Journal of International Conference Proceedings (JICP) Vol.5 No.2, pp. 287-296, July, 2022
P-ISSN: 2622-0989/E-ISSN: 2621-993X
https://www.ejournal.aibpmjournals.com/index.php/JICP

Influence of Participation, Information and Learning Process on Agribusiness Competence of Pepper Farmers

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ARTICLE INFORMATION

Publication information
Research article

HOW TO CITE
Komariyati et . al (2022). Influence of Participation, Information and Learning Process on Agribusiness Competence of Pepper Farmers. *Journal of International Conference Proceedings* , *5*(2), 287-296.

DOI:
https://doi.org/10.32535/jicp.v5i2.1692

Received: 1 July 2022
Accepted: 15 July 2022
Published: 26 July 2022

ABSTRACT

This study aims to analyze the effect of participation in community institutions, access to information sources and the learning process on the agribusiness competence of pepper farmers . The research method uses quantitative. The population is farmers in 14 (fourteen) sub-districts of the West Kalimantan Border Region. The sampling technique used was *multistage cluster sampling* . The number of samples was 160 pepper farmers. Data collection techniques using questionnaires and documentation. The data processing and analysis technique used Structural Equation Modeling (SEM). The results of the study concluded that: (1) participation in community institutions had a significant effect on the pepper farmer 's learning process; (2) access to information sources has a significant effect on the farmer's learning process ; (3) the farmer's learning process has a significant effect on the agribusiness competence of pepper farmers; (3) the farmer learning process becomes a mediating variable for the influence of participation in community institutions and access to information sources on the agribusiness competence of pepper farmers on the border of West Kalimantan, Indonesia.

Keywords: Participation, Information, Learning Process, Agribusiness Competence

INTRODUCTION

Indonesia is one of the main producers and exporters of pepper in the world in addition to Vietnam, Brazil, India, Malaysia and contributes to the country's fourth foreign exchange after palm oil, rubber and coffee for plantation commodities. However, according to *International Pepper Community* data , abbreviated as *IPC* (2018), the share of Indonesian pepper exports continues to decline. In 2008 – 2016, Indonesia was still the largest pepper producing and exporter country after Vietnam, but the position shifted to become the third pepper exporter country after Vietnam and Brazil in 2017 and 2018 (Fazaria, 2016).

Problems that arise in Indonesia are low productivity (still below 1,000 kilograms per hectare, while in other countries more than 2,000 kilograms per hectare) and quality caused by traditional processing methods (Rosman, 2016). National pepper productivity experienced an average decrease of 2.29 % annually during 2014-2020 . A fairly sharp decline occurred between 2014-2015 with a decrease of 10% and reached the lowest productivity in 2017 of 798 kg/ha (Ditjenbun, 2020).

Kemala (2007) explains that the factors that cause the undeveloped pepper agribusiness system in Indonesia include: (1). Most of the technology can not be used by farmers, (2). Unavailability of equipment that is easily available and cheap, (3). Lack of diversification of pepper products, (4). There are Indonesian competitors as world pepper producers (Brazilia, India, Malaysia, Sri Lanka, Thailand and Vietnam), and (5). The research results have not been widely absorbed by farmers.

In Indonesia, there are six largest pepper producing regions, namely Bangka Belitung Islands, Lampung, South Sulawesi, Southeast Sulawesi, South Sumatra, and West Kalimantan with an average production of 5,001 tons with a contribution of 5.74% of Indonesia's total pepper production (Ditjenbun, 2019). In 2020, West Kalimantan is included in the 6 (six) largest pepper exporting areas in Indonesia (Dirjen National Export Development (2020). Most of West Kalimantan's pepper planting areas are located in the border areas of the country, namely in Sanggau, Sintang, Kapuas Hulu, Sambas Regencies and Bengkayang with an area of 9,509 hectares or about 90% of the total pepper planting area in West Kalimantan province (BPS Province of West Kalimantan, 2019).

Based on the results of initial observations and interviews with several community leaders in the border area and the Plantation and Livestock Service Office of Sanggau Regency, the condition of infrastructure in the border area is still not supportive, causing some pepper farmers to wait more for middlemen or traders who buy pepper from farmers , apart from handling postharvest has not been carried out properly as evidenced by the high levels of dirt and microorganism contamination which importers often complain about.

LITERATURE REVIEW

Social Learning Theory

Cognitive social theory or social learning theory (Bandura, 1986) was used to determine the direction of this research. This theory explains that between a person's *behavior*, cognitive factors and other individual characteristics (*cognitive and other personal factors),* as well as events in the environment *(environmental events)* interact

reciprocally or in two directions (*reciprocal determinism),* all of which act as determining factors that interact with each other in the learning process and determine learning outcomes.

Farmer Agribusiness Competence

The agricultural development paradigm in the future is sustainable agriculture within the scope of human development, which relies on improving the quality and competence of human resources. To realize sustainable agriculture, it is necessary to combine three goals, as stated by Gold in Mardikanto (2009), namely securing the environment, being profitable, and improving the welfare of farmers. To achieve this, agricultural development must actively involve and mobilize farming communities in every development process, starting from planning, implementing, monitoring, and utilizing the results of development. The agricultural development paradigm is expected to improve the ability and performance of the farming community. The application of the agricultural development paradigm is not enough to just change the mindset, but must be followed by changes in attitudes and actions as well as high commitment by all related parties. The success of achieving agricultural development goals is determined by efforts to develop the quality of farmers through increasing farmers' agribusiness competencies. As a beginning to conceptualize agribusiness competencies, it starts with understanding and defining competencies and agribusiness.

Learning outcomes can be in the form of farmer competencies in the field of pepper agribusiness. Indrawati *et al* ., (2011), farmer competence is the result of the farmer's learning process which is determined by the interaction between individual farmers and farming environmental factors, through a learning process. Spencer and Spencer (1993) explain that each individual competency as a human characteristic can be developed into standard behavior through counseling and training.

Pepper farmers' agribusiness competencies include cultivation technical competence and managerial competence in pepper farming (Rayuddin, 2010). Cultivation technical capabilities include preparing facilities and equipment, skilled in how to conduct a production business, processing results and being responsive in making choices of marketing channels, while managerial abilities include reliable farming management in planning, organizing, implementing, and supervising farming activities, having the ability to create farming business network and able to take the right decisions to control farming risk (entrepreneurial attitude).

Farmer Learning Process

Extension is basically a community learning process that aims to achieve changes in individual behavior as a result of learning (Sumardjo, 1999). The learning process carried out through extension activities is measured by the parameters of the intensity of extension, the ability of the instructor and the suitability of the material to the needs of pepper farmers. Harrington (1981) explained that agricultural extension is education for adults so that for its success it is necessary for the extension worker to understand and apply the principles of adult learning (Mardikanto, 2013).

Kartasapoetra (1991) says that agricultural extension is a form of education in which the methods, materials and targets are adapted to the circumstances, needs and interests of the target, time and place. In addition, counseling as a learning process means that the activity of disseminating information and explanations provided must be able to stimulate the process of behavior change carried out through the education process or learning activities (Mardikanto, 2013).

Farmer Participation

The participation of farmers in community institutions allows farmers to develop their abilities or qualities. According to Bunch (Rintuh and Miar, 2003) the importance of institutions for people in rural areas is because: (1) there are many problems that can only be solved by an institution, (2) it can give continuity to rural communities to continuously develop their businesses, such as developing technology and its distribution, (3) can organize village communities to be able to compete with outside parties. Participation has a direct role in competence, which means that participation has a direct influence on the competence of a farmer (Syarief, 2015).

Access Information Resources

In agricultural practice, information is very important for the introduction of new knowledge and skills, new methods, new production technologies and smooth marketing of produce (Ban and Hawkins, 1999). Access to information sources can be interpreted as the availability of information or notifications. In the context of farming, access to information sources is the effort of farmers to seek information related to their farming and access to information has a positive influence on farmers' independence (Mardikanto, 2013).

Schematically, the relationship between the variables studied can be seen in Figure 1.

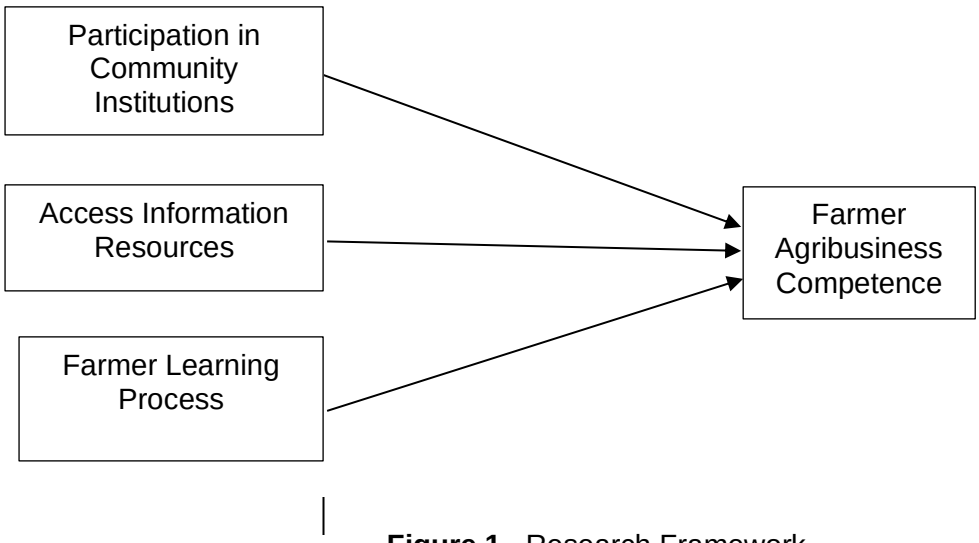

Figure 1 . Research Framework

RESEARCH METHOD

The research method was quantitative research with the type of explanation. The research population was pepper farmers in 14 (fourteen) sub-districts in the border area of West Kalimantan. The sampling technique used multistage cluster sampling . The number of research samples was 160 pepper farmers. Data collection techniques used questionnaires and documentation. The data processing and analysis technique used Structural Equation Modeling (SEM).

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RESULTS

Relationship Between Research Variables

Based on SEM analysis, it is known that exogenous variables that have a direct and positive influence on endogenous variables are: (1) participation in community institutions on the level of pepper farmers' learning process (cr = 2.019 & p = 0.044); (2) access to information sources on the level of pepper farmers' learning process (cr = 2,328 & p = 0.020); (3) access to agribusiness facilities to agribusiness competence of pepper farmers (cr = 14.658 & p = 0.000); (5) access to capital sources for pepper farmers' agribusiness competence (cr = 3,449 & p = 0.000); (6) the level of the pepper farmers' learning process on the agribusiness competence of pepper farmers (cr = 25.256 & p = 0.000).

Modification of the Relationship Model between Research Variables

Modification of the relationship model between research variables to obtain an optimal relationship model can be done by paying attention to the significance of the relationship between exogenous variables. Based on the consideration that there is a positive and significant relationship between exogenous variables, such as (1) participation in community institutions does not directly affect farmers' agribusiness competence (1) access to information sources does not directly affect farmers' agribusiness competence; (3) participation in community institutions affects the learning process of farmers; (4) access to information sources affects the learning process of farmers. Therefore, these variables are correlated to obtain a relationship model as shown in Figure 2 .

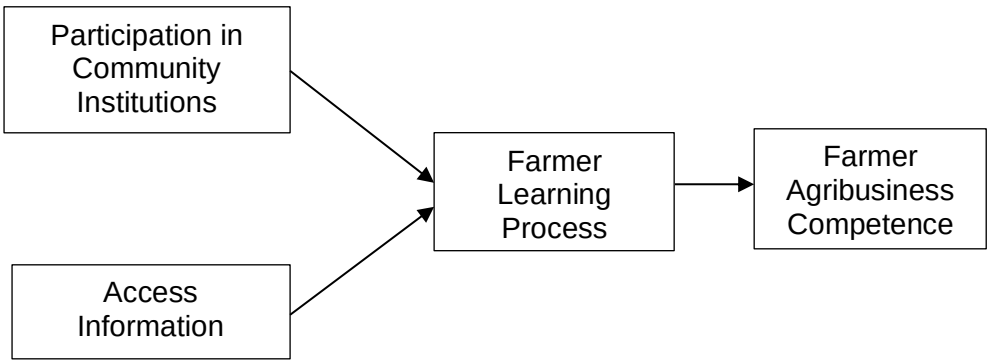

Figure 2 . Modification of the Relationship Model between Research Variables

Based on the results of the SEM test, it is known that exogenous variables that have a direct and positive effect on endogenous variables are: (1) participation in community institutions on the level of pepper farmers' learning process (cr = 2.017 & p = 0.035); (2) access to information sources on the level of learning process of pepper farmers (cr = 2.723 & p = 0.006); (3) the level of pepper farmers' learning process on the agribusiness competence of pepper farmers (cr = 24,601 & p = 0.000).

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Feasibility of the Relationship Model between Research Variables
Based on the test results on the model of the relationship between the research variables that have been motivated, the feasibility of the model can be seen in Table 1 below.

Table 1 . Model Feasibility Test Results

No	Goodness of Fit Index	Limit Value	The calculation results	Information
1	Chi-Square	< 214,477	29,411	good fit
2	Significance probability	0.05	0.044	good fit
3	DF	>0	18	Over identified
4	NFI	0.90	0.952	good fit
5	IFI	0.90	0.981	good fit
6	CFI	0.95	0.980	good fit
7	TLI	0.95	0.960	good fit
8	CMIN/DF	2.0	1,634	good fit
9	RMSEA	0.08	0.063	good fit

Based on Table 1 above, it can be concluded that the overall model of the relationship between research variables is acceptable. Thus, modification of the structural model can be used to explain the relationship and influence between exogenous variables and endogenous variables.

Direct, Indirect and Total Influence
Based on SEM analysis, the magnitude of the direct effect, indirect effect, and the total effect of exogenous variables on endogenous variables can be seen in Table 2 below.

Table 2 . Direct, Indirect, and Total Influence

Exogenous	mediator	endogenous	Direct Influence	Indirect Influence	Total Influence	Information
Participation	Learning	Competence	0.000	0.099	0.099	Learning as a mediator
Information	Learning	Competence	0.000	0.127	0.127	Learning as a mediator
Learning	-	Competence	0.609	-	0.609	Direct effect

DISCUSSION

The agribusiness competence of pepper farmers in the border area of West Kalimantan is an average of 66.2 % of the expected competence (technical and managerial). The technical competence of pepper cultivation was 73.5 % of the expected, and the managerial competence of pepper business was 47.9% of the expected.

Pepper farmer's agribusiness competence includes cultivation technical competence and managerial competence in pepper farming. Aspects of farmer agribusiness competence are less associated with the role and function of farmers as the main actors in farming management (Rayuddin, 2010). Cultivation technical capabilities include preparing facilities and equipment, skilled in how to conduct a production business, processing results and being responsive in making choices of marketing channels, while managerial abilities include reliable farming management in planning,

organizing, implementing, and supervising farming activities, having the ability to create farming business network and able to take the right decisions to control farming risk (entrepreneurial attitude).

The Effect of Participation in Community Institutions on Farmers' Learning Process

The participation of farmers in community institutions has a positive and significant effect on the learning process of farmers in community institutions. This is supported by the results of Alif's research (2017) that the implementation of agricultural extension through demonstrations attracts delivery , and therefore affects the presence of farmers in participating in the extension, and the results of research by Rosalia et.al (2019) which concludes that the participation of farmers as members has a significant effect. on the effectiveness of Agribusiness Microfinance Institutions.

Participation causes the psychic and physical mobilization (changes in knowledge, attitudes and behavior) of farmers to run quickly , because the program is implemented according to the needs, priorities and conditions of the resources they have (Ife and Tesoriero, 2008). Participation in institutions involves a norm , regulation or organization that facilitates coordination in the form of individual expectations that may be achieved by working together (Susanto, 2006).

The Effect of Access to Information Sources on Farmers' Learning Process

ability of farmers to gain access to information sources has a positive and significant effect on the learning process of farmers in community institutions. This is supported by the results of research by Harijati (2007) and Syarief (2015) who found that access to information sources would improve the learning process in extension and at the same time increase the competence of farmers.

The results of research Andriaty , *et.al.* (2011) show that the information most needed by farmers is about production technology, followed by marketing and postharvest information. The most frequently accessed media to obtain information is meetings, followed by electronic media and print media and the factors that influence access to information are: age, cosmopolitan, level of usefulness of information.

The Effect of Farmer Learning Process on Farmer Agribusiness Competence

The learning process of farmers has a positive and significant effect on the competence of farmers' agribusiness. This is supported by the results of research by Kustiari et.al (2012) that the effectiveness of extension has a significant effect on the competence of cultivators. The effectiveness of the extension is determined by the role of the extension worker, the communication model, and the functioning of the extension.

Agricultural extension as a farmer empowerment system is a non-formal education system for farming families that aims to assist farmers in improving technical skills, knowledge, developing more positive attitude changes and building independence in managing their agricultural land (Agricultural Human Resources Agency, 2003). In addition to counseling, farmer groups can also be used as a vehicle for learning, which allows farmer groups to improve their knowledge, attitudes and skills (Parissing, 2019).

CONCLUSION

Based on the results of the study, it can be concluded that: (1) participation in community institutions has a significant effect on the learning process of pepper farmers ; (2) access to information sources has a significant effect on the farmer 's learning process ; (3) the farmer 's learning process has a significant effect on the agribusiness competence of pepper farmers ; (3) the farmer learning process becomes a mediating variable for the influence of participation in community institutions and access to information sources on the agribusiness competence of pepper farmers on the border of West Kalimantan, Indonesia.

ACKNOWLEDGMENT
Thank you to the pepper farmers in the border area in West Kalimantan, who have agreed to be respondents and participate in this research.

DECLARATION OF CONFLICTING IN TERESTS
Source of funding: None
Conflict of interest: The authors declare that they have no conflict of interest.

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