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INFLUENCE OF INNOVATION CHARACTERISTICS ON COMMUNICATION EFFECTIVENESS OF CORN FARMERS IN NORTH CENTRAL TIMOR DISTRICT: ECONOMIC PERSPECTIVE

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ABSTRACT
Agricultural development is currently still a mainstay in national development because the majority of the population in Indonesia is still in the agricultural business, both in the food crops, horticulture and plantation sub-sectors. One of the agricultural sub-sectors that have the most important role is food crops. Corn as a type of food commodity is still consumed after rice/rice as well as to meet the needs of animal feed and industry. This study aims to describe the characteristics of innovation, communication effectiveness, and the determinants of communication effectiveness of maize farming in Insana District, North Central Timor Regency. This research was conducted from August 2021 to October 2021. The method used in this study is a mixed method (Mixed Method) with a sequential explanatory model. The population in this research is corn farming farmers who are members of six selected villages totaling 270 farmers. The technique of determining proportional random samples (proportional random sampling) which is calculated using the Slovin formula is 161 corn farmers. The results showed that the characteristics of the innovation factor (relative advantage and can be tested were in the low category, while suitability, complexity, and observability were in the high category). Communication effectiveness (communicators are in the high category, while messages, channels, methods, receivers, and effects are in the low category). Overall, the characteristics of innovation, whether relative advantage, suitability, complexity, observable, and testable, significantly affect the communication effectiveness factor for special maize plants with a CR value greater than the critical value (CR > 1.96).

KEY WORDS
Characteristics of innovation, communication effectiveness, maize.

The majority of the population in Indonesia is still employed in the agricultural industry, and this applies to the food crops, horticulture, and plantation sub-sectors of the industry. As a result, agricultural development is still a primary driver of national development at the present time. The production of food crops is one of the agricultural sub-sectors that plays the most significant function. Corn is one form of food item that is consumed after rice/rice and is also used to satisfy the requirements of industry and animal feed. In addition, corn is used to satisfy these requirements. According to the Ministry of Agriculture (2015); Nainggolan & Rachmat, (2014); Saleh et al., (2019); Machmuddin et al., (2021); Kudadiri, (2014); Muslim et al., (2016); Aprelianingsih, (2018), the food crop sub-sector (maize) as part of the agricultural sector continues to be pursued to increase its production and productivity, which is carried out in a special program of efforts. Corn crop activities are carried out by means of the Integrated Crop Management Application Movement (GP-PTT), the Corn Planting Area Expansion (PAT maize), the provision of agricultural facilities and infrastructure (seeds, fertilizers, pesticides, agricultural tools and machinery), the control of Plant Pest

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Organisms (OPT), and the impact of climate change, as well as agricultural insurance and escort or assistance.

The form of special effort activities for corn continued to increase when seen in national corn production from 2014 to 2019. For example, in 2018, corn production reached 30,055,623 tons on an area of land used for 5,734,326 ha with corn productivity of 5.24 tons/ha (BPS, 2021). In 2020, the population of Indonesia is projected to be 271.4 million people, and corn consumption is expected to be 1,600 kg per capita per year. This quantity is sufficient to meet the requirements of the Indonesian people for their food consumption requirements, even if merely to meet human necessities. However, maize can also be used as a raw ingredient to make feed for animals. According to the BPS's March Susenas (2021), maize is used for a variety of purposes, including animal feed (9.70%), seed production (0.46%), processing for non-food or industrial uses (44.67%), scattering (5.00%), other uses (37.57%), and food products (2.6%). Corn is processed for non-food (industrial) purposes at a rate of 44.67%, making it the crop with the highest percentage.

Due to the fact that Indonesia's corn output has not been able to keep up with the rising demand for corn despite year-over-year increases in production, the country is forced to continue importing corn from international markets in order to satisfy domestic demand. Given that reliance is still placed on imports, the government is continuing its efforts to boost corn production and productivity. The target of land area, production, and productivity is stated in the Strategic Plan (Renstra) of the Ministry of Agriculture through the Ministry of Agriculture Number 19/Permentan/HK.140/4/2015, and its operational basis can be found in the Decree of the Minister of Agriculture of the Republic of Indonesia No. 14.1/Permentan/RC.220/4/2015 concerning guidelines for corn production.

The Province of East Nusa Tenggara (NTT) is also interested in increasing food availability. One program that is part of this effort is a corn crop program known as the cattle-harvesting corn cropping program (TJPS). According to the target in the data from the Directorate General of Food Crops (2019), the expected production in 2015 is: 727,790 tons, and the expected production in 2016 is: 765,053 tons, and the expected production in 2017 is: 801,103 And the realization of production obtained in 2015: 685,081 tons, in 2016: 688,432 tons, and in 2017: 809,830 tons, and in 2018: 859,230 tons, in land area in 2015: 273,194 ha, in 2016: 265,318 ha, and in 2017: 311,352 ha, and in 2018: 341, 264 ha, and the average productivity of the four years is 2.55 tons per hectare. This demonstrates that the productivity of the Upsus program for maize in NTT Province over the course of the past four years has not attained the desired aim (at least 5.04 tons/ha in the new planting area and 1 ton/ha in the existing area). According to the available data on maize production and productivity, it is common knowledge that production and productivity levels are, respectively, at an all-time low. The CSR program in the field has been optimized in an effort to improve the poor production and productivity of maize. These efforts have been carried out recently. However, both corn production and productivity in NTT are still below average, therefore the situation should not be called ideal.

It is strongly anticipated that field extension workers would be there to provide assistance to farmers engaged in corn farming activities. These employees will serve as a bridge for information on improvements pertaining to UPSU maize plants in terms of accuracy, speed, usability, and completeness. According to Schalock, (2004); Balboni et al., (2007); Mardikanto (2009); Gardiner& Iarocci, (2012); Puchalski et al., (2014); Wiener et al., (2015); Sururi, (2015); Uysal et al., (2016); Rodiah et al., (2018) communication is a process of awareness through the delivery of information about the importance of development activities to improve the quality of life so that the spirit of trying to achieve the quality of life grows. Goodman & Truss, (2004); Lang, (2006); Rucker & Petty, (2006); Hubeis (2007); Ojong, (2021) the process of delivering messages that are able to accomplish the goals of the message content and offer feedback or reactions so that the message is successfully transmitted and creates an effective communication is what is meant by the statement that communication effectiveness is the process of delivering messages.

The production of maize plants is a substantial economic activity that plays an important role in the North Central Timor District. Effective communication is one of the most

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important factors in the agricultural industry, playing a critical part in both the dissemination of information and the promotion of the adoption of novel farming practices among farmers. It is vital to get an understanding of the effects that the characteristics of innovation have on the effectiveness of communication in order to improve agricultural practices, improve economic outcomes, and ensure that sustainable development is achieved in the region. The corn crop activity in the Cattle Harvesting Corn Planting program in TTU Regency has been running for the last two years. This activity has been socialized by the Department of Agriculture through existing assistants to farmers according to their potential to be developed in their separate lands. Cattle Harvesting Corn Planting is a program that has been running in TTU Regency. The farmers in TTU Regency are still in a constrained situation, both in terms of human resources and the availability of limited farming facilities and infrastructure. As a result, the communication system developed through interpersonal means. According to the information provided by the TTU Agriculture Office (2019), the production target for the year 2015 is 26,462 tons, the objective for the year 2016 is 29,665 tons, the target for the year 2017 is 36,863 tons, the target for the year 2018 is 59,465 tons, and the aim for the year 2019 is 62,348 tons. And the realization of the results acquired in 2015 was 56,655 tons, in 2016 it was 70,246 tons, in 2017 it was 72,184 tons, and in 2018 it was 59,017 tons, with an average productivity of 2.46 tons per hectare being attained.

When these facts are taken into consideration, it becomes clear that dreams for the possibility of corn commodity to meet the target to improve income and food security of corn have not been successful in achieving their goals. Even though they have received socialization and assistance from the government with facilities and infrastructure, farmers in TTU still use traditional farming methods with less intensive cultivation technology. This is despite the fact that farmers have received assistance with facilities and infrastructure from the government (without tillage, and/or tillage, without fertilization, and control of plant-disturbing organisms has not been optimal). Other variables include an extended period of drought, a scarcity of superior seeds, fertilizers, and medicines; an increase in the number of attacks by pests and diseases; a lack of available manpower; restricted access to information technology; expensive transportation; an absence of a market for corn-based products; and restricted access to financial resources. Because of the many issues mentioned above, the rate of expansion in corn planting area is increasing at a slower rate, which, in turn, has an impact on poor corn yield and productivity.

The cattle harvesting as a source of technological choice is one of the novel aspects of the maize cropping program. This choice enables farmers to make their own decisions by presenting them with options and assisting them in developing an understanding of the implications of their various options. However, it has not been utilized appropriately; hence, it is vital to pay attention to enhancing the features of innovation in giving information to farmers in order for it to operate at its optimum level. Supporting the long-term viability of special efforts for corn plants requires a number of different actions, one of the most significant of which is improving the efficiency of communication for farmers. Farmer groups are the focus of the special effort program for corn, which aims to improve the role of communication for farmers. Farmer groups are intended to serve as a venue for farmers to share their experiences with one another or exchange information with one another. In this situation, communication plays a very important part in the process of planting corn, which ultimately results in the farmer accepting the corn garden business as part of his life. This study aims to describe the characteristics of corn farming innovation, determine the determinants of the effectiveness of corn farming communication, and determine the factors that affect the effectiveness of corn farming communication based on the local wisdom in the Insana District of the North Central Timor Regency.

METHODS OF RESEARCH

Beginning in August 2020 and continuing through January 2021, this investigation was carried out in the Insana District of the North Central Timor Regency in the East Nusa Tenggara Province. A Mixed Method (Mixed Method) approach, utilizing a Sequential

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Explanatory Model, was taken in order to answer the issue that was presented in this piece of study. The participants in this research were maize farmers from six different villages located in the Insana District of the North Central Timor Regency. In total, there were 270 farmers. The procedure for collecting samples was carried out in stages (multi-step random sampling), and each stage consisted of the following steps: The number of villages that were purposefully chosen was the focus of the first step of the process. The second step is to identify the number of groups that will represent each village by using a proportional random sample that is thirty percent of the total number of farmer groups found in each village. The third step is to conduct a proportional random sampling in order to ascertain the number of maize producers that belong to each group. The Slovin formula was used to determine the sample size, and it was determined that there should be as many as 161 corn growers in the study. In order to take a more qualitative approach, data and information were collected from key informants as well as informants through the use of snowball sampling. Techniques for collecting quantitative data include structured interviews with written questions and participatory observations. Techniques for collecting qualitative data include technique triangulation, which entails collecting data from the same source in a variety of ways, such as combining observations, in-depth interviews (in-depth interviews with questionnaire guidelines), documents/reports, and focus group discussions (FGD). Quantitative data collection techniques include structured interviews with written questions and participatory observations. Even though they employ interview guidelines, in-depth interviews and unstructured interviews are carried out in an unrestricted manner. The interview guidelines, however, are flexible and adjust to the circumstances as well as the conversation that is already taking place between the researcher and the informant who is serving as the topic of the study. The data were analyzed using descriptive methods, inferential methods, as well as structural equation modeling (SEM) analysis using generalized structures component analysis (GSCA) (SEM-GSCA) (Moleong, 2017; Ryoo & Hwang, 2017; Rigdon et al., 2017; Marleno et al., 2018; Kusumawati & Subriadi, 2019; Chandra et al., 2021). While the analysis tool is a qualitative approach with strategies for analyzing and evaluating data derived from the views of the informants, it does include three tracks, namely Data Reduction (data reduction), Data Presentation (data presentation), and Drawing Conclusions (conclusion drawing/verification). While the analysis tool is a qualitative approach with techniques for analyzing and reviewing data derived from the perspectives of the informants, it does include these three paths. Besides that, in qualitative analysis also employing Nvivo software tools (Onwuegbuzie & Leech, 2006; Mehmetoglu & Altinay, 2006; Leech & Onwuegbuzie, 2007; Forman & Damschroder, 2007; Leech & Onwuegbuzie, 2008; Onwuegbuzie et al., 2009; Badur, 2019).

RESULTS AND DISCUSSION

Description of the Characteristics of Corn Crop Farming Innovation in the TJPS Program in Insana District, North Central Timor Regency

In determining the speed of adoption of corn farmers' innovations, there are several elements used, namely relative advantage, compatibility, complexity, triability, and observability. Table 1 shows the proportion of maize farmers in Insana District.

Relative advantage can be seen as how much profit corn farmers make in using new innovations, namely agribusiness maize farming. Relative advantage can be measured by the level of profit felt by farmers in using their technology.

Based on the results of the study (Table 1), it shows that the dominant farmers are in the range of 8-9 (58 percent) with the range of achievement scores in relative profits ranging from 6 to 12. When viewed from the average achievement score, it is 9.68 which means it is low. This shows that most of the corn plant farmers have not felt any farmer benefits from this corn crop. The characteristics of farmers' dissatisfaction in farming the corn crop are late planting due to late seed assistance, easily damaged yields, limited land area, low corn production and not on target. This condition is also not accompanied by the existence of counseling support to farmers in managing their corn business, so that farmers find it difficult

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to use the recommended technology package. On the other hand, it is not supported by the enthusiasm and motivation of maize farmers to learn, so they quickly switch to previously known farming systems. For this reason, it is necessary to provide counseling and assistance from related parties in the implementation of the corn plant business in accessing information to find out through existing mass media such as newspapers, google, and friends.

Table 1 – Proportion of Corn Farmers in Insana District Based on Innovation Characteristics, 2021

Innovation Characteristics	Category	N (Person)	Percentage (%)	Average
(1)	*(2)*	*(3)*	*(4)*	*(5)*
Relative advantage (*relative advantage*)	Very low (< 8)	8	5	9,68
	Low (8-9)	93	58	
	Height (10-11)	43	27	
	Very High (>11)	17	10	
Total		161	100	
Suitability (*compatibility*)	Very low (< 7)	3	2	10,00
	Low (7-8)	8	5	
	Height (9-10)	102	63	
	Very High (>10)	48	30	
Total		161	100	
Can be tested (*complexity*)	Very low (< 4)	3	2	6,04
	Low (4-5)	24	15	
	Height (6-7)	105	65	
	Very High (> 7)	29	18	
Total		161	100	
Can be tested (*triability*)	Very low (< 4)	16	10	4,62
	Low (4-5)	100	62	
	Height (6-7)	40	25	
	Very High (> 7)	5	3	
Total		161	100	
Easy to observe *(obsevability)*	Sangat rendah (< 4)	8	5	6,01
	Rendah (4-5)	35	22	
	Tinggi (6-7)	104	64	
	Sangat Tinggi (> 7)	14	9	
Total		161	100	

Source: Primary Data, 2019.

The level of suitability in this study can be seen from the extent to which corn farming technology is considered consistent with the existing experience of corn farmers.

Based on the results of the study (table 1), it shows that corn farmers are mostly in the high category in the range of 9-10 (63 percent) and the range of achievement scores in conformity is between 6 to 12. When viewed from the average suitability score, it is 10.00 . This shows that most of the farmers in trying to plant corn are in accordance with the values or habits of farmers in carrying out corn farming activities that have been carried out so far. This is due to several reasons, namely: the assistance provided by the government makes it easier, such as not incurring the cost of infrastructure, farmers are accustomed to farming corn, and according to the needs of farmers (short-lived maize), the assistance further strengthens their enthusiasm for farming. Meanwhile, farmers in the low category said that it was not suitable because the assistance provided was not on time, the ability of farmers in special efforts to plant corn was limited in manpower.

Based on the results of Altieri et al., (2012); Cahyono's (2014); Rogers et al., (2014); Novo et al., (2015); Berti & Mulligan, (2016); Parodi, (2018); Macours, (2019); Yener & OĞUZ, (2019); Zhang et al., (2020) shows that the reality of an innovation is not always immediately adopted by farmers. Farmers usually search and exchange information, either through interpersonal communication with people or other farmers around them or through mass media to strengthen the technology before adopting it.

The level of complexity as a level where the use of technology for corn farmers is considered difficult to understand and use so that it affects the speed of adoption of innovations from farmers.

Based on the results of the study (table 1), it shows that the level of complexity of farmers in farming corn is dominant in the high category with a range of 6-7 (65 percent) in

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achieving the complexity score obtained between 2 to 8. While the average score of achieving complexity of corn farmers ie 6.04. This means that most farmers experience difficulties in using corn farming technology due to limited information, socialization, or in the form of training for farmers so that they experience difficulties in implementing it. For this reason, it is necessary for extension workers to be consistent in conveying appropriate and appropriate information to farmers by being included in training activities/courses and internships.

The ease of trying or triability shows how much the farmer's ability can test the technology package in the use of corn plants. Testability aims to reduce the uncertainty of corn farmers in applying the technology.

The results (table 1) show that the dominant maize crop farmers are in the low category in the range of 4-5 (62 percent) with a range of achievement scores that can be tested in Insana District, North Central Timoe Regency between 2 to 8. When viewed from the average the score achieved is 4.62 which means it is low. This is because the seeds arrived late at the location so that the time available for trials in the corn plant business. This is because the limited information that farmers have about the use of technology in agricultural activities is difficult in testing the equipment.

Corn farmers in the research location have not yet been able to test their technology package on a small scale with extension workers, so it is difficult to know well. For this reason, it is necessary to have a trial of innovation that is used with farmers so that farmers know how to manage independently.

Easy to observe or observability shows the extent to which the ability of agribusiness maize farmers to observe an innovation is given, the more likely it is that a farmer or group of farmers can apply or adopt it.

Based on the results of the study (table 1), it shows that the level of observability of farmers is mostly in the high category in the range of 6-7 (64 percent), and the range of achievement scores in observability is between 2-8. When viewed from the average score of achievement is 6.01. This means that most corn farmers feel that the corn cultivation efforts carried out so far by the government are beneficial because they are short-lived when compared to local corn that has been developed so far. However, it is less useful in terms of volume and distribution of assistance in the implementation of maize farming activities.

Determinants of Effectiveness of Communication on Corn Farming in the TJPS Program Based on Local Wisdom

Analysis of the determinants that affect the effectiveness of communication in the development of special efforts for maize based on local wisdom in Insana District, North Central Timor Regency using SEM-GSCA analysis. In general, the linearity test aims to test whether the form of the relationship between the independent variable and the dependent variable is linear or not. Researchers use SPSS assistance in testing the assumption of linearity. The relationship between the two variables is said to be linear if the test significance value is smaller than alpha (5% / 0.05). The test results are presented in table 2.

Table 2 – Linearity Test Results

Variable Relationship Pattern			*P-Value Linierity*	Conclusion
Var. Eksogen	-->	Var. Endogen		
Relative Advantage (X1)	-->	Communication Effectiveness (Y1)	0,000	Linier
Suitability (X2)	-->	Communication Effectiveness (Y1)	0,000	Linier
complexity (X3)	-->	Communication Effectiveness (Y1)	0,000	Linier
Can be tested (X4)	-->	Communication Effectiveness (Y1)	0,000	Linier
Observable (X5)	-->	Communication Effectiveness (Y1)	0,000	Linier

Based on table 2 shows that the results of the linearity test to determine whether the SEM-GSCA model is appropriate or not. The test results show that all the causal variables have a significance value on the effect variables. This indicates that the SEM-GSCA model is appropriate to be used in this study. A variable has good validity to the construct or latent variable if the t-value of the factor load is greater than the critical value (≥ 1.96) and/or the

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standard factor load is 0.50. While the evaluation of the reliability of the measurement model in the GSCA can use Constuct Reliability (CR 0.70) and Average Variance Extracted (AVE 0.50). Furthermore, the analysis of the measurement model was continued using the Confirmatory Factor Analysis (CFA) method. Based on the results of the analysis, it can be seen in table 2 below, it can be seen that all Loading factor values 0.50 (Valid), and AVE values 0.50 (Valid), while the results of the reliability calculation show that all Cronbach Reliability (CR) values) 0.70 (Reliable). Thus, it can be concluded that all of these exogenous latent variables have good and proper indicators.

Table 3 – Evaluation of the Measurement Model (Outer Model) of Exogenous Variables

Variabel Laten	Variabel Teramati	Validitas Parsial (Per Indikator) (LF > 0,5=Valid)		Ranking	Validitas OverAll (Per Konstruk) (AVE > 0,5=Valid)		Cronbach Reliability (CR > 0,7)	
		Outer Loading	Ket		AVE	Kesim-pulan	CR	Ket.
Karakteristik Inovasi (X)	X1	0,830	Valid	2	0,596	Valid	0,82	Reliabel
	X2	0,815	Valid	3				
	X3	0,831	Valid	1				
	X4	0,691	Valid	4				
	X5	0,678	Valid	5				

In detail, in order to find out the most dominant indicator in contributing to the exogenous latent construct, it is explained that the best indicator in forming the Innovation Characteristics variable (X) is X3 (Complexity) with the highest loading factor of 0.831.

Meanwhile, according to the analysis of the measurement model using the Confirmatory Factor Analysis (CFA) method, the endogenous variables are seen in table 4.

Table 4 – Evaluation of the Measurement Model (Outer Model) of Endogenous Variables

Variabel Laten	Variabel Teramati	Validitas Parsial (Per Indikator) (LF > 0,5=Valid)		Ranking	Validitas OverAll (Per Konstruk) (AVE > 0,5=Valid)		Cronbach Reliability (CR > 0,7)	
		Outer Loading	Ket		AVE	Kesim-pulan	CR	Ketrangan
Efektivitas Komunkasi (Y)	Y1	0,747	Valid	5	0,658	Valid	0,895	Reliabel
	Y2	0,785	Valid	4				
	Y3	0,841	Valid	3				
	Y4	0,893	Valid	1				
	Y5	0,876	Valid	2				
	Y6	0,708	Valid	6				

Based on the table above, it can be seen that all Loading factor values 0.50 (Valid), and AVE values 0.50 (Valid), while the results of the reliability calculations show that all Cronbach Reliability (CR) values 0.70 (Reliable) . Thus, it can be concluded that all endogenous latent variables have good and proper indicators. In detail, it is explained that the best indicator in forming the Communication Effectiveness variable (Y) is Y4 (method) with the highest loading factor of 0.893.

The path coefficients in the structural model as well as the weight value of the manifest variable factors in the measurement model can be described through the path diagram of the measurement model and the structural model.

Based on Figure 1 and the analysis of the results shows that the characteristics of Innovation (X), have a positive/significant effect on the effectiveness of communication. Communication effectiveness is most dominantly influenced by complexity (X3) of 0.831. The positive effect shows that the higher the improvement in the complexity of the innovation will increase the effectiveness of communication in maize farming. The five indicators that make up the variable characteristics of innovation all have a significant influence. The most dominant indicator that needs to be considered is the complexity of the innovation. Improving the complexity of innovation in compiling the characteristics of innovation will increase the effectiveness of communication.

The effectiveness of communication as measured by the six constituent indicators has a fairly good value. The six indicators have a significant influence, namely communicator, message, channel/media, method, recipient, and effect/impact. Based on these six

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indicators, method indicators are very important to consider in shaping the effectiveness of better communication.

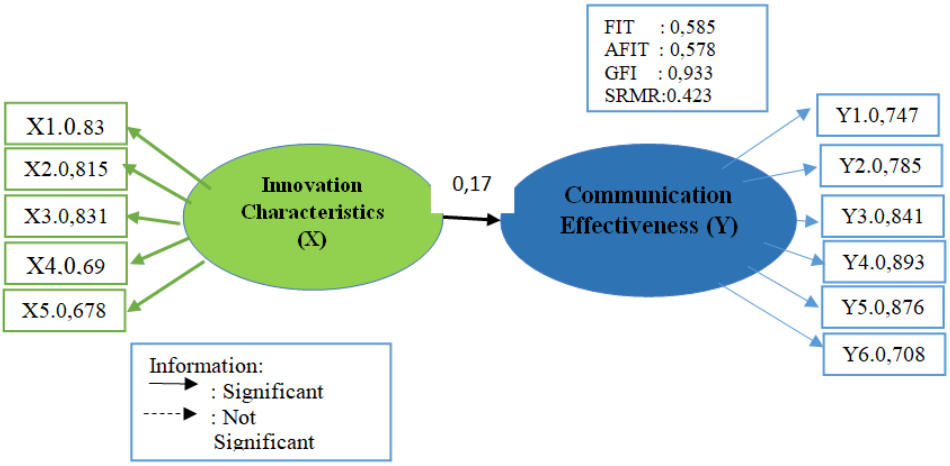

Figure 1 – Influence between Structural Model Research Variables

Model testing, the procedure is carried out in several stages. The first stage is to design a structural model, the second stage is to design a measurement model, the third stage is to construct a path diagram, the fourth stage is to construct a path diagram to equations, the fifth stage is to estimate parameters, and the sixth stage is to test Goodness of Fit, and the last stage is Hypothesis test. As the seven stages have been carried out and the results meet the criteria for model testing. The results of the model fit test (Goodness of Fit) can be seen in Table 5.

This fit test is intended to evaluate in general the degree of fit or *Goodness of Fit* (GOF) between the data and the model. Structural Equation does not have a statistical test that best explains the predictive power of the model. Instead, several *GOF or Goodness of Fit Indices* (GOFI) measures can be used together or in combination. Neither of the GOF or GOFI measures can exclusively be used as a basis for evaluating the overall fit of the model. The best guide in assessing the fit of the model is a strong substantive theory. If the model only shows or represents a substantive theory that is not strong, and even though the model has a very good model fit, it is rather difficult for us to judge the model.

The overall fit test of the model relates to the analysis of the GOF statistics generated by the program, in this case the GSCA. By using the guidelines for GOF measures and the results of GOF *statistics*, it is possible to analyze the overall fit of the model as follows:

Table 5 – Results of the Goodness of fit Index (Inner Model)

Goodness of fit Index	Cut of Value	Results	Information
FIT	> 0,500	0,585	Model good fit
AFIT	> 0,500	0,578	Model good fit
GFI	> 0,900	0,933	Model good fit
SRMR	< 0,080	0,423	Model Marginal fit

- *FIT = 0,585*:

FIT shows the total variance of all variables that can be explained by a particular model. The FIT value ranges from 0 to 1. So, the model formed can explain all the existing variables of 0.585. The exogenous variable that can be explained by the model is 58.5% and the rest (41.5%) can be explained by other variables. This means that this model can explain the phenomenon under study.

- *AFIT = 0,578*:

Adjusted from FIT is almost the same as FIT. However, because there is more than one exogenous variable that affects endogenous variables, it would be better if the interpretation of the accuracy of the model uses the corrected FIT or uses AFIT. Because the more

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variables that affect the value of FIT will be even greater because the proportion of diversity will also increase so to adjust to the existing variables can use the corrected FIT. When viewed from the AFIT value of 0.578, the model that can be explained by the model is 57.8% and the rest (42.2%) can be explained by other variables.

- *Goodness of Fit Indices (GFI) = 0,933*:

Goodness of Fit Indices (GFI) is a measure of the accuracy of the model in producing the observed covariance matrix. This GFI value must range from 0 to 1. Although in theory GFI may have a negative value, this should not happen, because the model that has a negative value is the worst model. GFI value greater than or equal to 0.9 (0.933 > 0.900) indicates the fit of a model (Diamantopaulus, 2000 in Ghozali, 2005).

- *SRMR (Standardized Root Mean Square Residual)= 0,423:*

Standardized RMR represents the average value of all standardized residuals, and has a range from 0 to 1. A model that has a good fit will have a Standardized RMR value less than 0.08. The model proposed in this study has an SRMR value of 0.423, because the SRMR value is greater than 0.08, it can be concluded that the model is declared marginal fit.

According to Bollen (1993); Foster et al., (2012); Naigaga et al., (2018); Marleno et al., (2018); Sahoo, (2019); Falo et al., (2020); Suksesi & Yuliati (2021) none of the GOF or GOFI measures can exclusively be used as a basis for evaluating the overall fit of the model. The best guide in assessing the fit of the model is a strong substantive theory. This means that even though there are criteria that are not met, it does not mean that the model as a whole is not accepted, if only one of the GOF indicators is met, then the indicator can represent the accuracy test indicators of other models.

From the exposure of the *Goodness of Fit* Test above, it is known that 3 of the 4 Model accuracy tests are declared to be Good (*Good Fit*). Thus, it can be concluded that the results of the synthesis of several theories which are combined to form a structural construct on the Path Diagram holistically (whole) can be validated / feasible as a new scientific finding or a Grand Theory that is valid for now.

In the hypothesis testing stage, a causal relationship is declared insignificant if the critical ratio (C.R) value is between the range of -1.96 and 1.96 with a significance level of 0.05. With the help of the GSCA program application, the results of the estimation of the critical ratio value of the structural model are obtained. The results of the calculation of these coefficients are presented in the following table:

Table 6 – Results of Estimation and Testing of Research Variables

Influence between Latent variables			Hypothesis	Path Coefficient	CR	p-value	Conclusion
var. Exogenous	-->	var. endogenous					
Innovation Characteristics (X3)	-->	Communication Effectiveness (Y1)	H1	0,17	4,13	0,000	Signifikan
R square Y					0,17		

** Significance on α = 0,05.*

Based on the results of the CR test, it is known that Communication Effectiveness (Y) is significantly (significantly) affected by the Innovation Characteristics Factor (X), Testing the hypothesis by comparing the path coefficient value with CR with criteria for CR value > 1.96 and P value < 0.05 . This shows that in this study, the innovation characteristic variable (X) has an effect on the Communication Effectiveness variable (Y) of 0.17. This means that the effectiveness of communication in maize farming can be explained by the model by 17 percent and the rest by variables that are not included in the model.

The Influence of Innovation Characteristics on the Effectiveness of Communication in Corn Crops Business of the CSR Program

Based on the results of the structural model analysis (Figure 1 and Table 6), it is known that the Variable Characteristics of Innovation Characteristics (X) has a positive influence on Communication Effectiveness (Y), meaning that the higher the Innovation Characteristics (X) will consequently increase the Communication Effectiveness variable (Y), where the path coefficient obtained is 0.176 with a CR value of 4.13. Because the CR value is greater than

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the critical value (4.13 > 1.96), the statistical hypothesis states that H0 is rejected, meaning that the Innovation Characteristics variable (X) has a significant effect on the Communication Effectiveness variable (Y). The results of Nurhayati's research (2011) support the findings which state that the characteristics of innovation have a significant effect on communication participation in rice field schools. According to Rogers (2003); Chou et al., (2012); Noppers et al., (2014); Dibra, (2015); Mannan et al., (2017); Triyono and Yudistiro. (2017); Senyolo et al., (2018); Astuti et al., (2020) the characteristics of innovation affect the adoption and sustainability of an innovation.

Based on the loading factor value, the best indicator in forming the Variable Characteristics of Innovation (X) is X3 (Complexity) with the highest loading factor of 0.831. Thus, if the manager/management wants to increase the value of the Variable Characteristics of Innovation (X3), the statistical recommendation regarding indicators that need to be prioritized for improvement is the X3.3 (Complexity) indicator. According to the results of the study, the level of complexity of farmers in farming corn is dominant in the high category. This means that farmers still find it difficult to continue the program due to limited capital for purchasing seeds, fertilizers, and pesticides, as well as limited information, and forms of training for farmers so that they experience difficulties in implementing it.

CONCLUSION

Based on the results of research and discussion, it can be concluded Innovation characteristics factors (relative and testable advantages are in the low category, while suitability, complexity, and observability are in the high category). Effectiveness of communication (communicators are in the high category, while messages, channels, methods, receivers, and effects are in the low category). Overall, the characteristics of the maize crop innovation in the TJPS program, including relative advantage, suitability, complexity, observability, and trialability, significantly affected the communication effectiveness factor for special maize plants with a CR value greater than the critical value (CR > 1.96). From an economic perspective, the influence of innovation characteristics on communication effectiveness holds significant implications for corn plant farmers in the North Central Timor District. Innovations with a higher perceived relative advantage may lead to increased productivity, reduced production costs, and improved profitability. Similarly, innovations that are compatible with existing practices can result in resource optimization and improved resource allocation, leading to enhanced economic outcomes.

Increased ease in the application of corn plant innovation, by the government by facilitating continuous communication so that the programs developed do not stop at one phase but are sustainable, until at a certain point farmers get used to farming. Increasing the role of effective communication, namely making farmers as brothers to work together in special efforts for corn plants by prioritizing the principle of humans wanting to be respected and considered important, building a sense of mutual understanding and understanding of the existence, behavior, and desires of farmers, who are honest, open, and have responsibility, the preparation of the message sentence must be adapted to the condition of the farmer so that it does not cause errors in translating it.

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