THE INFLUENCE OF ENTREPRENEURIAL COMPETENCE ON COFFEE FARM PERFORMANCE IN TANGGAMUS

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ABSTRACT

Background: Coffee farmers in Tanggamus, Lampung, operate small-scale farms with limited access to physical and non-physical resources, which can affect their farming performance. However, coffee productivity in Tanggamus is higher than the national average. Factors intrinsic to the farmers themselves are believed to be the main drivers of this enhanced farm performance.
Purpose: This study aimed to analyze the effect of entrepreneurial competence, specifically the ability to identify opportunities, pursue opportunities, and build networks, on the performance of coffee farming in Tanggamus.
Design/methodology/approach: The sample for this study was determined using a multistage random sampling method, resulting in a total sample size of 124. The analytical methods used were descriptive and PLS-SEM analyses.
Findings/Result: The study's findings indicate that the ability to identify opportunities has a significant effect on the performance of coffee farming, while the abilities to pursue opportunities and build networks do not significantly impact farm performance in Tanggamus.
Conclusion: This study underscores the importance of entrepreneurial competence in small-scale farming with limited resources. To improve coffee farming performance in Tanggamus Regency, farmers must be able to effectively identify opportunities.
Originality/value (State of the art): This study contributes to the literature on entrepreneurship among small-scale farmers in rural areas with limited resources. It examines the impact of farmers' internal entrepreneurial competence on the performance of their farming enterprises.

Keywords: identify opportunities, networking, pursue opportunities, small-scale farm, coffee farmer

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INTRODUCTION

Entrepreneurship is a form of human resource development currently being carried out in Indonesia, both in the field and in the research sector, one of which is entrepreneurial competency. Mulder et al. (2009) define competence as the ability to apply a set of integrated knowledge, skills, and attitudes in a particular position and field. Entrepreneurial competence is also important in agriculture. Farmers as entrepreneurs in rural areas on a small scale need entrepreneurial competence to have the ability to manage their farming business. Lans et al. (2011) found that farmers with strong entrepreneurial competencies were better at managing risks and adapting to market changes, which in turn improved their economic performance. Farmers who focus on entrepreneurial competencies can identify their weaknesses and take steps to address them, which can improve their financial performance (Nieuwoudt et al. 2017). Therefore, entrepreneurial competence in small businesses can be seen as the ability to apply knowledge, skills, and attitudes to identifying and realizing business opportunities related to innovation, diversification, and business growth. This shows that entrepreneurial competence, one of which is coffee, is needed to improve farming performance.

Coffee is a trading commodity in the plantation subsector, which has the opportunity to be developed in the context of efforts to increase state revenues and increase the income of entrepreneurs and farmers. This is evidenced by Indonesia's coffee production, which ranks fourth in world coffee production after Brazil, Vietnam, and Colombia, with most of Indonesia's coffee production exported to foreign countries and the rest marketed domestically (ICO 2023). In the global market, Indonesia's coffee export volume has reached 411,675 tons, with an average export value of 1,041,371,000 USD from 2011 to 2020 (Central Statistics Agency of Indonesia, 2022). Coffee consumption in Indonesia has also increased with an average annual growth rate of 3.8% from 2009/2010 to 2019/2020 (ICO, 2023). However, the development of coffee commodities in Indonesia is currently supported only by the cultivation and marketing sectors. Even though 98% of coffee plantations in Indonesia consist of smallholders (The Directorate General of Plantations 2020) who have low incomes, farmers have not fully mastered the cultivation technology, do not consider the market, subsistence production goals, and the family as providing the majority of the workforce (Heidhues and Brüntrup 2003; Narayanan and Gulati 2002).

Tanggamus is one of the central districts in Indonesia that produces coffee commodities (Central Statistics Agency of Indonesia, 2022). The majority of coffee farmers in Tanggamus Regency are small-scale smallholder farmers who carry out their farming activities in rural areas. Farmers in the area run coffee farms with a land area of 0.5-2 Ha (The Directorate General of Plantations, 2020). Coffee farming is run for generations by local farmers and predominantly uses family labor (Sulestiyon, 2021). In addition, farmers have limitations in accessing physical and non-physical resources that can affect their farming performance.

Farming performance is influenced by both internal and external factors (Saragih & Harmain, 2021). Internal factors are those that come from within the farmer, while external factors are those that come from outside the farmer. There are limited external factors experienced by farmers in rural areas, such as farmers who have not used superior seeds, cultivation techniques that are still simple, lack of established partnerships, slow rejuvenation of plants, and the lack of supporting facilities and infrastructure will affect the performance of coffee farming in Tanggamus, one of them is coffee productivity. Based on data from Dirjen Perkebunan, the productivity of smallholder coffee in Tanggamus was higher than that of national smallholder coffee in 2017-2019. Tanggamus Regency in 2019 with a value of 955.64 kg/Ha/year, while the highest difference in productivity was in 2018, which was 152.14 kg/Ha/year (Directorate General of Plantations, 2017-2019).

Both the national coffee productivity and coffee productivity in Tanggamus increased from 2017-2019. However, the average coffee productivity value in Tanggamus is higher (933.64 kg/Ha/year) than the national coffee productivity (793.21 kg/Ha/year). This reflects that through coffee productivity with limited external factors, farmers in Tanggamus still have good farming performance. Internal factors or those originating within the farmer are thought to be one of the main factors in improving the performance of coffee farming, including entrepreneurial competence. Research on entrepreneurial competence has been conducted, but this research is usually aimed at developing company managers or employees. Meanwhile, research on entrepreneurial competence

has not been widely conducted on small-scale farmers who tend to have limitations in running their farming businesses. Lans et al. (2011) developed an entrepreneurial competency framework in small-scale businesses, namely the ability to identify opportunities, pursue opportunities, and network. Syahroni et al. (2021) show that entrepreneurial competence has a positive and significant effect on business performance. The development of entrepreneurial competencies in Tanggamus is rare in the agricultural sector. This development is more commonly observed in the home industry sector, which includes small, micro, and medium-sized enterprises (SMEs). However, entrepreneurial competencies, which include knowledge, skills, and abilities, are crucial for farmers to face challenges in their agricultural operations (Zickafoose, 2023). Comprehensive entrepreneurial competencies are needed for farmers not only to manage their fields effectively, but also to explore new business opportunities, such as value-added products (Phelan & Sharpley, 2011). Therefore, it is important to develop entrepreneurial competencies among farmers, particularly coffee farmers, to enhance their performance of coffee farming in Tanggamus. Thus, this study aimed to analyze the impact of entrepreneurial competencies on the performance of coffee farming in Tanggamus.

METHODS

This study was conducted in Tanggamus from February to March 2021, which was chosen because Tanggamus is one of the areas with the largest contribution to coffee production in Lampung Province based on 2020 Indonesian plantation statistics. In addition, the majority of people in Tanggamus live as coffee farmers, producing the highest amount of coffee, and small-scale farmers. Data collection was conducted using a survey method through direct interview techniques guided by a previously prepared questionnaire. The questionnaire was made in Indonesian to minimize respondents' inability and confusion in understanding the survey. The questionnaire used a 7-point Likert scale ranging from strongly disagree to strongly agree. The sampling method used in this research was multi-stage random sampling, which is a combination of sampling clusters and random sampling. The sample consisted of 124 coffee farmers.

The research data were quantitatively analyzed using descriptive statistical analysis and PLS-SEM. Descriptive statistics were used to analyze the demographic characteristics of the coffee farmers. Furthermore, partial least squares (PLS-SEM) analyzes the influence of entrepreneurial competence on coffee farming performance in Tanggamus. SEM-PLS can manage complex models with multiple constructs and relationships, particularly when dealing with small samples and non-normal data distributions. PLS-SEM has two models: the measurement model (outer model) and the structural model (inner model). The measurement model is the relationship between all manifest or indicator variables (observed items) and the latent variables through convergent validity, discriminant validity, and composite reliability. The structural model explains the relationship between latent variables (Hair et al. 2019) through R-square and parameter coefficient values, as well as t-statistical significance values obtained through the bootstrapping procedure.

This study used the dependent variable of farm performance, measured through productivity (FP1) and profits (FP2). The dependent variables in this research consist of the following: the ability to identify opportunities is influenced by the analysis of alternative situations (AAS) and evaluation of opportunity (EO); the ability to pursue opportunities is influenced by active search (AS), experimentation (E), and implementation (I); and the ability to build networks is influenced by contact with alternative views (CAV), assessing what others find important (AI), integration of others' ideas (IOI), and using inter-organizational relationships (UIR). The list of variables and indicators in this research is as follows (Table 1).

Entrepreneurial competence is important in various fields of life, especially agriculture. Farmers as entrepreneurs in rural areas on a small scale need entrepreneurial competence in order to have the ability to manage their farming business. Man et al. (2002) have explicitly linked entrepreneurial behavior in small firms with individual competencies and revealed that competence entrepreneurship consists of opportunity competence, relational competence, conceptual competence, organizing competence, strategic competence and commitment competence. Based on these entrepreneurial competencies, Lans et al. (2011) revealed that farmers in small-scale farming must have entrepreneurial competence, which consists of

identifying and pursuing opportunities and networking. The ability to identify business opportunities is an entrepreneurial conceptual competency related to cognitive ability. Suryana & Burhanuddin (2021) showed that conceptual ability affects business performance. Sadiku-Dushi et al. (2019) argue that individuals who are highly focused on opportunities can leverage every available chance to improve their business performance. Lans et al. (2014) also states that small businesses that have analyzed/identified new opportunities in the last five years tend not to have low performance. Therefore, the first hypothesis tested in this study is: H1: Farmers' ability to identify opportunities improves their farming performance.

The ability of farmers to pursue opportunities is a follow-up to their ability to identify opportunities. This competency concerns the attitude component of entrepreneurial competence, such as taking initiatives and being proactive. Rahaman et al. (2021) find that proactiveness has an important impact on smallholders. Smallholders who have proactive and risk-taking attitudes are better able to adopt or produce more product innovations. Innovation has a positive impact on farming performance, as measured by farmer income (Etriya et al. 2018). Birds (2019) argues that entrepreneurial success is seen in entrepreneurs who add value to their businesses by effectively managing their resources and opportunities. Therefore, the second hypothesis tested in this study is: H2: Farmers' ability to pusuing opportunities will improve farming performance

The ability of farmers to build networks is an important aspect of social competence. Aulia (2020) states that social competence influences business performance. This competence can provide important information that can generate new entrepreneurial ideas or innovations that affect business performance (Lans et al. 2014). Etriya et al. (2019) states that small farmers who have networks with business content have a positive effect on innovation performance and farming financial performance. In addition, networks that contain people from diverse backgrounds provide diverse types of information that have a positive impact on innovation performance (Etriya et al. 2019). Therefore, the third hypothesis tested in this study is: H3: Farmers' ability to build networks improves their farming performance.

Table 1. Operational variable definition

Definition	Measurement	Source
Identify Opportunities		
Identifying opportunities is an entrepreneurial skill tied to conceptual abilities, involving the a The list of variables and indicators in this research is as follows.nalysis of core challenges and making predictions based on trends. This includes situation analysis and interpretation.	Analysis of Alternative Situations (AAS) Evaluation of Opportunity (EO)	Baron and Markman (2003), Baron (2006), Lans et al. (2011), and Lans et al. (2014)
Pursue Opportunities		
Pursue opportunities involves taking initiative and being proactive in seeking new opportunities and managing current practices.	Active Search (AS) Experimentation (E) Implementation (I)	Lans et al. (2011), Solomon et al. (2013), and Lans et al. (2014)
Networking		
Building networks reflects social competence, which includes 'getting through the door' by being responsive and adaptable, and managing networks through collaboration and openness to feedback.	Contact with Alternative Views (CAV) Assessing What Others Find Important (AI) Integration of Others' Ideas (IOI) Using Inter-organizational Relationships (UIR)	Lans et al. (2011), Lans et al. (2014), Pratiwi and Suzuki (2017), and Etriya et al. (2019)
Farm Performance		
A depiction of the results from achieving business activities in realizing the organization's goals, objectives, vision, and mission, as outlined through strategic planning.	Finance (FP1) Productivity (FP2)	Riyanti (2003) and Soekartawi (2003)

Coffee farmers in Tanggamus, Lampung, operate small-scale farms with limited access to physical and nonphysical resources, which can affect their farming performance. However, coffee productivity in Tanggamus is higher than the national average. Factors originating within the farmers themselves are believed to be the main contributors to the enhanced farm performance. Entrepreneurial competence is one such factor. In small-scale farming, entrepreneurial competence is influenced by the ability to identify opportunities, pursue opportunities, and build networks. In turn, this competence affects farming performance, which is measured by profitability and productivity. Figure 1 illustrates the relationship between entrepreneurial competence and farm performance.

RESULTS

The demographic characteristics of 124 participants are presented in Table 2. Male respondents accounted for 98.39%, and female respondents accounted for 1.61%. There were 10 respondents aged 21-30 years, 53 respondents aged 31-40 years, 33 aged 41-50 years, 20 aged 51-60 years and eight respondents aged above 60 years. Of the respondents, 44 responded at the high school level, while 42, 35, 2, and 1 at the elementary, junior high, diploma, and undergraduate levels, and 1 respectively. The area of land owned by coffee farmers is dominated by the range of 0.51-1.00 Ha. 72.58% of farmers make coffee as the main source of income in their households. 51 (40.32%) respondents had experience in coffee farming ranging from to 11-20 years.

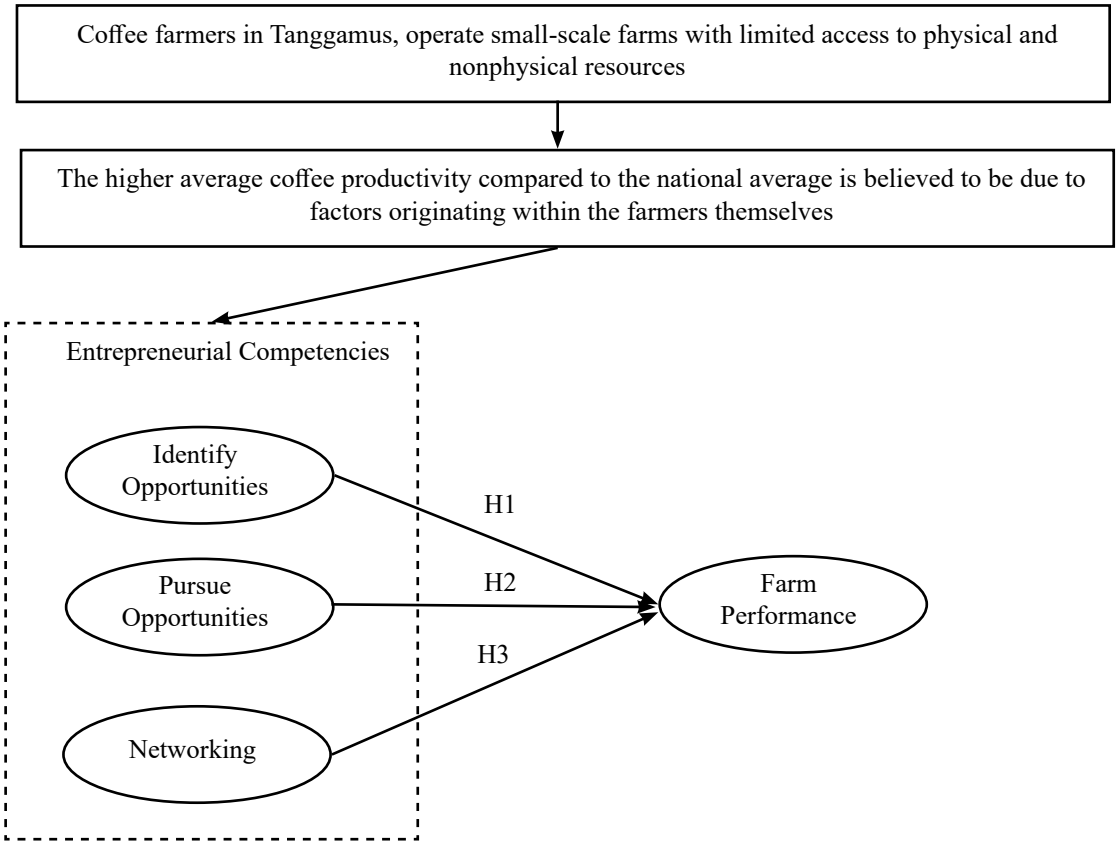

Figure 1. Research framework

Table 2. Characteristics of respondens

Demographic category		Frequency	Persentage (%)
Gender	Male	122	98.39
	Female	2	1.61
Age	21–30 years	10	8.1
	31–40 years	53	43.7
	41–50 years	33	27.6
	51–60 years	20	16.1
	> 60 years	8	6.5
Education level	Primary school	42	34.9
	Junior high school	35	28.2
	Senior high school	44	35.5
	Diploma	2	1.6
	University	1	0.8
Land Area	0.25–0.50 Ha	6	4.8
	0.51–1.00 Ha	59	47.6
	1.10–1.50 Ha	26	21.0
	1.51–2.00 Ha	33	26.6
Farm status	Main	90	72.58
	Side	34	27.42
Farming experience	1–10 years	29	23.4
	11–20 years	51	41.1
	21–30 years	24	19.4
	31–40 years	16	12.9
	> 40 years	4	3.2

This study was analyzed using Structural Equation Modeling with Partial Least Squares (PLS-SEM) and processed with SmartPLS software. The PLS-SEM method includes two sub-models: the outer model (measurement models) and the inner model (structural models). The evaluation of the outer model in this study was conducted in two stages: first, evaluating the first order constructs, which are formed by their indicators, and second, evaluating the second order constructs, which are formed by the first-order constructs. First order constructs with reflective indicators were evaluated for convergent and discriminant validity and composite reliability. Convergent validity aims to determine the validity of each relationship between indicators and constructs, or latent variables (Hair et al. 2019). An indicator was declared to have a high level of validation if it had a loading factor greater than 0.70. However, for research that is exploratory (research that has not been done much) an indicator is declared valid if it has a value loading factor 0.60 to 0.70 with grades Avarage Variance Extracted (AVE) must be greater than 0.50 (Hair et al. 2019).

Based on Table 3, 36 indicators are declared valid with loading factors ranging from 0.615 to 0.916 and AVE values for each variable > 0.50, so it can be concluded that the indicators in this study are able to describe the latent variables. Furthermore, the outer model was evaluated for its discriminant validity. The evaluation was carried out by comparing the AVE square root value of each construct with the correlation between the construct and other constructs in the model. If the AVE square root value of each construct is greater than the correlation value between the construct and the other constructs in the model, it is said to have good discriminant validity (Fornell and Larcker, 1981; Hair et al. 2019). The AVE square root value of each construct in this study was greater than the correlation value between the construct and other constructs in the model. Therefore, the model had good discriminant validity values. Finally, in addition to testing validity, reliability testing was performed using composite reliability. A reliability test was used to prove the accuracy, consistency, and precision of the instrument in measuring the constructs (Hair et al. 2019). Hair et al. (2019) stated that the reliability measure of a variable is above 0.70. Based on Table 3, all the variables in this

study have a composite reliability value of more than 0.70, indicating that all variables are reliable

After the model was evaluated on the first-order construct, it continued with an evaluation of the second-order construct. This evaluation also included control variables, consisting of land area, education level, and age owned by coffee farmers. The second-order method can be constructed using a repeated-indicators approach or hierarchical component models. The second-order construct formative form can be evaluated by examining the significance weight and p-value. An indicator is considered valid if it has a value weight that is in the range of 0 to 1 or a p-value that is less than 0.05 (α = 5%). Garson (2016) states that an indicator that has a p-value less than 0.05 or no significant value weight it can be persisted in the model if it has a value loading high, which is more than 0.05. There are three indicators that have value weights outside the range of 0 to 1: -1.123 for the experimentation variable (E), -0.679 for the relationship variable contact with alternative views (CAV), and -0.140 for the dimension of using integration of others' ideas (IOI). E and IOI variables have p-values greater than 0.05 with a loading value higher than 0.05 so that both variables can be maintained in the model. Meanwhile, the CAV variable had a p-value more than 0.05 and the loading value was less than 0.05. Therefore, the CAV variable cannot be maintained in the model and must be eliminated. After elimination, the values obtained for weight E and IOI were outside the range of 0–1 (Table 4). However, both variables have a value loading that is greater than 0.05, namely 0.268 and 0.436; therefore, both variables are declared valid. Based on Table 4, all dimensions in the model are declared valid because all VIF values do not exceed 4.0 (Garson, 2016).

The next stage in evaluating PLS-SEM analysis is the evaluation of the inner model (structural models). An analysis of the inner model was conducted to determine the effect of the independent latent variables on the dependent latent variables. The assessment criteria for the structural model consist of R-square and the significance of the results path coefficient obtained from the results of the bootstrapping procedure. If the t-statistic value is greater than the t-table significance of 5% = 1.96, then the independent variable significantly influences the dependent variable (Hair et al. 2019).

Table 3. Evaluation of first order model

Variable	Item	Factor Loadings	CR	AVE
Analysis of Alternative Situations (AAS)	AAS4	0.661	0.766	0.523
	AAS5	0.738		
	AAS6	0.766		
Evaluation of Opportunity (EO)	EO1	0.655	0.792	0.588
	EO2	0.705		
	EO4	0.694		
	EO6	0.736		
Active Search (AS)	AS1	0.854	0.834	0.559
	AS3	0.664		
	AS6	0.708		
	AS7	0.751		
Experimentation (E)	E2	0.711	0.866	0.567
	E3	0.874		
	E4	0.642		
	E6	0.816		
	E7	0.699		
Implementation (I)	I1	0.710	0.918	0.693
	I2	0.874		
	I3	0.916		
	I6	0.790		
	I7	0.856		
Contact with Alternative Views (CAV)	CAV3	0.688	0.792	0.561
	CAV6	0.748		
	CAV7	0.805		
Assessing What Others Find Important (AI)	AI1	0.869	0.808	0.588
	AI2	0.795		
	AI4	0.615		
Integration of Others' Ideas (IOI)	IOI2	0.648	0.835	0.563
	IOI3	0.731		
	IOI4	0.698		
	IOI6	0.901		
Using Inter-organizational Relationships (UIR)	UIR3	0.729	0.805	0.580
	UIR4	0.798		
	UIR6	0.756		
Farm Performance (FP)	FP1	0.782		
	FP2	0.657		

Based on the analysis results in Table 5, an R2 value of 0.403 is obtained, meaning that farming performance can be explained by the entrepreneurial competence variable, which consists of the ability to identify opportunities, pursue opportunities, and build networks simultaneously by 40.3% and the rest is explained by variables other than models.

As shown in Table 6, the ability to identify opportunities had a significant influence on farming performance. This is because the t-statistic on the variable's ability to identify opportunities is 2.638 or greater than the t-table value (1.96). In addition, the p-value for this variable was 0.009 or smaller than the p-value α = 5% (0.05). This is in line with research by Hartono & Ardini (2022), who state that identifying opportunities has a significant effect on small business performance because small businesses that can identify opportunities can see new opportunities to improve their business performance. Coffee farmers can identify opportunities to improve their farming performance, but this ability still needs to be improved. This is because farmers tend to be better able to identify opportunities outside their coffee farming compared with identifying opportunities in their coffee farming. Farmers with the ability to identify opportunities will be able to analyze alternative situations and evaluate opportunities. Analyzing alternative situations helps them understand various options and choose the best one according to their conditions. Evaluating opportunities allows farmers to assess the potential benefits of new opportunities, such as entering new markets, using new technologies, or adopting innovative practices.

Table 4. Evaluation of second order model

Variable	Dimension	Outer Weights	T-statistic	P-values	Outer Loadings	VIF
Identifiying Opportunities	AAS	0.607	2.155	0.032	0.742	1.040
	EO	0.684	2.652	0.008	0.803	1.040
Pursuing Opportunities	AS	0.806	2.894	0.004	0.581	1.396
	E	-1.169	2.174	0.030	0.268	3.293
	I	1.330	3.454	0.001	0.635	2.670
Networking	AI	0.782	2.876	0.004	0.879	1.312
	IOI	-0.279	0.709	0.479	0.436	1.705
	UIR	0.594	2.004	0.046	0.730	1.560
Farm Performance	FP1	0.335	1.983	0.048	0.376	1.002
	FP2	0.928	10.409	0.000	0.942	1.002
Control Variable	Land area	1.000			1.000	1.000
	Education	1.000			1.000	1.000
	Age	1.000			1.000	1.000

Table 5. R-square results

Latent Variable	R-Square	Persentage (%)
Farming performance	0.403	40.3

Table 6. Hypotesis test results

Path of influence	Coffisien	T-statistic	P-value
Identifiying opportunities → farm performance	0.195	2.638	0.009
Pursue opportunities → farm performance	0.148	1.710	0.088
Networking → farm performance	-0.165	1.796	0.073
Land area → farm performance	0.484	4.926	0.000
Education → farm performance	0.005	0.047	0.963
Age → farm performance	0.113	1.110	0.267

Furthermore, the analysis results show that the ability to pursue opportunities has no effect on coffee farming performance. This is because the t-statistic for the variable ability to pursue opportunities is 1.710 or smaller than the t-table value (1.96). In addition, the p-value for this variable was 0.088 or greater than the p-value α = 5% (0.05). The ability to pursue opportunities that do not affect the performance of coffee farming means that farmers who have high ability and those who have low ability to pursue opportunities have the same coffee farming performance. This may occur because of the cost effect, coffee farmers with a high ability to pusuing opportunities to incur large investment costs, whose farming performance results have not been reflected in current performance. Coffee farmers also do not dare to take the initiative as first persons and are proactive when there are new ideas or innovations in coffee farming. Farmers will dare to take risks to run a business if it has been done beforehand by someone else and show good results. This is in line with Nicholls (2005), who states that switching from things that have been done for a long time to things that have never been done by rural farmers is a high-risk activity. Young coffee farmers (<40 years old) are better able to use information on business opportunities that come from the Internet because they are more literate in technology and able to operate it. Brown et al. (2019) stated that older farmers tend not to adopt new technologies, prefer to convert land, and intensify existing land use.

The next variable that had no influence on the performance of coffee farming was the ability to build networks. This is because the t-value statistics for this variable are 1.796 or smaller than the t-table value (1.96) and p-value of 0.073 or greater than the p-valueα = 5% (0.05). These findings are consistent with the research by Abbas et al. (2019), who state that the relationship between the entrepreneurial business network and small firm's performance was not significant. Building a network produces positive reciprocity only up to a threshold point, and after crossing the threshold, the reciprocal relationship becomes negative (Uzzi 1996). The results show that the size of the network built by farmers had no effect on coffee farming performance. This is because farmers are too busy to spend their time building and realising networks, not improving their performance. In addition, networks built by coffee farmers may not be able to provide the resources they need by coffee farmers. This is in line with Pulka et al. (2021), who state that networks have no significant effect on the performance of small businesses. Farmer groups have also not been able to improve farming performance because farmers are still running on their own, and farmer groups continue to function as recipients of assistance and counselling from the government.

The control variables were tested for their effect on the performance of coffee farming in Tanggamus, and mixed results were obtained. The area of land owned by coffee farmers had a significant effect on farming performance with a p-value of 0.000 or less than p-value α = 5% (0.05). This is because agricultural land determines the influence of agricultural commodities. That is, the larger the area of land (cultivated/planted), the greater the amount of production produced by that land (Rahim 2007 in Andrias, Darusman, and Ramdan 2017). Increased production, along with the optimal use of inputs, will increase farmers' productivity. Increasing the productivity of coffee farmers increases their profits received by farmers. The education variable had no significant effect on farming performance with a p-value of 0.963 or greater than a p-value of α = 5% (0.05). High formal education of coffee farmers in Tanggamus does not determine the performance of coffee farming because the performance level of coffee farming can be achived by farmers with any level of formal education. Education is not very influential in traditional and hereditary coffee farming. This is in line with Zheng et al. (2019), who found that education did not affect farmers' technology adoption. It is suspected that the effects of education are more likely to be positive in modern agricultural settings than in traditional ones. The age variable also had no significant effect on coffee farming with a p-value of 0.267 or greater than a p-value of α = 5% (0.05). This is because farmers of various age ranges can achieve high farming performance. These findings are consistent with those of Zheng et al. (2019), who found that age did not affect farmers' technology adoption. Therefore, older farmers may not necessarily be able to achieve better farming performance. In addition, farmers who are older but new to coffee farming may not necessarily be able to produce high farming performance.

In this study, it can be seen that of the three hypotheses related to entrepreneurial competence on the performance of coffee farming in Tanggamus, there is one confirmed hypothesis and two unconfirmed hypotheses. The confirmed hypothesis is the first, that is, the ability of farmers to identify opportunities

to improve farming performance. Meanwhile, the unconfirmed hypotheses are the second and third hypotheses, namely, the ability of farmers to pursue opportunities and networking is not confirmed to increase farming performance.

Managerial Implications

This study demonstrates that the ability to identify opportunities is crucial in the coffee farming sector in the Tanggamus Regency. Farmers' ability to analyze various alternative situations and evaluate existing opportunities can significantly enhance the performance of coffee farming in terms of both financial profits and productivity. However, many farmers currently possess the ability to identify opportunities related to their entrepreneurial competencies autodidactically without formal guidance. Interestingly, these farmers tend to find it easier to identify opportunities outside the coffee farming sector, because they do not fully focus on developing their entrepreneurial competencies within the context of coffee farming itself. Therefore, there is an urgent need to formulate entrepreneurial learning and education programs specifically designed for coffee farmers. These programs should place special emphasis on developing the ability to identify opportunities.

The government can facilitate this education and training through various forms, such as workshops, mentoring, and courses. Workshops could involve intensive training on market analysis, trend identification, and understanding consumer needs, enabling farmers to use market data to discover new opportunities. Mentoring and consulting can provide personal guidance to coffee farmers in opportunity identification, market challenges, and business strategy development. Additionally, entrepreneurship and business development courses could cover essential topics such as business planning, financial management, marketing, and growth strategies. Finally, risk management courses would equip farmers with skills to identify and manage risks related to coffee production, as well as strategies to adapt to market changes or climate conditions. By providing these programs, the government can help coffee farmers better focus on enhancing their entrepreneurial competencies, making them more effective in identifying and capitalizing on existing opportunities. Ultimately, this will improve the overall performance of coffee farming enterprises.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The main objective of this study was to determine the significant determinants of entrepreneurial competence related to small-scale coffee farming performance. The findings of this study provide empirical evidence supporting many previous studies by providing a greater understanding of the effect of entrepreneurial competence on small-scale farming performance. According to the results of this study, an element of entrepreneurial competence that has a significant effect on the performance of coffee farming is the ability to identify opportunities. The ability to identify opportunities, including the analysis of alternative situations and evaluation of opportunities, can improve the performance of coffee farming (profits and productivity). Analyzing alternative situations helps them understand various options and choose the best one according to their conditions. Evaluating opportunities allows farmers to assess the potential benefits of new opportunities, such as entering new markets, using new technologies, or adopting innovative practices.

Recommendations

Further research should expand the population and number of samples in the study to obtain better results. The use of panel data is highly recommended in further research because of the possibility that the effect of farmers' entrepreneurial competence on farming performance will be visible in the long term. Future research can also add entrepreneurial behavior variables that can be tested for their influence on entrepreneurial competence and business performance in small businesses and small-scale farming. This research proves that the ability to identify opportunities is important in coffee farming in the Tanggamus Regency. Farmers' ability to analyze alternative situations and evaluate opportunities can improve the performance (profits and productivity) of coffee farming. However, farmers are able to identify opportunities for entrepreneurial competence autodidactically. Farmers also tend to find it easier to identify opportunities outside coffee farming because they do not focus on their entrepreneurial competence in coffee farming. Therefore, it is necessary to formulate entrepreneurial learning or education for coffee farmers, particularly the ability to identify opportunities. The government, non-governmental organizations, the academic

community, and farmers must work together to create learning related to the ability to identify opportunities that can improve the performance of coffee farming.

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