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ORIGINAL ARTICLE

A PROMOTIONAL MODEL FOR MARKETING OF RAMBUTAN FRUIT IN INDONESIA TO IMPROVE THE WELFARE OF FARMERS AND TRADERS

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Abstract: West Java is the largest rambutan producing province in Indonesia. Rambutan Sibatulawang is a local product that is widely cultivated by agriculture in West Java. Marketing of rambutan fruit is one aspect of concern in increasing the income of farmers. But over time, the level of marketing of rambutan fruit has decreased. Therefore, this study aims to analyze the marketing of rambutan fruit. The analysis was carried out by considering the participation, motivation, and communication network factors of farmers and traders in promoting and marketing rambutan fruit. In this study, the research design used a mix method, namely qualitative and quantitative. The data used in this study were obtained from questionnaires given to rambutan farmers and traders in each district or city in West Java Province. At the data analysis stage, Structural Equation Modeling (SEM) was used to determine the marketing model for rambutan fruit. Based on the results of the analysis, it was found that the characteristics of farmers did not significantly influence the marketing model of rambutan fruit. However, the participation of farmers and traders has a significant effect on the marketing of rambutan fruit. While farmer motivation has no effect on communication networks and has a significant effect on marketing promotion of rambutan fruit. As well as for the communication network has a significant effect on the marketing promotion of rambutan fruit. Based on the results of sector analysis that needs to be of concern and needs to be improved, namely motivation and communication networks between farmers and traders. Thus, it will increase the marketing of rambutan fruit in West Java. Based on the results of the analysis, it is expected to be a reference for the local government in increasing the production of rambutan agricultural marketing.

***Key words*:** Rambutan, Promotion, Marketing, SEM, Communication network.

Cite this article

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1. Introduction

Indonesia is one of the tropical countries that has high fruit potential. This is marked by the various types of plants and fruits that thrive in Indonesia [Suwardi *et al*. (2020), Kumoro *et al*. (2020), Brunerová *et al*. (2017)]. Indonesia is included in the top 20 fruit exporting countries in the world. One of the fruit plants that is widely cultivated in Indonesia is the rambutan tree because of its easy maintenance [Yuniastuti and Kusfitasari (2019), Windarsih and Efendi (2019)]. In addition, rambutan belongs to the non-climacteric fruit group, which is a type of fruit group that does not need to go through the ripening process before hand [Setyabudi *et al*. (2021), Shetty *et al*. (2018), Saowakon *et al*. (2017)]. Among the fruits that have advantages and are easily affordable, rambutan itself has good development potential. This can be seen from the trend of production development which tends to increase. One

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of the centers for the production of rambutan fruit agriculture which is currently developing is in West Java Province. The rambutan fruit produced by West Java Province has certain characteristics. Many farming communities cultivate rambutan fruit, so it has good prospects for the development of rambutan fruit agribusiness. This condition is supported by climatic geographical conditions, topography and human resources that meet the requirements. The type of rambutan that is widely cultivated in West Java Province is Sibatulawang. Data from the Central Statistics Agency (BPS) shows that rambutan production in Indonesia is 884,702 tons in 2021. This number has increased by 29.9% compared to the previous year which was 811,909 tons. West Java is the largest rambutan producing province in Indonesia, namely 171,069 tons. This figure is equivalent to 19.34% of the total national rambutan production in Indonesia.

In the development of leading commodity agribusiness, rambutan has an economic function for the local community. The agricultural sector can economically increase farmers' income and move the wheels of the community's economy towards prosperity and independence [Kalfin *et al*. (2021), Barros *et al*. (2020)]. In an effort to develop rambutan agribusiness, it is necessary to have coordination between business actors consisting of farmers, traders, and the government as policy makers. Marketing is one of the main functions of a commodity development in order to improve the farmers' economy [Tadesse and Bahiigwa (2015), Hughes and Isengildina-Massa (2015)]. One important element is the need for an efficient marketing communication network that is carried out between business actors [Asogwa and Okwoche (2012), Nezamova and Olentsova (2021)]. Behera *et al*. (2015) explained that communication and information technology facilities among farmers are really needed and the existence of communication and information technology for all market actors can play an important role in promoting their products. In other circumstances, there is still a lack of communication networks for farmers in West Java in marketing their agricultural products, both in promotion and marketing. However, in developing and improving the farmer's economy, marketing promotions are needed, especially for rambutan as a superior fruit commodity in West Java.

The phenomenon that occurs in the marketing of superior products in West Java is the gap between marketers at the upstream and downstream levels. The transfer of information has not been well managed, while its informal character is characterized by minimal influence from the government which is not yet flexible. Through describing the characteristics of market players, it is hoped that one can learn or gain an understanding of market players who have quite a dominant role, but until now it has been relatively difficult to handle. So that the marketing communication network is not carried out efficiently and quickly. According to Stroebel (2009), in identifying the agents involved in the various stakeholders in the interaction process in the agricultural environment are farmers, traders and agricultural extension workers. The agribusiness actors have interrelationships (interactions) and involve a number of rules built by each actor. While the marketing communication network for agricultural commodity products can be identified by looking at the network indicators. The network indicators are degree centrality, closeness centrality and betweenness centrality, communication networks capable of changing individual behavior and group performance [Mester *et al*. (2021), Zhang and Luo (2017)].

Research related to the promotion and marketing of agricultural products has experienced significant developments. Where in this study, an analysis of the factors that influence the level of promotion and marketing of rambutan fruit from a farmer in West Java. Where in the research by Parker *et al*. (2016), conducted an analysis of marketing communication networks for agricultural products. The analysis was carried out by looking at the level of effectiveness of farmers in obtaining information. Information that becomes an aspect of concern related to the distribution of prices for agricultural products is timely and accurate received by farmers. In another study conducted by Liu *et al*. (2021), developed a marketing model for fresh agricultural products among community groups. The development is carried out by evaluating the distribution process of fresh agricultural products and the existing logistics system, which is developed based on the marketing model. Boiko *et al*. (2019) conducted an analysis of the competitive advantages of the wholesale market in marketing agricultural products. The research conducted looked at the level of profit from the wholesale market and analyzed the level of quality of agricultural products, price control, and a better level

of budgeting. In addition, Zámková *et al*. (2021) conducted an analysis of customer attitudes towards organic agricultural production. Analysis carried out on organic agricultural production, in the form of quality and benefits obtained for farmers and customers from organic agricultural production.

Based on the previous research, there is a gap, where the previous research has not applied an analysis of the fundamental factors that influence the promotion and marketing of agricultural products. These factors are the level of participation, motivation and communication networks between farmers and traders in promoting and marketing agricultural products. In previous research, the analysis conducted focused on the use of information technology media in marketing and promoting agricultural products. Based on this gap, this study aims to analyze the factors that influence the promotion and marketing of rambutan. The analysis was carried out by considering the level of participation, motivation and communication network of farmers and traders in promoting and marketing rambutan fruit. Based on the research results obtained, it is expected to increase the marketing of rambutan products in West Java. Apart from that, from the research obtained, it is hoped that the local government can become a reference in evaluating and improving basic aspects, in increasing the marketing of rambutan agricultural products in West Java.

2. Materials and Methods

2.1 Research Areas and Data

The research was conducted in West Java Province which is an agropolitan area that has the potential for a local specific superior commodity, namely rambutan. Data from the Central Statistics Agency (BPS) shows that rambutan production in Indonesia is 884,702 tons in 2021. This number has increased by 29.9% compared to the previous year which was 811,909 tons. West Java is the largest rambutan producing province in Indonesia, namely 171,069 tons. This figure is equivalent to 19.34% of the total national production of rambutan. In this study, the object of research was the promotion and marketing model of rambutan fruit in West Java. The analysis carried out is more specific to the level of participation, motivation and communication network of farmers and traders in West Java in promoting and marketing the rambutan fruit. The large number of farmers cultivating rambutan fruit in West Java is because rambutan fruit can grow well. The desired soil for rambutan fruit is fertile soil and slightly sandy loose. Besides having an appropriate height, easily planted in various types of soil, rambutan also does not need special treatment in its cultivation. The map of the location of West Java where this research was conducted in the form of an analysis of the promotion and marketing model of rambutan fruit products is shown in Fig. 1.

In this study, prior to direct research, a preliminary survey was carried out in several cities and districts in West Java Province. Preliminary surveys were carried out as an initial stage by conducting preliminary observations and research in order to collect data to strengthen or sharpen problems that occur in the field so that researchers become convinced that this research is necessary and can be carried out. In addition, a preliminary survey was conducted to be able to map which districts or cities are the central producers of rambutan fruit. Based on the results of the preliminary survey, then data collection was carried out to support the research being carried out. Where, the data used in this study are primary and secondary data. Primary data were obtained through questionnaires and direct interviews with rambutan farmers and traders. Questionnaires posed to respondents, in the form of a list of questions related to factors that influence the marketing promotion of rambutan fruit. Meanwhile, secondary data was obtained from related parties and institutions, including the Department of Agriculture and the Central Bureau of Statistics.

2.2 Method

This research uses a positivistic paradigm (post positivism) post positivism is a framework for organizing theory and research in general including basic assumptions, main issues, quality of research models and methods of finding answers. So that it can be used as a guide in making decisions and research directions. The positivistic paradigm is a school of thought that only recognizes rational, empirical, objective truths and relies on the ability to directly observe (empirical) inductive reasoning. The research unit is a rambutan farming business actor who is affiliated with a group in a sustainable marketing system in the Province of West Java.

In this study, the method was carried out by integrating quantitative and qualitative approaches to see a phenomenon. The combination of the two methods

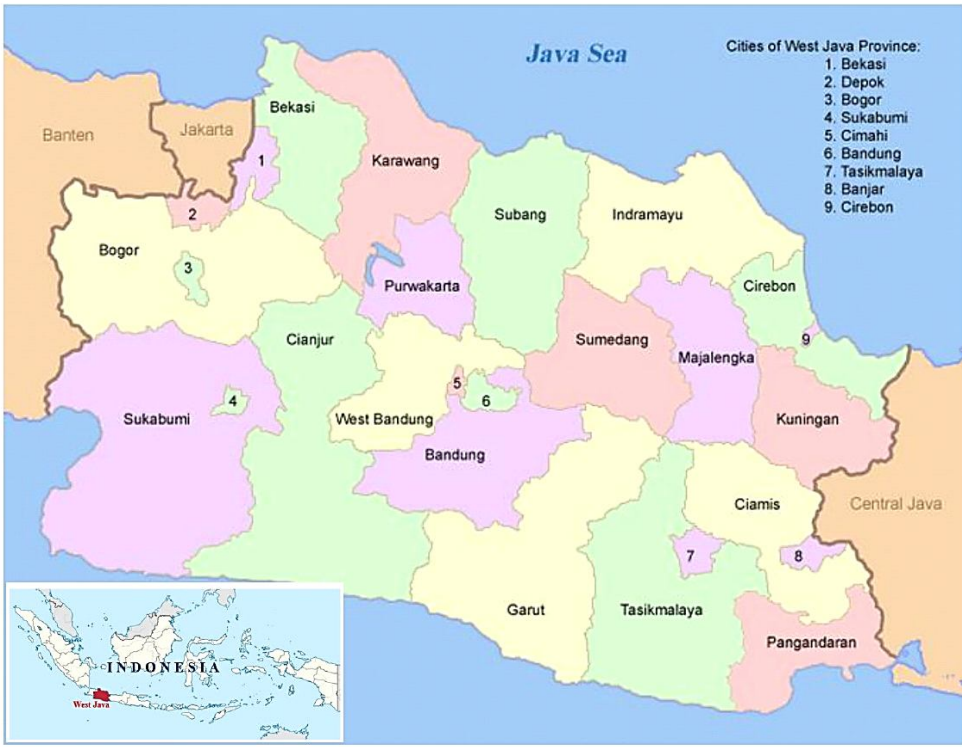

Fig. 1: Administrative Map of the Province of West Java

(quantitative and qualitative) is often referred to as mixed methods research. Mix methods research is an investigative approach that involves both quantitative and qualitative collections that are integrated using different designs, assumptions, philosophical and theoretical frameworks. The research focus refers to three problem identifications, namely

a) What is the motivation and participation of rambutan farmers in West Java.
b) Analysis of the factors that influence the promotion of rambutan products using the Structure Equation Model – Partial Least Square (SEM-PLS).
c) Decision making on the implemented model of rambutan product marketing promotion.

2.3. Data Analysis Design

In the path analysis for Structural Equation Modeling with Partial Least Square, there are three models, namely the inner model, the outer model and the weight relation. The Structural Model (Inner Model) describes the relationship between latent variables formed based on theoretical substance which is formulated as follows [Foster *et al*. (2021), Elastika *et al*. (2021)

$$\varepsilon = \beta_0 + \beta\varepsilon + \Gamma\xi + \zeta$$

where, ε denotes the dependent (endogenous) latent variable vector, ξ denotes the exogenous (independent) latent variable vector, β denotes the path coefficient for the relationship between endogenous latent variables, Γ denotes the exogenous latent variable coefficient, which denotes the relationship from ξ to ε and ζ denotes random error vector. Partial Least Square is designed for a recursive model, so there is a relationship between variables called the causal chain system with the equation form

$$\varepsilon_j = \Sigma\beta_{ji}\varepsilon_i + \Sigma\gamma_{jb}\xi_b + \zeta_j$$

where, β_{ij} represents the path coefficient connecting endogenous and endogenous latent variables and γ_{ji} represents the path coefficient connecting endogenous and exogenous latent variables.

The measurement model (outer model) describes the relationship between latent variables and their indicators. In the outer model, there are two types of models, namely formative and reflexive indicator models. The reflexive model occurs when the manifest variable is influenced by the latent variable, which is mathematically formulated as follows [Foster *et al*. (2021), Elastika *et al*. (2021)].

$$x = \lambda_x\xi + \varepsilon_x$$

$$y = \lambda_x\eta + \varepsilon_y$$

where, x represents the indicator for the exogenous latent variable (ξ), y represents the indicator for the endogenous latent variable (ε) and λ_x, λ_y represents the loading matrix, which describes like a simple regression coefficient connecting latent variables with their indicators. The formative model assumes that manifest variables affect latent variables. The direction of causality flows from the manifest variables to the latent variables. The direction of causality flows from the manifest variable to the latent variable, which is formulated mathematically as follows

$$\xi = \Pi_x \xi x_i + \delta_\xi$$

$$\varepsilon = \Pi_y \eta y_i + \delta_\eta$$

where, Π_x, Π_y denotes the multiple regression coefficient of the latent variable on the indicator and δ_x, ε_η denotes the level of measurement error (residual error).

The weight relation model shows the relationship between the variance values between indicators and their latent variables so that it is assumed to have a mean equal to zero (0) with a variance equal to one (1), to eliminate constant in quality which is formulated as follows

$$\xi_b = \sum_{kb} w_{kb} x_{kb}$$

$$\varepsilon_i = \sum_{ki} w_{ki} \gamma_{ki}$$

where, w_{kb}, w_{ki} denote the k weights used to estimate the latent variables ξ_b and ε_i.

3. Results

3.1 Level of Participation and Motivation of Rambutan Farmers

Based on the results in the field, there are indicators of participation in rambutan farming in the Province of West Java which consist of, 1) Forums created to accommodate community participation, in this study are forums between market participants for interaction, 2) The ability possessed by the people involved in the participation process, in this research is a process of interaction that results in increased participation between market participants, and 3) There is access to the community for the purpose of expressing their opinion in making decisions, in this study it is access to agricultural market actors to express opinions in relation to decision making in the marketing of agricultural products. As for the indicators of the type of motivation for rambutan farming in the Province of West Java which consists of three, namely intrinsic motivation, extrinsic motivation, and promotion motivation. Based on the results in the field, the level of participation and motivation of rambutan farmers in West Java is shown in Fig. 2.

The results of the analysis of participation in the rambutan farmer group in Fig. 2 show that the level of participation in the group in West Java is in the very high category (> 80 percent). The highest percentage of indicator values is joining farmer groups. Therefore, it can be said that joining farmer groups has a high value so that it can have an impact on the level of participation of farmer groups. In addition, based on Fig. 2 the ability possessed in farmer participation scores very high. This illustrates that rambutan commodity farmers have the ability to develop this commodity. Farmers carry out a marketing system for rambutan products by selling directly to dealers/middlemen in the villages. Meanwhile, the access owned by rambutan commodity farmers scores in the high category. Farmers already have their respective access in developing and promoting rambutan commodities. This is because the channel for selling rambutan is usually done directly to the middlemen, so the farmers assume that there are no obstacles regarding the seller of the produce.

Based on Fig. 2, the highest aspect of intrinsic motivation is the self-desire to try farming with a score of 88.57. Based on the results of research in the field, the agricultural potential in West Java is quite large. Thus, there are many opportunities for the community to carry out farming activities as a source of livelihood. However, the lowest aspect of intrinsic motivation is having a great desire to develop rambutan product farming with a score of 80.57. This is because rambutan is not the main commodity that is focused on by farmers. The easy availability of rambutan seeds and maintenance, many farmers only make rambutan as an additional commodity that can be used for their harvest once a year. In addition, the highest extrinsic motivation aspect is family support for rambutan farming with a score of 96.57. Based on the results in the field, farmers carrying out rambutan cultivation are still triggered by extrinsic motivation, namely in the form of invitations and encouragement to do rambutan

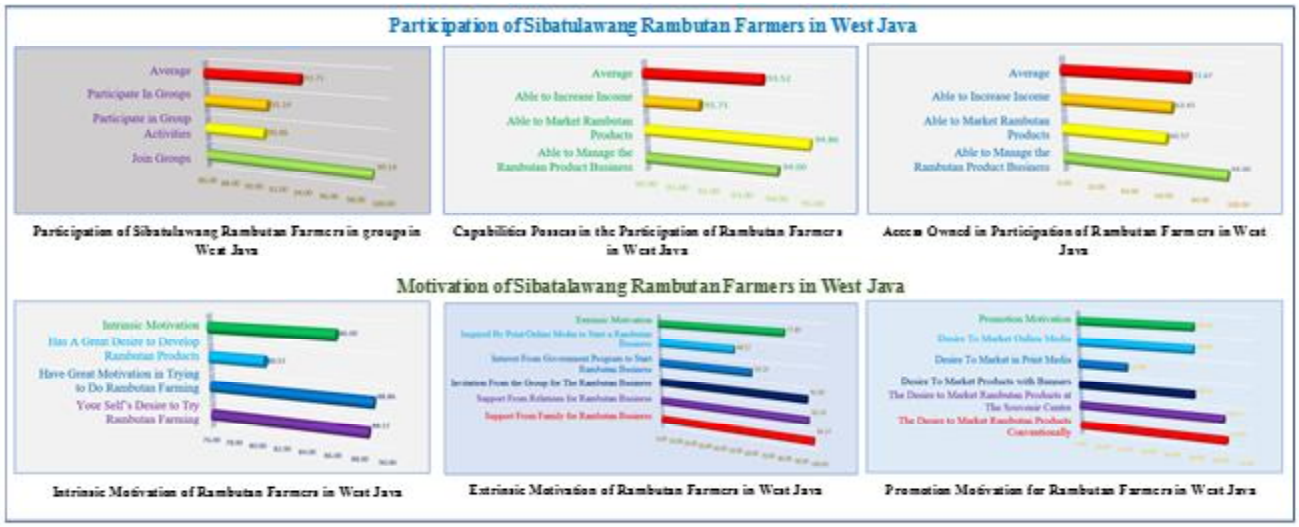

Fig. 2: Level of Participation and Motivation of Rambutan Farmers in West Java

farming from the family, relations and farmer groups. Meanwhile, the highest aspect of promotion motivation is the desire to market rambutan products conventionally with a value of 62.00. Based on the results in the field, when the harvest time arrives, the farmers hand over their crops to the middlemen for further distribution to the traders. Pricing has also been determined in accordance with the agreement. Farmers market rambutan conventionally due to several factors, including the use of technology and information that is not yet optimal, so marketing of rambutan products which should be done online has not been fully utilized.

3.2 Sibatalawang Rambutan Farmers Communication Network

The communication network of rambutan farmers in West Java is explained using descriptive analysis and processed by grouping using percentages and then described through narrative explanations to provide an empirical picture or primary data collected from respondents (rambutan farmers). The status of the communication network is discussed using a communication network approach consisting of degree centrality, closeness centrality and betweenness centrality as shown in Fig. 3.

Based on Fig. 3, an overview of the condition of degree centrality in rambutan farmers shows a good category. This shows that communication activity between farmers is very high. Information about rambutan products has the highest value in the good category. The communication process that is often carried out by farmers by providing information about cultivation techniques from fellow farmers without obtaining information from outside, this makes rambutan products still classified as genuine because the cultivation techniques are still from seeds from the region of origin. In addition to obtaining information from fellow farmers, information that comes from outside is basically still needed. By expanding the communication network, farmers can get a clearer picture regarding assistance, marketing, price, quality, and related to rambutan farming itself. This can encourage ease in marketing, find out market information and increase revenue.

Based on Fig. 3, farmers' perceptions of closeness centrality are in the good category. This is a condition where farmers also obtain information not only from fellow farmers, but from other sources of information such as traders, middlemen and companies. Obtaining this information is very helpful for farmers in promoting rambutan products as well as market information. Provision of information from the government is relatively lower than other sources of information. The government should be able to provide accurate and targeted information so that farmers know accurate information to support their farming activities. One of them is price-related information, farmers can find out where prices are higher and make the distribution of production products more widespread. With the expansion of production, it can encourage rambutan to become more famous and encourage farmers to be more consistent in doing rambutan farming. When consistency has grown, farmers will optimize their business such as increasing the number of trees, expanding land, which in turn can increase the quantity of production. Until now, basically a lot of rambutan

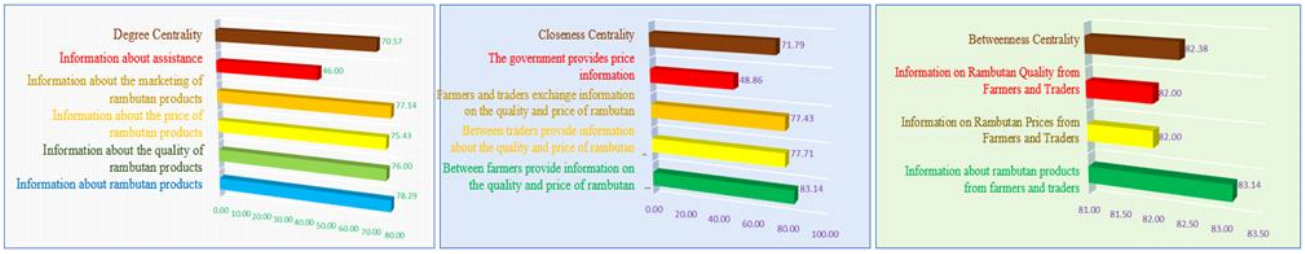

Fig. 3: Communication Network for Rambutan Commodity Farmers in West Java.

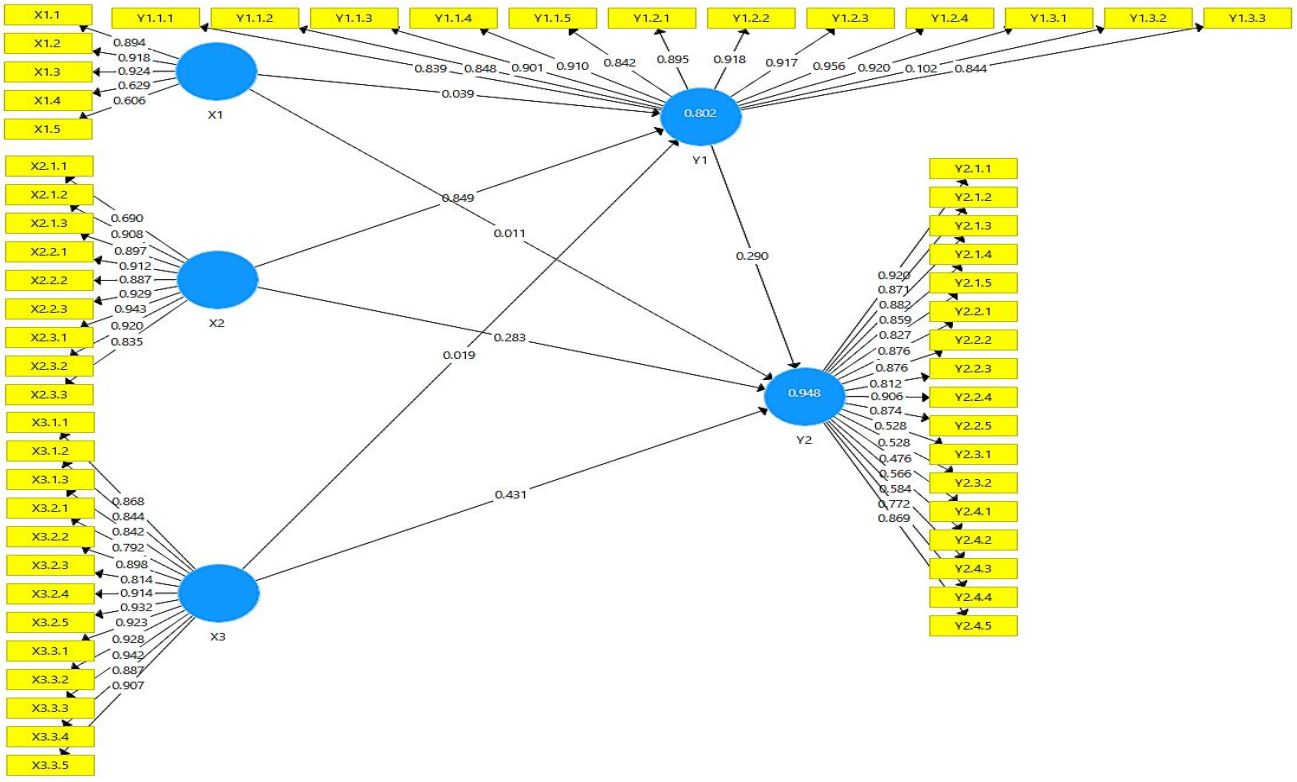

Fig. 4: Initial Standardized Loading Factor Inner and Outer Model

land area has been reduced because it is sold for other purposes. In addition, farmers are also not really focused on running this rambutan farming business.

In addition, Fig. 3 shows that the farmer's view of betweenness centrality is very good, this is illustrated by the communication network indicator with the highest betweenness centrality value. This condition shows the information obtained by farmers from various sources both from the side of the farmer and outside the farmer himself. Thus, the information needed by farmers is easy to obtain, such as information on sales locations, information on assistance, especially regarding the promotion of rambutan in Sibatulawang. In order to increase promotion, farmers can take advantage of technology. Farmers can promote their products through information technology such as social media.

3.3 Rambutan Featured Product Promotion Model

The promotional model for superior rambutan products referred to in this study is a structural model constructed from the results of Structure Equation Model (SEM) – Partial Least Square (PLS) analysis. This model is systemic so that the correlations and their effects are displayed as a whole, both positive and negative, both significant and insignificant. However, the focus of the analysis in this study is emphasized on the value of significant influence, either partially or simultaneously. In the early stages, the evaluation was carried out on the measurement model given in Fig. 4.

Based on Fig. 4, the calculation results show that the loading factor for farmer characteristics (X1) includes X1.1 (age) of 0.894; X1.2 (educational level)

of 0.918; X1.3 (farming experience) of 0.924; X1.4 (land area) of 0.629 and X1.5 (income level) of 0.606. Participation variable (X2) is measured by three sub-variables, namely participation in groups, capabilities and access. Each sub-variable is measured using three indicators. The loading factor for group participation (X2.1) is measured by X2.1.1 (joining a group) of 0.690, X2.1.2 (participating in group activities regularly) of 0.908 and X2.1.3 (participating in a group) of 0.897. Owned access loading factor (X2.2) of which is measured by X2.2.1 (able to manage a business) of 0.912; X2.2.2 (capable of marketing) of 0.887 and X2.2.3 (ability to fulfill) of 0.929. Then the access factor loading owned (X2.3) is measured by X2.3.1 (ease of selling) of 0.943; X2.3.2 (ease of obtaining capital) of 0.920 and X2.3.2 (ease of meeting needs) of 0.835.

Meanwhile, motivation (X3) is measured by three sub-variables, namely intrinsic motivation, extrinsic motivation and promotion motivation. Each sub-variable is measured using three to 5 indicators. The loading factor for intrinsic motivation (X3.1) is measured by X3.1.1 (self-desire) of 0.868; X3.1.2 (has great motivation) of 0.844 and X3.1.3 (has a great desire) of 0.842. For extrinsic motivation factor loading (X3.2), it is measured by X3.2.1 (family support) of 0.792; X3.2.2 (friend/relative support) of 0.898; X3.2.3 (invitation from the group) of 0.814; X3.2.4 (interest from government programs) of 0.914 and X2.2.5 (Inspired by the media) of 0.932. Then the loading factor of promotion motivation (X3.3) is measured by X3.3.1 (conventional marketing) of 0.923; X3.3.2 (marketing at souvenir centers) of 0.928; X3.3.3 (marketing on banners) of 0.942; X3.3.4 (marketing in print media) of 0.887 and X2.3.5 (marketing in online media) of 0.907.

The communication network is measured by degree centrality, closeness centrality and betweenes centrality. The degree of centrality is measured by the Y1.1.1 indicator (product information) with a loading factor value of 0.839; Y1.1.2 (quality information) of 0.848; Y1.1.3 (price information) of 0.901; Y1.1.4 (marketing information) of 0.910; and Y1.1.5 (help information) of 0.842. Closeness centrality is measured by Y1.2.1 (information between farmers regarding quality and price) with a loading factor value of 0.895; Y1.2.2 (information between traders regarding quality and price) of 0.918; Y1.2.3 (farmers and traders information related to quality and price) of 0.917 and Y1.2.4 (government provides information) of 0.956. Betweenes centrality is measured by Y1.3.1 (product information from farmers and traders) with a loading factor value of 0.920; Y1.3.2 (price information from farmers and traders) of 0.102; and Y1.3.3 (quality information from farmers and traders) of 0.844.

The promotion variable is described in four sub-variables namely knowledge, communication channels, media and marketing platforms. For knowledge (Y2.1) it is measured by five indicators, namely Y2.1.1 (history of rambutan) of 0.920; Y2.1.2 (Cultivation of rambutan) of 0.871; Y2.1.3 (taste of rambutan) of 0.882; Y2.1.4 (the quality of rambutan) is 0.859 and Y2.1.5 (difference/uniqueness of rambutan) is 0.827. For communication channels (Y2.2) it is measured by five indicators, namely Y2.2.1 (information on superiority is obtained verbally) with a loading factor value of 0.876; Y2.2.2 (advantage information obtained from the media) of 0.876; Y2.2.3 (price information obtained orally) of 0.812; Y2.2.4 (information on superiority obtained from the media) was 0.906 and Y2.2.5 (the government's role in promoting) was 0.874. For media (Y2.3) it is measured by two indicators, namely Y2.3.1 (target market information from online media) with a loading factor value of 0.528 and Y2.3.2 (target market information from offline media) of 0.528. Then the marketing platform (Y2.4) is measured by five indicators, namely Y2.4.1 (marketing telephone communications) with a loading factor value of 0.476; Y2.4.2 (marketing via television and radio) of 0.566; Y2.4.3 (marketing via WhatsApp, Facebook and Instagram) of 0.584 and Y2.4.4 (marketing through e-commerce and websites) of 0.772 and Y2.4.5 (marketing through print media) of 0.869.

Based on Fig. 4, it can be seen that almost all of the standardized loading factors have a value of more than 0.50, namely indicators Y1.3.2 and Y2.4.1, which have a loading factor value of less than 0.5 so it needs to be set aside. The elimination process is carried out one by one until the measurement model evaluation size for each variable is met. The results of the model improvement are given in Fig. 5.

Based on Fig. 5, it can be seen that the overall standardized loading factor has a value of more than 0.5 so there is no need for indicators to be set aside. Thus, each indicator is valid to explain each latent variable, namely farmer characteristics (X1), participation (X2), motivation (X3), communication network (Y1) and promotion (Y2).

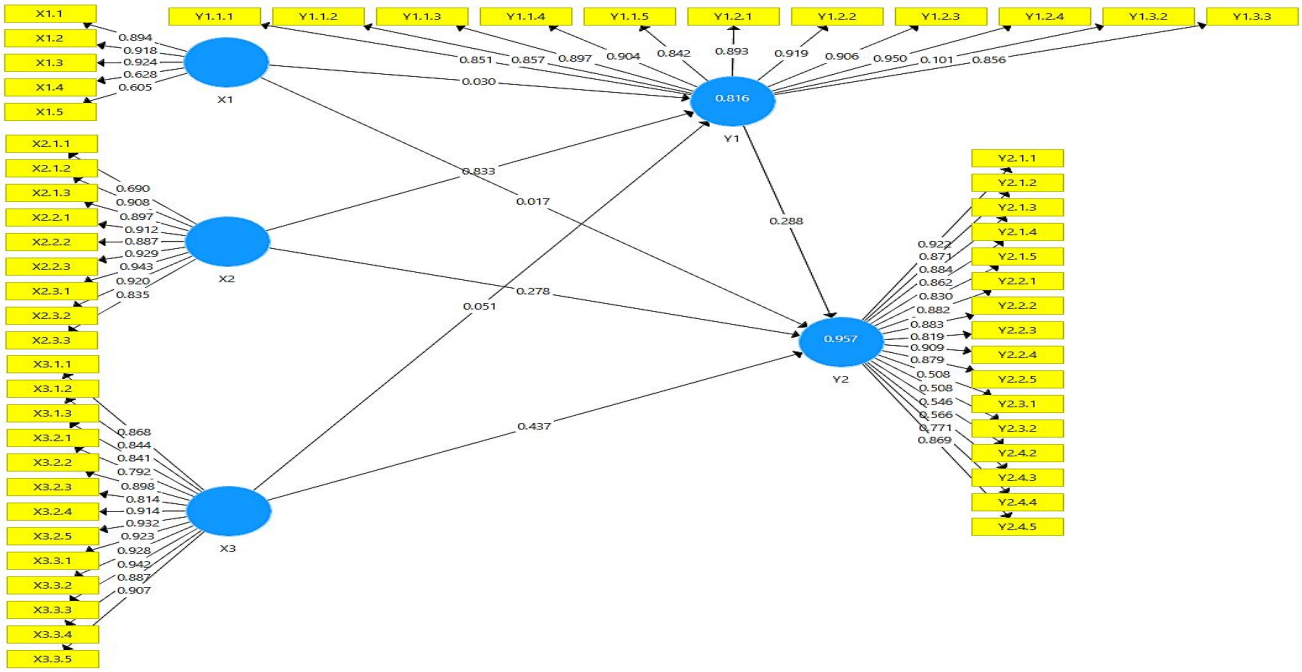

Fig. 5: Standardized Loading Factor Inner and Outer Improvement Model

In the next stage, an evaluation of the structural model will be carried out. There are several stages in evaluating the structural model. The first is to look at the significance of the influence between the constructs. This can be seen from the path coefficient, which describes the strength of the relationship between constructs. Seeing the significance of the influence between the constructs can be seen from the path coefficient. The sign in the path coefficient must be in accordance with the hypothesized theory. To assess the significance of the path coefficient, it can be seen from the t-test (critical ratio) obtained from the bootstrapping process (resampling method). Following are the results of the t-test for the inner and outer models given in Fig. 6.

Based on the results of the t-test from bootstrap calculations, the p-value of the t-test in Fig. 6 will then be compared with the significant level value. The characteristic path coefficient value (X1) is based on a p-value of 0.753 where the value is greater than 0.05, which means that the resulting hypothesis does not reject Ho so that the characteristic variable (X1) does not have a significant influence on the communication network (Y1). The X variable that has a significant influence on the Y1 variable based on the path coefficient results is X2, namely participation.

a) The p-value of farmers' characteristics on the communication network is 0.753. When compared with a significant level of 5%, the p-value (0.753) > significant level (0.05) so it is not significant. Thus, it can be concluded that there is no significant influence of the characteristics of farmers on the communication network.

b) The p-value of farmers' characteristics for promotion is 0.607. When compared with a significant level of 5%, the p-value (0.607) > significant level (0.05) so it is not significant. Thus, it can be concluded that there is no significant influence of farmer characteristics on promotion.

c) The p-value of participation in the communication network is 0.000. When compared with a significant level of 5%, the p-value (0.000) < significant level (0.05) so it is significant. Thus, it can be concluded that there is a significant effect of participation on the communication network. Then the amount of participation in the communication network is 0.833. A positive path coefficient indicates that the better the participation, the better the communication network.

d) The p-value of participation in promotion is 0.001. When compared with a significant level of 5%, the p-value (0.001) < significant level (0.05) so it is significant. Thus, it can be concluded that there is a significant effect of participation on promotion. Then the amount of reflection of participation in promotions is 0.278. The positive path coefficient

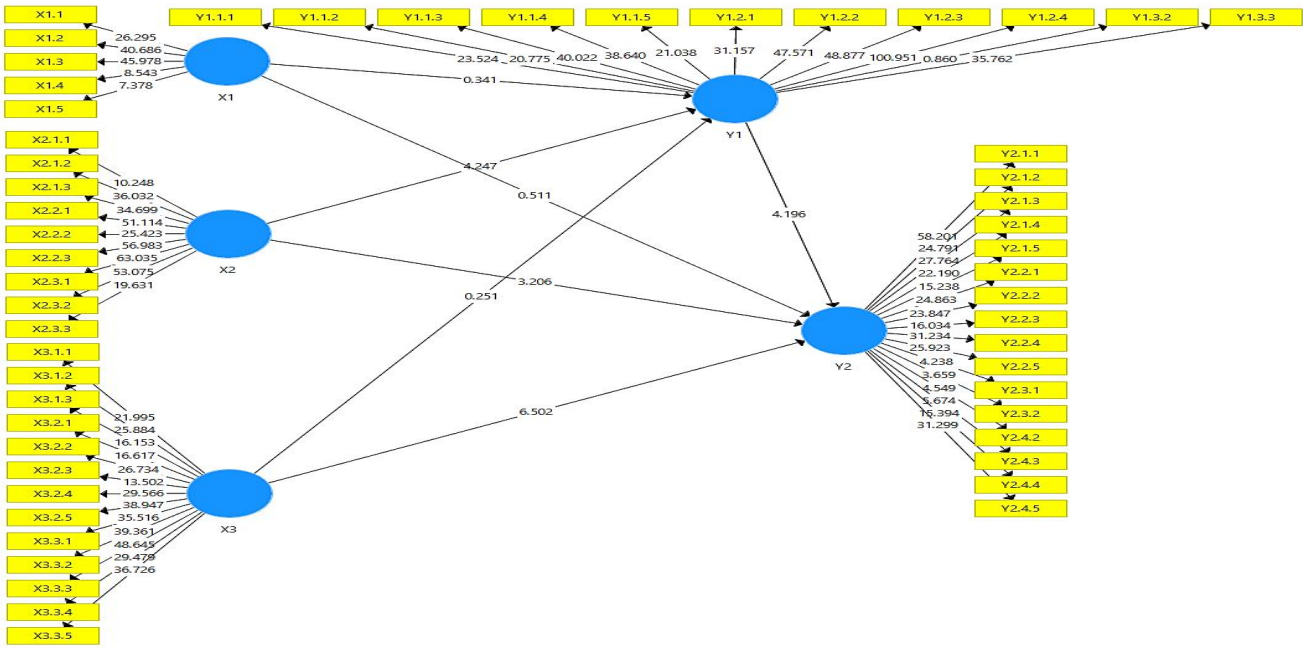

Fig. 6: Inner and Outer T-Value Models

Table 1: Path Coefficient Results Direct effect of Promoting Premium Rambutan Products.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STERR|)	P value
X1 -> Y1	0.030	0.036	0.097	0.315	0.753**
X1 -> Y2	0.017	0.018	0.032	0.515	0.607**
X2 -> Y1	0.833	0.809	0.198	4.210	0.000**
X2 -> Y2	0.278	0.279	0.085	3.273	0.001**
X3 -> Y1	0.051	0.076	0.199	0.255	0.799**
X3 -> Y2	0.437	0.442	0.073	5.986	0.000**
Y1 -> Y2	0.288	0.280	0.070	4.136	0.000**

Note: **) significant at 5% level; *) significant at 10% level.

indicates that the better the participation, the better the promotion.

e) The p-value of motivation for communication networks is 0.799. When compared with a significant level of 5%, the p-value (0.799) > significant level (0.05) so it is not significant. Thus, it can be concluded that there is no significant effect of motivation on the communication network.

f) The p-value of motivation for promotion is 0.000. When compared with a significant level of 5%, the p-value (0.000) < significant level (0.05) so it is significant. Thus, it can be concluded that there is a significant influence of motivation on promotion. Then the amount of motivation for promotion is 0.437. The positive path coefficient indicates that the better the motivation, the better the promotion.

g) The p-value of the communication network for promotion is 0.000. When compared with a significant level of 5%, the p-value (0.000) < significant level (0.05) so it is significant. Thus, it can be concluded that there is a significant influence of communication networks on promotion. Then the magnitude of the communication network on promotion is 0.288. A positive path coefficient indicates that the better the communication network, the better the promotion.

Furthermore, the variable (X) which has a significant influence on (Y2) promotion when viewed from the hypothesis, is only participation (X2) and motivation (X3). The communication network variable (Y1) has a significant effect on promotion (Y2). PLS results were reviewed and evaluated using a systematic process. The goal of PLS is to maximize the variance explained, namely the R^2 value of the endogenous latent

Table 2: Results of R^2 Calculation Research on Promotion of Rambutan Featured Products.

	R-Square
Y1	0.816
Y2	0.957

variables in the PLS pathway model. For this reason, the evaluation of the quality of PLS measurements and structural models focuses on metrics that indicate the model's predictive ability, where the results of the calculation of R^2 are given in Table 2.

Based on the R^2 value, it is known that the characteristics (X1), participation (X2) and motivation (X3) are able to explain the communication network (Y1) of 0.816 (81.6%), while the remaining 18.4% is explained by other variables outside the model. While the promotion R^2 value (Y2) is 0.957 or 95.7%, which means that 95.7% of the rambutan promotion can be explained by all variables in the model, namely characteristics, participation, motivation and communication network, while the remaining 4.3% is explained by variables other than models.

The Goodness of Fit test or model feasibility test is used to measure the accuracy of the sample regression function in estimating the actual value. Statistically, it can be obtained from the average communalities index multiplied by the value of R^2. According to Greenland *et al*. (2016), a statistical calculation is called statistically significant if the statistical test value is in the critical area (area where Ho is rejected). Conversely, statistical calculations are said to be insignificant if the statistical test values are in the area where Ho is accepted. To validate the model as a whole, goodness of fit (GoF) is used. The GoF index is a single measure used to validate the combined performance of the measurement model and the structural model. Following are the results of calculating the goodness of fit model given in Table 3.

Based on Table 3, the average result of communalities is 0.715. This value is then multiplied by R^2 and taken root. The calculation results show that the GoF value is 0.803 more than 0.67. The criterion R^2 value of 0.67 is included in the strong category, 0.33 is included in the moderate category, and 0.19 is included in the weak category. In this study, the calculation results show that the GoF value is 0.803, which is greater than 0.67 so that it is categorized as a large and strong GoF, meaning that the hypothesized model is in accordance with empirical data.

Table 3: Uji Goodness of Fit.

	AVE	R square
X1	0.658	
X2	0.780	
X3	0.783	
Y1	0.718	0.816
Y2	0.634	0.968
Mean	0.715	0.892
GoF	**0.803**	

4. Discussion

Marketing is an important aspect for agricultural businesses, because agricultural products need to be marketed in order to gain profit. Marketing activities are important in agriculture (agribusiness) starting from the provision of agricultural production facilities (input subsystem), farming (on farm), marketing and processing of agricultural products, as well as supporting subsystems such as research, counseling, financing/ credit, marketing information, and policies marketing. Marketing is one of the main activities carried out by entrepreneurs in their efforts to develop, earn profits and maintain their survival [Ho *et al*. (2018)]. According to Đûmane *et al*. (2018), success or failure in achieving business goals depends on the expertise of business actors in marketing, production, finance and other fields. In addition, it also depends on the ability of the actors to combine these functions so that the organization can run smoothly. In the process of marketing the rambutan commodity, farmers sell their produce to dealers in West Java. The intended target market is the market in Batulawang District, West Java. Sales of rambutan are carried out through middlemen/dealers who buy rambutan directly from farmers for further distribution to retailers. In this channel, inspection of the quality of rambutan is not too complicated. Because of its kind, the rambutan has good fruit quality in terms of medium size, sweet taste and relatively affordable prices.

The communication process carried out by rambutan farmers and traders is carried out indirectly and directly. Direct communication is carried out face to face (visiting each other) to discuss the amount of production, price and quality of production obtained by farmers. Direct communication that occurs is influenced by the closeness (kinship) between farmers and traders. Meanwhile, indirect communication uses communication media, such as telephone media, SMS or WA. Farmers will contact traders to inform the amount of rambutan production and seek price information offered by

traders. The results of the research by Matthews *et al*. (2021), argue that traders are central actors in network marketing. This is influenced by the existence of a strong sense of trust and interaction between traders and farmers. Based on the study of degree centrality values in Fig. 3, it can be understood that traders in West Java are expected to be a source of information on marketing rambutan and have the same information, especially related to price. Good information will have an impact on farmers' decisions, especially in selling rambutan. This is in line with the research of Su *et al*. (2022), said that traders have a role in determining the price of an item.

Based on Fig. 6, the results of the t-test analysis obtained the p-value on the variable characteristics of farmers on communication networks, namely 0.753, which is greater than the 5% significance level (0.05). These results indicate that the proposed hypothesis is not proven, meaning that Ho is accepted and H1 is rejected. Thus, it can be concluded that the characteristics of farmers do not significantly influence the communication network. In terms of explaining the variable characteristics of farmers as measured by indicators of age, education level, farming experience, land area and income level, based on the calculation of item reliability as measured by a loading factor value above 0.5 all indicators can validly explain the variable characteristics of farmers. The positive values of the indicators of age, education level, farming experience, land area and income level increase, the better the characteristics of the farmers so that they affect the communication network of Sibatulang rambutan farmers.

Damti and Hochman (2022) stated that individual characteristics are part of the person and are inherent in a person, namely those that underlie a person's behavior in work situations and in other situations. In the context of marketing communication networks, it is necessary to review the individual characteristics of farmers. The results showed that the characteristics do not affect the communication network. It is suspected that one of the reasons is that the level of education is relatively low. According to Bokhari and Myeong (2022) the view is that the level of education is an important factor that can describe social status and influence a person in making decisions. If the level of education attained by farmers is high, then the tendency to participate in communication networks is also high. Based on the conditions in the field, it shows that the education of rambutan farmers is low, which causes the farmers' characteristics to not affect the communication network. According to Mittal and Mehar (2016) the level of education can affect the communication network both among farmers and with others. Where for communication to farmer groups affects the acquisition of price and marketing information.

The participation variable has a positive and significant effect on the communication network either simultaneously or partially. Thus, each indicator of participation, namely participation in groups, capabilities possessed and access possessed can explain the participation variable. The better the participation, the more it affects the communication network. The way farmers participate in running farming is always following group activities on a regular basis. This has an impact on information about rambutan farming, both price and marketing information. Luo and Zhong (2015) stated that a communication network is a method that seeks to explain social networks and the structure of communication networks that describe actor relationships. Similar to what was revealed by Keller (2016) that communication network can describe networks to whom they ask and by whom they are asked about a commodity being marketed. Conditions in the field show that all rambutan farmers have joined farmer groups. Farmers can obtain price information and marketing channels for rambutan which can support their participation, skills and access. The inclusion of farmers in farmer groups/communities provides access to communication networks.

Based on the test results of the motivational variable has no effect on the communication network. All indicators can validly explain motivational variables. Positive values of the indicators of intrinsic motivation, extrinsic motivation and motivation. The higher the motivational value, the greater the motivational boost. Thus, it also influences the communication network of rambutan farmers. Where, of course, rambutan farmers will have high enough motivation, but their application is not optimal in the field. Because this commodity is seasonal, farmers think that this rambutan farming has not been able to have an impact on welfare. According to research by Albizua *et al*. (2015), annual commodity farming has not had a significant enough impact on the welfare of farmers.

The rambutan promotion variable in this study was only directly influenced by participation and motivation variables. Based on the results of the analysis tests carried out, the variable characteristics of farmers besides having no significant influence on communication networks also did not have a significant effect on promotion. Participation has a direct and significant effect on promotion. The way of thinking about participation as measured by participation in groups, capabilities and access will affect promotion as measured by knowledge, communication channels, media and marketing platforms. The more participating farmers, the easier it will be for farmers to promote rambutan production. In addition, motivation has a direct and significant effect on promotion. Motivation in terms of intrinsic motivation, extrinsic motivation and promotion motivation. The greater the farmer's motivation, the more it will affect the promotion of superior rambutan products.

The communication network as measured by degree centrality, closeness centrality and betweenness centrality has a direct and significant effect on promotion. This shows that the proposed research hypothesis is in accordance with the results of the analysis tests carried out. The influence of each communication network will have an impact on promotion. The better the farmer's communication network, the better the promotion of rambutan products will be. If the rambutan farmers expand the communication network between fellow farmers, groups, communities, traders and the processing industry, the products offered will be easy to promote so that market needs will be met. Collaboration between farmers and other parties obtained from the communication network affects the bargaining position. According to Ilhami *et al*. (2022), the obstacle that is often faced by farmers in selling their produce to consumers is the lack of communication between one another. Another cause is the weak ability of farmers in a bargaining position. Farmers can only accept the price offered by buyers and are generally less seeking new markets.

5. Conclusion

Overall, the participation of rambutan farmers in West Java is in the very high category. Based on the research results, the highest participation is participation in groups, this shows that farmers have joined farmer groups. The perception of farmers when joining farmer groups will gain experience, new knowledge about cultivation, especially rambutan commodities, get assistance from the government and get information about marketing and prices for rambutan. In addition, the motivation of rambutan farmers in West Java received high marks. Obtaining the highest score, namely intrinsic motivation from research results in the field, the agricultural potential in West Java is quite large, so there are many opportunities for the community to carry out farming activities as a livelihood and rambutan agricultural products are original products from West Java so that farmers have their own pride in developing products.

Based on the results of the analysis of the rambutan commodity communication network in West Java, it is included in the good category, thus, the rambutan farmers stated that the communication network was running well. This means that with a good communication network, the development of the rambutan commodity has the potential to continue to be developed so that promotion is achieved in the rambutan product development program. The conceptual model for the promotion of superior rambutan products in West Java shows that farmer characteristics do not significantly influence communication and promotion networks, participation has a significant effect on communication and promotion networks. While motivation has no effect on communication networks and has a significant effect on promotions, and communication networks have a significant effect on promotions.

In the research conducted, regardless of the results obtained, it still has limitations. The limitation of this study is not yet conducting an alternative analysis of efficient marketing promotion policies. The research that was carried out was only on the analysis of conceptual factors for the promotion of superior rambutan products in the Province of West Java. In addition, the research conducted has not yet implemented the implementation model of the marketing promotion of rambutan products in West Java. Therefore, for future researchers it is necessary to carry out a model of implementation of efficient marketing promotion and alternative promotion policies. It is hoped that implementation models and alternative policies for marketing promotion of rambutan products in West Java can be obtained.

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