to have entrepreneurial competence to keep up with the rapid development of technology and information. These entrepreneurial competencies include the courage to take risks, be creative and innovative, confident, and the ability to make choices quickly and accurately.

The results of the research conducted by[4] show that entrepreneurial competence and business performance are influenced by the entrepreneurial characteristics of the managers. Business managers who have a high entrepreneurial character, strongly support the achievement of high entrepreneurial competence, as well as good business performance.

Strawberry (Fragaria sp.) is a fruit found in horticultural products that is easy to grow in subtropical climates with high economic value and many benefits, but technological advances have made strawberry cultivation one of the most important commodities in the world, especially in countries with tropical and subtropical climate [5]. One of the strawberry-producing area is in Serang Village, Karangreja District.

Based on the preliminary survey, it is known that the number of strawberry farmers has decreased compared to the previous year. In 2021, only 40 people will grow strawberries, while in 2020 there will be 110 people. most farmers are free to switch to other commodities or jobs, as a result. the Covid pandemic that causes social ills. Tourism conditions in several locations, including agro-tourism in Serang Village, which is the location for marketing or providing strawberry picking tours, have closed. This has a direct impact on strawberry farmers so strawberry farmers decline. farmers in facing the obstacles behind this research, the problem of economic conditions due to the covid pandemic, erratic behavior, the condition of seeds, and superior quality seeds whose prices are quite high. Many problems do not make all strawberry farmers give up, there are still strawberry farmers who persist to continue.

Strawberry farmers persist because they have faith that the condition of strawberries in Serang Village will improve in the future. Strawberry farmers are confident because they have experience and the location of Serang Village, that categorized as the center of strawberry farms in Purbalingga and also as an icon of tourist attractions in the village. Economic factors are not the only reason strawberry farmers survived, there are also entrepreneurial factors that make farmers survive until now. Farmers who survived dare to take risks to continue cultivating strawberries in Serang Village. The aims of this research are 1). examine the internal and external entrepreneurial characteristics of strawberry farmers and 2). studying the Effect of Entrepreneurial Characteristics on Entrepreneurial Behavior of Strawberry Farmers

2 Research Metode

This research was conducted in Serang Village, a village in the province of Purbalingga, Indonesia. This location was chosen because Serang Village is the only producer of strawberry plants in Purbalingga Regency, so the area is known as a strawberry agrotourism. This research was conducted in August 2021. Strawberry farmers in Serang Village, Karangreja District, Purbalingga Regency are the object of this research. This study was designed using the SEM method approach. The number of respondents was determined based on the opinion of Ghozali & Latan (2015) who stated that the minimum sample for partial least square (PLS) analysis was 30-100 samples in [4]. Therefore, the number of samples used in this study is 40 farmers who grow strawberries in 2021.

The research data were collected through interviews using a questionnaire that had been tested for its validity and reliability. Research variables include exogenous variables and endogenous variables. The exogenous variable has two variables, namely internal entrepreneurial characteristics and external entrepreneurial characteristics. The characteristics of internal entrepreneurship have four indicators, namely: (X.1.1) farming experience, (X.1.2) education, (X.1.3.) age and (X.1.4) extroversion ([6], [7], [8]). The variable of external entrepreneurial characteristics has four indicators, namely (X.2.1) the economic environment, (X.2.2) social environment, (X.2.3) physical environment and (X.2.4) institutional environment ([9]) While the endogenous variable is the entrepreneurial behavior of farmers which has four indicators, namely (Y.1.1) dare to take risks, (Y.1.2.) innovative, (Y.1.3.) responsive to opportunities and (Y.1.4) independent ([10], [11], [12]). Measurement of research variables using a five-point Likert scale with a scale of 1 = strongly disagree and 5 = strongly agree. The data analysis tool used is PLS (partial least square) which is component or variance based. According to Ghosali and Latan (2015) in [7] the PLS method does not require many assumptions, the data does not have to be normally distributed, and can be used to analyze data in the form of an ordinal to ratio scale.

The analysis of the measurement model was carried out in three stages. The first stage of testing convergent validity of each reflexive indicator, the second stage is testing discriminant validity on reflexive indicators, and the third stage is doing reliability testing composite on the latent variable.

3 Results and discussion

The results presented include the characteristics of farmers descriptively, as well as looking at the influence of the entrepreneurial characteristics of farmers internally and externally on the entrepreneurial behavior of strawberry farmers.

3.1 Farmer characteristics

Farmer characteristics are the characteristics of farmers who participated in this study. Internal characteristics, such as age, education, and how long they've been farmed. External characteristics include economic, social, material and institutional environment, and consists of 40 people

1. Internal Characteristics
   The results show that most strawberry farmers are in production age (15-60 years old), the average farmer's education level is primary school, and they have an average of 5-10 years of agricultural experience, and they have enough experience to operate strawberry farms.
2. External Characteristics
   The results showed that strawberry farmers in Serang Village showed a conducive economic environment, the social and physical environment was included in the very conducive category, but for the institutional environment it was categorized in the low category.

3.2 Analysis of the effect of entrepreneurial characteristics on farmer entrepreneurial behavior

1. The assessment of convergent validity is based on the correlation between item scores/component scores and construct scores as indicated by the loading factor of the indicators that measure the construct. The indicator is considered valid if it has a

loading value above 0.5. The results of the convergent validity test in Table 1 show that all indicators of internal entrepreneurial characteristics, entrepreneurial external characteristics, and entrepreneurial behavior meet convergent validity because there is no loading factor (original sample estimate) whose value is below 0.5

Table 1. Convergent validity test results table.

	Characteristics of Internal Entrepreneurship (X1)	**Characteristics of External Entrepreneurship (X2)**	**Entrepreneurial Behavior (Y)**
X1.1	0.828		
X1.2	0.825		
X1.3	0.814		
X1.4	0.820		
X2.1		0.853	
X2.2		0.801	
X2.3		0.837	
X2.4		0.761	
Y1.1			0.941
Y1.2			0.908
Y1.3			0.897
Y1.4			0.799

The discriminant validity test can be done with the Average Variance Extracted value. The construct is declared valid if it has an AVE value above 0.50. The method used to test the reliability is Cronbach's Alpha and composite reliability. If a construct has a Cronbach's Alpha value and composite reliability above 0.6 then the construct is declared reliable (Ghozali, 2008) in [4]. Table 2 shows that each construct is declared valid and reliable

Table 2. Discriminant validity and reliability test results.

Variable	**AVE value**	**Description**	**Composite Reliability**	**Cronbach's Alpha**	**Description**
Characteristics of Internal Entrepreneurship	0.675	Valid	0.893	0.841	Reliabel
Characteristics of External Entrepreneurship	0.662	Valid	0.887	0.829	Reliabel
Entrepreneurial Behavior	0.788	Valid	0.937	0.909	Reliabel

The goodness of fit evaluation of the structural model is measured by looking at the parameter coefficient values and looking at the R2 value obtained for each dependent latent variable with the same interpretation as the regression.[13]

Table 3. R-Square value of endogenous variables.

Description	**R Square**	**Description**
Entrepreneurial Behavior	0.783	Strong

Based on Table 3, the R-Square value of this study is 0.783, which means it has a value greater than 0.67 which is included in the strong category. This value indicates that the internal entrepreneurial characteristics variable and external entrepreneurial characteristics influence the entrepreneurial behavior variable by 78.3%, and the rest is influenced by other factors.

2. Entrepreneurial Characteristics of Strawberry Farmers

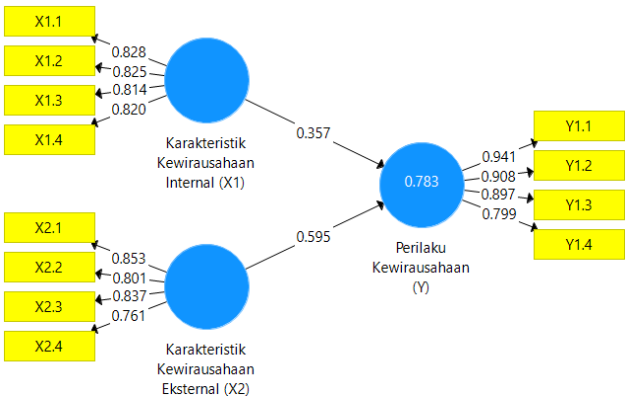

Fig.1. Output Inner and Outer Model on SmartPLS 3.

a. Variables of Internal Entrepreneurial Characteristics (X1)

Figure 1 shows that the internal characteristics of entrepreneurship have four manifest variables namely, farming experience, education, age, and extroversion. The loading factor value of farming experience has the highest value of 0.828, meaning that experience is very useful for farmers in running strawberry farming, with experience farmers can find out the challenges and how to overcome them both from planting, caring for, overcoming pests and diseases, harvesting, and marketing.

b. Variables of External Entrepreneurial Characteristics (X2)

Figure 1 shows that External Entrepreneurship Characteristics has four manifest variables, namely the economic environment, social environment, physical environment, and institutional environment. The variable that has the largest loading factor value is the economic environment, meaning that this variable provides the largest contribution to the formation of the external entrepreneurial characteristics of strawberry farmers.

3. Structural Model

A structural model or inner model is a model that presents the relationship between latent variables. The bootstrapping process is used to see the results of the path coefficients and t-statistic values shown in Table 4.

Table 4. Structural Model Path Coefficient Value.

Influence	Original Sample	Simple Mean	Standard Deviation	T Statistics	P Values
Characteristics of Internal Entrepreneurship → Entrepreneurial Behavior	0.357	0.366	0.124	2.883	0.004
Characteristics of External Entrepreneurship → Entrepreneurial Behavior	0.595	0.588	0.118	5.057	0.000

Table 4 shows that the internal entrepreneurial characteristics variable on the entrepreneurial behavior of farmers has a positive influence with a path coefficient of 0.357 and is significant at an error rate of 5%. This is indicated by the t-statistic value, which is greater than the value of 1.96, which is 2.883. The variable of the external characteristics of

entrepreneurship on the entrepreneurial behavior of farmers has a positive and significant effect with a path coefficient of 0.595.

The results of the study show that internal farmers play an important role in increasing strawberry entrepreneurial behavior. This finding is in line with research conducted by [10] and supports the opinion of [6], and [14] which states that internal characteristics are important factors that influence entrepreneurial behavior. Internal characteristics are reflected by four indicators, namely farming experience, education, age, and extrophet characteristics. Among the four indicators, farming experience has the largest loading factor (can be seen in Figure 1). Farming experience contributes greatly to the formation of entrepreneurial behavior, especially in the courage to face the risk of crop failure and market failure. This finding is in line with the opinion of [15].

The external characteristics of entrepreneurship as reflected by indicators of the economic environment, social environment, physical environment, and institutional environment have a positive effect on the entrepreneurial behavior of farmers. The results of this study are in line with the findings of [16]. The economic environment has the largest loading factor value, which is 0.853. This shows that the economic environment has an influence in reflecting external characteristics on the entrepreneurial behavior of strawberry farmers in Serang Village. Based on field's data, it is clear that the economy determines the behavior of farmers in risk-taking. The unstable economic conditions require farmers to be brave in carrying out all strawberry farming activities. The current economic environment also demands that farmers to provide innovation in various things, from cultivation to marketing. Responding to opportunities with current conditions needs to be utilized as much as possible so that even the smallest opportunities can be seen by farmers. The independence of farmers in doing their business can be seen clearly, with current conditions, farmers can still survive without the help of certain parties.

4 Conclusions and suggestion

4.1 Conclusion

Strawberry farmers in Serang Village, Karangreja District, Purbalingga Regency have characteristics it reflected by internal entrepreneurial characteristics, such as the indicator of farming experience with a loading factor value of 0.828 and age, education and extroversion indicators. External entrepreneurial characteristics are reflected by indicators of the economic environment with a loading factor value of 0.853 and there are also indicators of the social environment, physical environment, and institutional environment.

Internal entrepreneurial characteristics, and external entrepreneurial characteristics have a positive and significant influence on entrepreneurial behavior. In this study, it was also found that the entrepreneurial behavior of farmers was shown by the courage to take risks, responsive to opportunities, innovative, and independent. These characteristics and entrepreneurial behavior that make farmers persist in strawberry farming.

4.2 Suggestion

Strawberry farmers in Serang Village as farming actors should be able to have a group or other organization. The role of the organization is needed in various aspects to overcome various problems. The existence of an organization in addition to solve problems can also improve the welfare of farmers. The results of this study indicate that the level of institutional awareness needs to be increased in collaboration of strawberry farmers, even

though strawberry farmers are independent, but to increase maximum yields certain parties are needed to help them.

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