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Effect of Agribusiness Institutions on the Performance of Cocoa Cooperatives in Polewali, Indonesia

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ABSTRACT

Cocoa production still become serious issue in agricultural country, and Indonesia is no exception. The Mitra Agribusiness Mandiri Cooperative has carried out several activity programs to increase the cocoa production of its assisted farmers, however the cooperative's performance is still less effective in carrying out business. Cocoa production has decreased over the past few years, the importance of the management's performance is related to the development of the cooperative and also the form of member trust in building participation of its members and assisted farmers. This research aims to analyze the business performance of the Agribusiness Cooperative through agribusiness institutions to increase cocoa production. This type of research is explanatory research through surveys, with analysis units and 100 cooperative-assisted cocoa farmers and administrators selected using purposive random sampling. The research employed Structural Equation Model (SEM). The results show that natural resources, human resources, financial resources, cooperative organizations, norms and institutions of cocoa agribusiness has significant effects on the business performance of the Mitra Agribusiness Mandiri Cooperative, both directly and indirectly.

Key words: Cooperatives, performance, institutions, agribusiness, cocoa

INTRODUCTION

The cocoa plant (Theobroma cacao L) or commonly known as chocolate is a leading commodity in the plantation sector which supports the national economy (Imam Mahmud, 2023), especially as a provider of employment opportunities, a source of income and foreign exchange (Sumiati et al., 2018). Indonesia as a producer and exporter of cocoa plants is in third place in the world after Ghana and Gadin Coast with 767,280 tonnes [1]. This is supported because Indonesian cocoa has more prospects in the world market because of its advantages, namely that it does not contain pesticides and has a high melting point for cocoa butter compared to cocoa beans from these two countries [2]. In Indonesia, the majority of cocoa plantations are managed by the people, namely 1.58 million hectares (98.33%), while private plantations operate 14.49 thousand hectares (0.89%) and large state plantations only amount to 12.38 thousand hectares (0.79%) [3]. Currently, the development of the cocoa commodity has a program because it is a priority crop in increasing the country's foreign exchange. Apart from that, the cocoa commodity is also being developed through the Gernas Program and now cocoa has been replaced with the Sustainable Cocoa Commodity Development Program. The Gernas Cocoa program is a full package activity, where farmers are provided with seed assistance and assistance and it is designed completely from upstream to downstream to post-harvest and marketing. Meanwhile, in the Sustainable Cocoa Commodity Development Program, the assistance package provided is not complete, namely only in the form of support consisting of seeds and other production facilities [4]. Wide marketing channels and is the closest intermediary to small farmers spread across large areas that are difficult to

manage and access. This situation explains why informal actors bear the highest burden of marketing costs compared to formal marketing actors and why marketing costs in the Central region are almost double marketing costs in the Southwest Central region. As a result, regardless of the region, there are informal actors who choose prohibited practices to avoid losses [5].

The production and trade of cocoa commodities has an important impact on farmers' livelihoods and the environment, which encourages more and more companies to address sustainability issues in their value chains, so companies must support coordinating and aligning with the government so that cocoa farmers can experience the results of their cocoa production [6].

This cooperative is expected to be able to provide facilities and infrastructure for cocoa cultivation, including capital, carry out post-harvest processes to produce good quality and uniform cocoa beans, and market the results. Professional management from cultivation to post-harvest is expected to produce good quality cocoa beans in a sustainable manner [4]. Even though it ranks high, in reality the International Cocoa Organization (ICCO) states that cocoa production tends to decline or fluctuate. This is because farmers still carry out traditional farming activities, such as not using fertilizer during the cultivation process, not pruning, not optimally controlling plant pest organisms, and the spread of technology has not been evenly distributed and accepted as a whole. Apart from that, the condition of the quality of Indonesian cocoa still needs to be taken into account by ensuring that farmers carry out fermentation correctly, so that Indonesian cocoa can achieve a taste that is equivalent to cocoa from Africa [7]. This condition will also pose a threat to farmers if they are unable to provide sufficient production and do not meet standards. Moreover, the industry will only buy good quality plantation products. Considering that plantation products cannot be consumed without factory processing, plantation products that do not pass sorting will be wasted [8]. The problem that farmers often face is that many farmers sell their crops to middlemen, which causes cocoa farmers to get very low selling prices and is detrimental to cocoa farmers.

One of the cocoa producing provinces in Indonesia is West Sulawesi with a cocoa land area of 145,787 Ha with a total production of 48,930 Tons in 2022. One of the districts in West Sulawesi that contributes to cocoa production is Polewali Mandar Regency with a land area of 1,775.65 Ha. . Cocoa production in Polewali Mandar Regency as a mainstay commodity in the plantation sub-sector has the largest production in Bulo District of 4,632.53 thousand tons with a planting area of 5,170.65 thousand Ha, Luyo District of 4,586.35 thousand tons with a planting area of 5,583.15 hectares. thousand ha, Matangnga District 3,053.38 thousand tons with 4,284.62 thousand ha, Anreapi District 2,864.95 thousand tons with an area of 4,942.78 thousand ha, Binuang District 2,731.60 thousand tons with an area of 3,363.95 thousand ha, Tubbi Taramanu District 5,558 thousand tons with an area of 6,602.30 thousand ha, Tapango District 4,725 thousand tons with

an area of 5,515.53 thousand ha and Binuang District 3,454 thousand ha with 4,567.00 planted area. This production is dominated by smallholder plantations [9]. Polewali Mandar Regency has cooperatives in the marketing and production of cocoa beans. This cooperative is called Mitra Agribisnis Mandiri which is located in Matakali, Polewali Mandar Regency. The Mandiri Agribusiness Partners Cooperative was founded in 2017. The Mandiri Agribusiness Partners Cooperative buys cocoa beans from farmers in Polewali Mandar Regency. The beans that have been purchased by the cooperative will be re-processed by the cooperative into fermented cocoa beans and exported to various countries such as Europe, America, the Netherlands. The cooperative is present as a form of real support from the Polewali Mandar Regency government for cocoa plantations, because it is hoped that with the existence of a cocoa plantation cooperative, farmers can improve the quality of cocoa products through training activities related to good cocoa cultivation and assistance provided by the cooperative.

One of the efforts made to overcome this problem is the performance of cooperatives in collaborating with cocoa farmers through mentoring and coaching to achieve predetermined production targets. Collaboration is an effort made by several people or groups to achieve mutually beneficial mutual goals [10]. Where the role of cooperatives in the procurement and distribution of cocoa commodities, such as providing a high contribution to the growth of the Indonesian economy in the agricultural, trade, transportation and industrial sectors. Another role of cooperatives, especially in rural agricultural center areas, is as a place for absorption, marketing and distribution of results from agricultural production centers [11]. The role of agricultural cooperatives includes the supporting services sub-system and farmers as the main actors who are consumers of the services provided by the agribusiness supporting institutions.

The role of cooperatives is very beneficial for cocoa farmers, one of which is convincing farmers to join cooperatives in providing quality seeds so that they can increase cocoa productivity. Farmers who have joined the Mandiri Agribusiness Partners Cooperative will gain knowledge in cultivating good cocoa so that farmers are able to produce good quality cocoa beans and high production so that farmers' income also increases. The Mandiri Agribusiness Partners Cooperative also innovates in forming cocoa clusters in each region to determine the taste and quality of Grade AA, Grade A or Grade B cocoa according to market demand. Cocoa produced by the Mandiri Agribusiness Partners Cooperative has received a lot of attention from artisan chocolate producers. The taste and quality are considered capable of meeting the quality of premium chocolate. However, the current challenge is how the cooperative maintains the consistency of the fermentation results. The latest fermentation technology used by the Mandiri Agribusiness Partners Cooperative is hydrolyzate fermentation, where this fermentation will produce high quality cocoa beans thereby increasing the selling value and competitiveness of the product as well as improving the welfare of cocoa farmers. The fermented cocoa beans from the Mitra Agribisnis Mandiri Cooperative will be dried using a solar powered solar dryer which will produce cocoa beans with good physical and organoplastic quality, especially the taste and acidity of the cocoa beans. The technology currently being developed could be a solution to increase the efficiency and productivity of cocoa cooperatives. Therefore, it is necessary to study the performance of cooperative businesses that support agribusiness institutions by improving cooperative performance in cultivation and natural resources so that they can increase maximum cocoa production. The aim of the research is to analyze the business performance of the Mandiri Agribusiness Partners Cooperative through agribusiness institutions to increase cocoa production.

MATERIAL AND METHODS

This research was conducted in polewali mandar district from June to August 2023. This research was conducted at the Mitra Agribusiness Mandiri Cooperative, Polewali Mandar Regency, West Sulawesi, Indonesia. This type of research is explanatory research through surveys, with analysis units and 100 cooperative-assisted cocoa farmers and administrators selected using purposive random sampling. Data was collected through interviews with the help of questionnaires and the variables measured used a Likert scale, namely 1 = not good, 2 = medium, 3 = good.

The data that has been collected is then analyzed using the Structural Equation Model (SEM) which is a combined statistical analysis tool of factor analysis and regression. In general, analysts should choose an SEM approach that suits their conceptual model needs. SEM analysis in this research uses the PLS program. Exogenous/independent variables are

variables that are not influenced by previous variables (antecedent), while endogenous/dependent variables are variables that are influenced by previous variables. The exogenous variables in this research are natural resources, human resources, financial resources, organizations and norms. The endogenous variable is cooperative business performance. There is a variable that has an antecedent variable (previous variable) and a consequent variable (after variable) in the equation model, namely the agribusiness institutional variable, which is then referred to as an intervening variable. Steps for Using PLS (a) First Step: Designing a Structural Model (inner model). Designing a structural model of the relationship between latent variables in PLS is based on the problem formulation and research hypothesis; (b) Second Step: Designing a Measurement Model (outer model). The outer models in this research are all reflexive, so as in SEM it only refers to the operational definition of variables in accordance with the research instrument design process; (c) Step Three: Construct the Path Diagram. After the first and second steps have been carried out, with the aim of making the results easier to understand, the results of designing the inner model and outer model are then expressed in the form of a path diagram; (d) Fourth Step: Convert the Path Diagram into an Outer Model Equation System, namely the specification of the relationship between the latent variable and its indicators, called the outer relationship or measurement model, defining the characteristics of the construct with its manifest variables. Inner model, namely the specification of relationships between latent variables (structural model), also called inner relations, describes the relationship between latent variables based on substantive research theory; (e) Fifth Step: Estimation The parameter estimation method (estimation) in the PLS method is the least squares method. The calculation process is carried out by means of interaction, where the interaction will stop if it has reached a convergent condition; (f) Step Six: Goodness of Fit. The structural model or inner model is evaluated by looking at the percentage of variance explained, namely by looking at R2 for the dependent latent construct, then calculating the Stone-Geisser Q Square test value with the formula: Q2 = 1 – (1-R12) (1-R22). .(1-Rp2); and (f) Step Seven: Hypothesis Testing. Sampling allows the use of freely distributed data (distribution free) without requiring a large sample. Testing is carried out using a t-test, if a p-value <0.05 (alpha 5%) is obtained, it is concluded that it is significant and vice versa. If the test results on the inner model are significant, it can be interpreted that there is a significant influence of one latent variable on another latent variable. The assumption required in PLS is that the relationship between latent variables is linear. Besides that, the non-parametric assumption, namely that observations are independent, also applies. This second assumption is not critical if sampling is done randomly.

Validity Test: Loading Factor: Loading factor is used to assess the ability of each indicator to measure the variable to be measured, to obtain an effective indicator for measuring the variable. According to Haryono (2016), in evaluating convergent validity from examining individual item reliability, it can be seen from the standardized loading factor value. Standardized loading factor describes the magnitude of the correlation between each measurement item (indicator) and the construct. A loading factor value ≥ 0.7 is said to be ideal, meaning that the indicator is valid to measure the construct it forms. The convergent value is measuring the size of the loading factor for each latent variable. A loading factor above 0.70 is highly recommended, however, a loading factor above 0.50 can still be tolerated as long as the model is still in the development stage as a good and positive motivational reason for the integrity and stability of variables as measured by the standard requirements that have been set.

Average Variance Extracted (AVE): Second test for convergent validity of cooperative business performance. Namely by looking at the Average Variance Extrated (AVE) value. The condition for the model to have good validity is if the latent variable has an Average Variance Extracted (AVE) > 0.5. According to Haryono (2016), the AVE value describes the large variance or diversity of manifest variables that a latent construct can have. Thus, the greater the variance or diversity of the manifest variables that a latent construct can contain, the greater the representation of the manifest variables in the latent construct. An AVE value of at least 0.5 indicates a good measure, and the results of the AVE value analysis in this research.

Reliability Test: Reliability is a coefficient value that shows the level of data consistency. A study is said to be reliable if there are similar data

at different times. A measure that states that a variable is said to be reliable if the variable has a composite reliability and Cronbach Alpha value that is greater than 0.5. The Smart PLS output results include the Composite Reliability (CR) and Cronbach Alpha (CA) values of each variable presented.

Evaluation of Inner Model (Structural Model): Evaluation of the structural model is carried out to see the relationship between latent constructs that have been previously hypothesized by looking at the results of the estimated parameter coefficients and their significance levels. Measures that can be used to evaluate the structural model (inner model) are R-square, Q-Square Predictive Relevance (Q2) and Model Fit. If the Q2 value is closer to 1, it can be said that the structural model fits the data or has relevant predictions.

R-Square: The R-square value (R2) is the coefficient of determination on the endogenous construct and the path parameter coefficient. It can be concluded that the Endogenous Latent Variable of cooperative business performance (Y2) is influenced by Exogenous Latent Variables (X1, X2, X3, X4, X5) as well as other endogenous latent variables (Y2).

Model Fit: Model Fit is used to show the reliability of the research model under study. In measuring model fit, you can use the NFI value in the Smart PLS program as presented in this research. The NFI value is the reliability of this research model.

Hypothesis Test: A hypothesis is a specific predictive statement that is tentative in nature. This will explain concretely (not theoretically) what you expect will happen in your study even though not all research has a hypothesis. There are no formal hypotheses, and perhaps the goal of this study was to explore some areas more thoroughly to develop some specific hypotheses or predictions that could be tested in future research. Formally organizing a hypothesis test is to formulate two hypothesis statements, one that describes the prediction and one that describes all other possible outcomes with respect to the hypothesized relationship. In PLS, hypothesis testing is carried out using simulation with the bootstrapping method on the sample. This test aims to minimize the problem of abnormal research data. Test results using the bootstrapping method from SEM-PLS analysis.

RESULTS AND DISCUSSION

Model Evaluation in SEM-PLS

Carrying out model evaluation in PLS consists of two stages, namely evaluating the outer model or measurement model (measurement model) and evaluating the inner model or structural model (structural measurement). Both evaluation stages use Partial Least Square (PLS) 3.0 software.

Partial Least Square (PLS) is an alternative Structural Equation Modeling method for dealing with very complex variables, non-normal data distribution and small data sample sizes (sample <100). PLS can be used to explain whether there is a relationship between two or more latent variables (prediction). PLS is a regression analysis method, and tests canonical correlation, which eliminates OLS (Ordinary Least Squares) assumptions which require normal data distribution. PLS uses an iterative algorithm to measure indicator variables and assigns a total weighted value to the latent variable and is connected to other latent variables.

The bootstrapping procedure is used to evaluate the correlation of the latent variables that are formed, depicted in path analysis, the value of the correlation coefficient, determinant coefficient (R-squared) and the significance of the contribution of exogenous to endogenous variables. The variance based approach with PLS changes the analysis orientation from testing causality models (models developed based on theory) to component predictive models. Consideration of using PLS-SEM, firstly because the variable composition is linear in combination with several other variables that we choose. The variable composition consists of weight values and data obtained from observations.

The measurement model is processed from the observed indicator variable scores. The score value of the latent variable or construct is obtained based on measurements of the indicator variable or manifesto variable. The measurement scale used can be nominal, ordinal, interval or ratio. The data coding that we use can use 3 Likert points.

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Evaluation of Outher Model (Measurement Model)

Evaluation of the Outher Model (Measurement Model) The Outher Model Measurement Model is an analysis that aims to determine the validity and reliability of the latent variables and measuring variables. The outer model is a model that specifies the relationship between the latent variable and its indicators or it could be said that the outer model defines how each indicator is related to the latent variable. The outer model is interpreted by looking at several things, including: convergent validity, discriminant validity, composite reliability, Average Variance Extracted (AVE) and Cronbach's alpha.

Validity Test Results

The steps to determine the validity of variables in PLS-SEM are as follows:

a. Loading factors

Loading factors are used to assess the ability of each indicator to measure the variable to be measured, to obtain an effective indicator for measuring the variable. According to [12], in evaluating convergent validity from examining individual item reliability, it can be seen from the standardized loading factor value. Standardized loading factor describes the magnitude of the correlation between each measurement item (indicator) and the construct.

A loading factor value ≥ 0.7 is said to be ideal, meaning that the indicator is valid to measure the construct it forms. The convergent value is measuring the size of the loading factor for each latent variable. A loading factor above 0.70 is highly recommended, however, a loading factor above 0.50 can still be tolerated as long as the model is still in the development stage as a good and positive motivational reason for the integrity and stability of variables as measured by the standard requirements that have been set. The complete loading factor value results are presented in Figure 1.

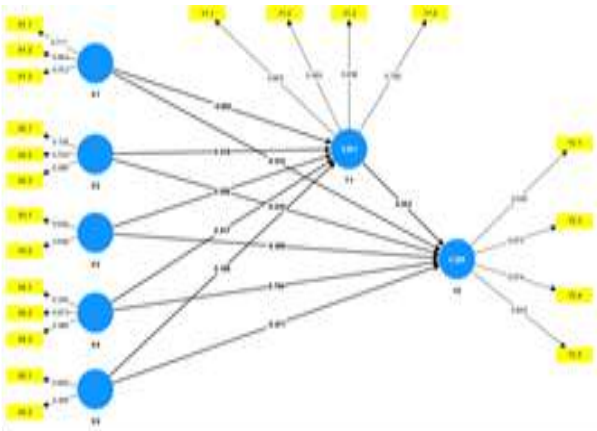

Figure 1. Outer loading factor results of the PLS-Algorithm Model

From Figure 1 it can be seen that all loading factor values for each latent variable indicator of natural resources, human resources, financial resources, organization, norms, agribusiness institutions and cooperative business performance have a value of > 0.7, so it can be said that all the indicators used are very good and valid in measuring latent variables. Table 1 presents the results of the outer loading factor. An individual reflexive measure is said to be valid if it has a loading factor value with the latent variable to be measured ≥ 0.7, if one of the indicators has a loading factor value < 0.7 then that indicator must be excluded because the construct to be measured is ensured that all are truly valid and meet the specified provisions. has been required.

Table 1. Outer Loading Factor results

	X1	X2	X3	X4	X5	Y1	Y2	Information
X1.1	0.717							Valid
X1.2	0.894							Valid
X1.3	0.753							Valid
X2.1		0.735						Valid
X2.2		0.730						Valid
X2.3		0.885						Valid
X3.1			0.982					Valid
X3.2			0.984					Valid
X4.1				0.970				Valid
X4.2				0.973				Valid
X4.3				0.860				Valid
X5.1					0.996			Valid
X5.2					0.995			Valid
Y1.1						0.955		Valid
Y1.2						0.953		Valid
Y1.3						0.856		Valid
Y1.5						0.782		Valid
Y2.1							0.945	Valid
Y2.3							0.975	Valid
Y2.4							0.974	Valid
Y2.5							0.835	Valid

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After all the latent variables or constructs were analyzed, they were connected to the indicators that were formed, showing good validity, as shown in Table 1, all of them reflect a valid value in the relationship between variables X1.1 to X1 of 0.717; X1.2 to X1 0.894; X1.3 to X1 0.753; X2.1 to X2 0.735; X2.2 to X2 0.730; X2.3 to X2 0.885; X3.1 to X3 0.982; X3.2 to X3 0.984; X4.1 to X4 0.970; X4.2 to X4 0.973; X4.3 to X4 0.860; X5.1 to X5 0.996; and X5.2 to X5 0.995. Likewise with variable Y1 (agribusiness institutions), it is shown that the value obtained is Y1.1 to Y1 0.955; Y1.2 to Y1 0.953; Y1.3 to Y1 0.856; Y1.5 to Y1 0.782; Y2.1 to Y2 0.945; Y2.3 to Y2 0.975; Y2.4 to Y2 0.974; and Y2.5 to Y2 0.835. This result means that all the relationships between the construct variables and their indicators reflect good and valid relationships, meaning that the results displayed are all valid above factor loading ≥ 0.7. As shown in Table 1.

b. Average Variance Extracted (AVE)

The second test for the convergent validity of cooperative business performance analysis is by looking at the Average Variance Extrated (AVE) value. The condition for the model to have good validity is if the latent variable has an Average Variance Extracted (AVE) > 0.5. According to Haryono (2016), the AVE value describes the large variance or diversity of manifest variables that a latent construct can have. Thus, the greater the variance or diversity of the manifest variables that a latent construct can contain, the greater the representation of the manifest variables in the latent construct. An AVE value of at least 0.5 indicates a good measure, and the results of the AVE value analysis in this research. Based on the AVE value in Table 2, it can be seen that all latent variables have met the validity test because the AVE value is greater than 0.5.

Table 2. Average Variance Extracted (AVE) Value

	Average variance extracted (AVE)
X1	0.627
X2	0.619
X3	0.966
X4	0.876
X5	0.991
Y1	0.791
Y2	0.872

Based on Table 2, it shows the value of good and positive relationships as latent variables X1 (natural resources), X2 (human resources), X3 (financial resources), X4 (organization), X5 (norms), Y1 (agribusiness institutions), and Y2 (cooperative business performance) all show results that illustrate the large variance or diversity of manifest variables that the latent construct can have. The requirement for the model to have good validity is because all latent variables have an Average Variance Extracted (AVE) > 0.5, meaning that the greater the AVE value, the greater the representation of the manifest variable towards the latent construct.

c. Reliability Test Results

Reliability is a coefficient value that shows the level of data consistency. A study is said to be reliable if there are similar data at different times. A measure that states that a variable is said to be reliable if the variable has a composite reliability and Cronbach Alpha value that is greater than 0.5. From Table 3 it can be seen that all latent variables have composite reliability and Cronbach Alpha values that are greater than 0.5, this shows that all indicators used to measure latent variables are reliable. The Smart PLS output results which include the Composite Reliability (CR) and Cronbach Alpha (CA) values of

each variable are presented in Table 3.

Table 3. Cronbach Alpha and Composite Reliability Output

	Cronbach Alpha	Composite Reliability (rho c)
X1	0.794	0.833
X2	0.703	0.829
X3	0.965	0.983
X4	0.928	0.955
X5	0.991	0.996
Y1	0.910	0.938
Y2	0.950	0.965

Based on Table 3, the Cronbach's Alpha value and Composite Reliability value are all above the average standard, greater than 0.5 as the number required to carry out the reliability test of the data presented in each test, as is the variable X1 (natural resources) with the Cronbach's Alpha value. (0.794) and Composite Reliability (0.833), organization) with Cronbach's Alpha (0.928) and Composite Reliability (0.955), 0.938), and Y2 (cooperative business performance) with Cronbach's Alpha (0.950) and Composite Reliability (0.965). This result means that the exogenous latent variables and endogenous latent variables show that all the indicators used to measure the latent variables are reliable.

From a series of tests, the validity and reliability of the indicator variables and latent variables in this research were good. Thus, it can be concluded that the indicators and latent variables from this research have met the requirements as shown by the results of the analysis of all exogenous latent variables and endogenous latent variables whose values are quite high, making it possible to carry out further testing to evaluate the structural model (inner model).

e. Evaluation of Inner Model (Structural Model)

Evaluation of the structural model was carried out to see the relationship between latent constructs that had been previously hypothesized by looking at the results of the estimated parameter coefficients and their significance levels. Measures that can be used to evaluate structural models (inner models) are R-square and Model Fit.

1) R-Square

The R-square value (R2) is the coefficient of determination on the endogenous construct and the path parameter coefficient. Table 4 can be concluded that the endogenous latent variable of cooperative business performance (Y2) is influenced by exogenous latent variables (X1, exogenous latent variables (X1, The R-Square value is presented in Table 4.

Table 4. R-Square Value Output Results

	R-square	R-square adjusted
Y1	0.791	0.695
Y2	0.689	0.788

Table 4 shows that the results of the R-Square analysis of cooperative business performance show the number 0.689 as an endogenous variable (Y2) correlated with the construct it formed, likewise the R-square of agribusiness institutions (Y1) shows the number 0.791 correlated with the construct it formed. This means that this can be interpreted to mean that the cooperative business performance construct variable can be explained by the agribusiness institutional variable of 79.1%, the rest of which is not included in the model.

2) Model Fit

The Fit Model is used to show the reliability of the research model under study. In measuring model fit, you can use the NFI value in the Smart PLS program as presented in Table 5 in this research, the NFI value is 0.792, meaning the reliability of this research model is 79.2%.

Table 5. Model Fit Output

	Saturated Model	Estimated Model
Chi-Square	217.351	217.351
NFI	0.792	0.792

The FIT model produced is based on analysis as the values presented in Table 5 show a Chi-square number (217.351) and an NFI value of (0.792), meaning that the reliability of this fit model is very good based on the standard qualification of a positive relationship, which can be said to be good if the values are The NFI obtained is greater than 0.02.

f. Hypothesis Test Results

A hypothesis is a specific predictive statement that is temporary in nature. This will explain concretely (not theoretically) what you expect will happen in your study even though not all research has a hypothesis. There are no formal hypotheses, and perhaps the goal of this study was to explore some areas more thoroughly to develop some specific hypotheses or predictions that could be tested in future research. Formally organizing a hypothesis test is to formulate two hypothesis statements, one that describes the prediction and one that describes all other possible outcomes with respect to the hypothesized relationship.

In PLS, hypothesis testing is carried out using simulation with the bootstrapping method on the sample. This test aims to minimize the problem of abnormal research data. The test results using the bootstrapping method from SEM-PLS analysis are presented in Figure 2.

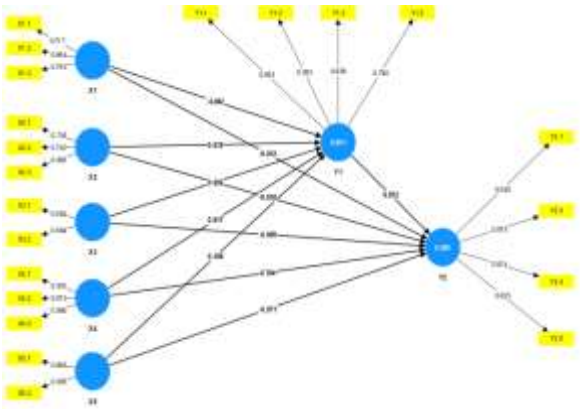

Figure 2. Bootstrapping results

In addition, the calculation results can be seen based on indirect effects, specific indirect effects and total effects. Based on Figure 2 and Table 6 which are displayed from the results of the bootstrapping analysis which gives good values for direct influence, indirect influence, indirect influence and total influence, it can be stated that the relationship is good and positive, if the statistical values and p -value above the average standard value in accordance with the conditions required in a test, both statistics and p-value. The results of this analysis show the total bootstrapping values from the research results which can be seen in Table 6.

Table 6. Indirect Effect

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Original sample (O)
X1 -> Y1	-0.002	-0.002	0.014	0.181	0.046	-0.002
X1 -> Y2	-0.012	-0.012	0.015	0.749	0.045	-0.012
X2 -> Y1	0.019	0.015	0.012	1.586	0.013	0.019
X2 -> Y2	-0.010	-0.008	0.012	0.824	0.010	-0.010
X3 -> Y1	0.026	0.024	0.022	1.155	0.048	0.026
X3 -> Y2	-0.009	-0.007	0.013	0.693	0.028	-0.009
X4 -> Y1	0.817	0.816	0.028	29.672	0.000	0.817
X4 -> Y2	0.704	0.699	0.169	4.161	0.000	0.704
X5 -> Y1	0.199	0.200	0.029	6.847	0.000	0.199
X5 -> Y2	-0.071	-0.074	0.048	1.464	0.014	-0.071
Y1 -> Y2	0.352	0.357	0.206	1.706	0.038	0.352

Table 6 shows that the results of the PLS calculation state the indirect influence between variables. It is said that there is an indirect influence if the p-value is <0.05 and it is said that there is no indirect influence if the p-value is >0.05. Based on Table 6, it can be stated that the natural resource variable (X1) is indirectly significant to the cooperative business performance variable (Y2) with a p value of 0.045 < 0.05, the human resource variable (X2) is indirectly significant to the business performance variable. cooperative (Y2) with a p-value of 0.010 > 0.05, the financial resources variable (X3) is indirectly significant to the cooperative business performance variable (Y2) with a p-value of 0.028 < 0.05, the organizational variable (X4) is is indirectly significant to the cooperative business performance variable (Y2) with a p-value of 0.000 < 0.05, and the norm variable (X5) is indirectly significant to the cooperative business performance variable (Y2) with a p-value of 0.014 < 0.05. Based on the provisions required in several variables that are measured, the relationship between variables and other variables shows that there are different influences from one another, this is because the variables being measured have different situations and conditions according to the facts in the field and after procesing they get varied values.

The research results show that the natural resource variable (X1) is indirectly significant to the cooperative business performance variable. The research results show that cooperative businesses are very dependent on natural resources, especially land because now a lot of land has changed its function from gardens to houses or This is a problem for farmers at the moment. Apart from that, what must be paid attention to is the number

of plants and the age of the cocoa plants to get cocoa production. The cooperative has built a nursery to rejuvenate the farmers' cocoa plants. Apart from that, the cooperative assists in cultivation. plants, providing training and assisting farmers in providing plant seeds. From the research results, the factors that hinder cocoa production are old cocoa plants that need to be rejuvenated so that cocoa production can increase [13]. Furthermore, the human resource variable (X2) is indirectly significant to the cooperative business performance variable. The human resource variable is used as a supporting aspect in a business entity or organization. Human resources are given great attention because they are a core element in the development of a business. Apart from that, cooperatives have collaborated with the government, universities and companies to provide training to farmers and also groups under the guidance of cooperatives. The training is carried out in order to increase the skills of the farmers involved. relying on traditional methods can increase with modern methods, in line with research that highly educated farmers are often younger, they are also more urgent in cooperative activities [14]. Apart from that, it can also be observed that the level of education is positively correlated with cocoa cultivation, apart from training, also visiting companies so that farmers understand how to carry out their farming business and also cooperative membership can improve farmers' welfare [15]. So it can be said that HR has a significant influence on the performance of cooperatives [16].

The financial resource variable (X3) itself has a positive and significantly significant relationship to cooperative performance, this shows that the higher the financial resources, the greater the cooperative performance will be. The research results show that cooperative capital comes from members and for members through principal savings, mandatory savings, reserve funds and grants. Cooperatives registered as “multipurpose cooperatives” can engage in agricultural activities or provide financial services. This capital should be used as optimally as possible to meet various business needs in the cooperative, including savings and loan units and the provision of consumer goods. The research results are in line with the hope that all cooperative members will utilize these facilities as effectively as possible so that more transactions are carried out within the cooperative and ultimately increase profits for the cooperative [13].

The organizational variable (X4) has a positive and significant effect on cooperative performance. The research results show that working as a good team with complementary work abilities and an organizational structure that can be well identified by all elements in the cooperative can achieve company performance in line with mutual expectations. Apart from that, the organizational system in this cooperative is responsible for its respective fields which have been regulated by the cooperative leadership so that by paying attention to each field it will improve the performance of the cooperative in accordance with research regarding the regulations that must be obeyed by cooperatives, the principles of cooperatives and the economic conditions of members [16].

The norm variable (X5) has a positive and significant effect on the performance of cooperatives, in accordance with research results showing that norms in cooperatives are the foundation at the beginning of their establishment based on the values and principles of cooperatives in accordance with the rules that have been made in cooperatives. Apart from that, cooperatives have made rules where every member and farmer who is coached by cooperative must follow the rules and if they violate the provisions, they will be subject to fines/sanctions. Mutual trust (trust) in a cooperative is influenced by factors, namely the consistency between the words and behavior of each element of the cooperative. To maintain this trust, cooperatives always try to implement behavior that is in accordance with applicable norms. Furthermore, there are networks (social networks) in cooperatives that form cooperative social capital. According to research, cooperative norms moderate the second stage of mediation, namely the relationship between trust in the organization and knowledge sharing. In accordance with research, each member has his or her own understanding of the social rules and norms that apply to underlie social relationships within the team, as well as what behavior is appropriate and what behavior can be expected from other people [17].

The agribusiness institutional variable (X6) has a significant effect on cooperative business performance. In general, agribusiness institutions are still not good at increasing farmers' income. The role of agribusiness institutions is crucial to the success of agricultural development, because it is hoped that they will be able to contribute to farmers' accessibility to farmers' socio-economic development, as well as markets. If related to the agribusiness system, institutions include the supporting services subsystem where the institution must be able to play a role in supporting activities in the subsystem of procuring production facilities, farming, processing agricultural

products and marketing. Farmers as the main actors are the subjects in agribusiness development who are consumers of the services provided by the agribusiness supporting institutions. Agribusiness will run well if there is no gap between supporting institutions and business activities [18]. As an agribusiness institution, cooperatives have a strategic role as farmers' partners in terms of becoming buyers of farmers' cocoa beans. Apart from that, cooperatives provide empowerment programs through training and assistance for farmers to cultivate cocoa plants [19].

CONCLUSION

It can be concluded that of all natural resource variables (X1), human resource variables (X2), financial resource variables (X3), organizational variables (X4), norm variables (X5), human resource variables, and Agribusiness Institutions (Y1) both directly and indirectly have a significant effect on cooperative business performance (Y2). The results of the research ultimately show that in general the management of the Mitra Agribusiness Mandiri Cooperative has had an influence on increasing cocoa production at the assisted farmer level. Suggestions for further research require a policy in developing cooperatives because this cooperative is one of the drivers of cocoa production. This cooperative still experiences difficulties in producing and processing its cocoa products due to the lack of equipment and requires processing so that the cocoa beans are not only sold directly on the market but also can be processed so that it can be of added value for cooperatives and farmers, of course.

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