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Research

Factors affecting the independence of tri guna karya group farmers in kintamani in processing and marketing their products

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Abstract

Indonesia As an agrarian country, agriculture are considered as one of the sectors that contributes to economic growth by providing essential needs such as food and even raw materials for industries. The agricultural sector is still capable of maintaining positive growth and finding ways to achieve the welfare and independence of farmers through empowerment processes. This is crucial as the majority of farmers in Indonesia are categorized as poor and marginalized. One initiative in this regard is the effort made by local governments to implement programs that strengthen business capital and empowerment programs to enhance farmers' self-sufficiency. This study aimed to identify and assess the factors that impact the self-sufficiency of farmers in the processing and marketing of agricultural products in Subak-Abian Tri Guna Karya, located in Kintamani District, Bangli Regency. The type of data used in this research is quantitative and qualitative data. Data collection techniques were carried out by conducting structured interviews, observation and documentation studies. The data analysis technique in this study is to use descriptive analysis techniques and statistical analysis. Based on the results of data analysis, Based on the findings of the research, it can be deduced that the factors affecting the self-sufficiency of farmers in the marketing and processing of agricultural products are evident in Subak-Abian Tri Guna Karya, Kintamani District, Bangli Regency are the individual characteristics of farmers who are characterized by skills, capacity strengthening factors that characterized by strengthening individual capacity, and development capital factors characterized by Human Resources (HR) capital, Quality human resource development is achieved by enhancing specific individual skills (life of skill) and strengthening individual capacity building to reinforce institutional development capacity building based on the Subak institution. This approach aims to enhance individual farmers' intellectual self-sufficiency.

Keywords: factors that affect the independence of farmers; processing and marketing of agricultural products

1. Introduction

Indonesia, classified as an agrarian country, considers agriculture as the main livelihood for its people. Agriculture has become a fundamental sector contributing to

Indonesia's economic growth as it serves as the primary source of food and even raw materials for industries (Falangi et al., 2020). The key figure playing a crucial role in driving the agricultural sector is the farmers. Farmers in Indonesia still have productivity levels below expectations due to low human resources and a lack of knowledge among the population in land cultivation (Ananda, 2021). However, the role of agriculture remains significant, as seen during the COVID-19 pandemic in 2020, where the agricultural sector managed to maintain positive growth at 1.77%, and in 2021 at 1.84% (Pertanian, 2022). The Central Statistics Agency (2021) also states that the population of Indonesia, amounting to 270.20 million people, approximately 38.23 million (29.76%) are still employed in the agricultural sector. The number of agricultural household businesses consists of various sub-sectors such as horticulture, crops, and plantations, reaching 27.68 million (Johan et al., 2022).

In Indonesia, the role of agriculture is still very important, as seen in 2020 during the Covid-19 pandemic situation, where the agricultural sector was still able to maintain positive growth by reaching 1.77%, and by 1.84% in 2021 (Peraturan Menteri, 2023). Approximately 60% of the population in Indonesia are still engaged in agricultural business activities or reliant on agricultural products (Elina, 2012). The number of agricultural business households consisting of several sub-sectors such as horticulture, crops, and plantations reached 27.68 million (Johan et al., 2022). The emphasis on the agricultural sector remains significant in economic development, as efforts are concentrated on increasing agricultural production to meet both food and domestic industrial demands. (Elsiana et al., 2022). Whenever farmers face problems that they cannot solve individually, forming farmer groups can be one of the solutions (Karyati, 2021). The establishment of farmer groups is a means to achieve consolidated agriculture, enabling optimal and efficient production. This approach allows for collective procurement of production facilities and joint marketing of products (Nuryanti & Swastika, 2011).

According to Regulation of the Minister of Agriculture No. 67/Permentan/SM.050/12/2016, the role of farmers' groups is classified into three categories: as a learning platform, a platform for cooperation, and a production unit. Through group efforts, productivity can be increased, income can be enhanced, and farmer's self-reliance can be achieved (Pertanian & 82/Permentan/OT.140/8/2013, 2013). By joining a group, farmers can gain knowledge, change attitudes and behaviors through counseling and training activities conducted by the government and private entities, with the aim of guiding farmers towards self-reliance.

Farmer groups are regulated in the Regulation of the Minister of Agriculture Number 82 of 2013. In it it is stated that "Farmer groups as a group of farmers who have the same interests, have a function as a place of learning, which can increase knowledge and skills. Through business as a group can increase productivity, increase income, and can realize the independence of farmers (Agriculture & 82/Permentan/OT.140/8/2013, 2013).

A farmers' group is a gathering of farmers, livestock breeders, and plantation owners formed based on common interests, similar environmental conditions (socio-economic, resources), and camaraderie to enhance and develop their businesses. Farmers' groups, as one of the agricultural institutions in rural areas that are grown and developed "from, by, and for farmers," have the following characteristics: 1) Characteristics of farmers' groups include: 1) knowing each other, being familiar and having mutual trust among members; 2) sharing the same views and interests in farming activities; 3) having similarities in traditions and/or settlements, business areas, types of businesses, economic or social status, language, education, and ecology; and 4) there is a division of tasks and responsibilities among members based on mutual agreement (Deptan, 2007). With groups, farmers will be able to increase knowledge, change attitudes and behavior through

counseling and training activities conducted by the government and private parties, so it is hoped that farmers in groups can move towards independence.

Independence is an effort that is able to provide encouragement to farmers in making various decisions and being able to build networks (Sumardjo, 2019). Independence does not imply living in isolation, but rather entails the capacity to make decisions autonomously and the courage to decline any unprofitable collaborations (Nasution, 2004). The low level of independence of farmers is one of the factors inhibiting the success of farmers in processing and marketing agricultural products. Low support from marketing, financing, processing and technical assistance agencies is also the cause of slow progress for farmers (Managanta et al., 2019). (Malta, 2016) in his research concluded that if you want to increase the independence of farmers, farmers must be close to trainers and can easily find market access for their farming business. Other researcher stated the level of self-sufficiency among farmers in managing community forests in Ranggang Village was found to be relatively low, attributed to farmers' limited skills and lack of initiative. Hence, enhancing farmers' self-sufficiency can be achieved by improving their skills and proactive approach in managing community forests (Ruhimat, 2014).

Another study conducted by Pujakesuma and Karyani (2020) states that the independence of farmers who are members of KSM Jaya Amanah in making agricultural business decisions falls into the moderate category. Factors related to farmers' independence in making agricultural business decisions include age, gender, farming experience, availability of information, and availability of facilities and infrastructure. Member farmers have shown independence in terms of capital management and production processes, but they are less independent in terms of marketing their products. A study by Malta (2016) conducted in Sukaharja Village, Bogor Regency, concluded that if we want to improve farmers' independence, farmers must be close to extension workers and easily find market access for their businesses. Another researcher stated that the level of farmers' independence in managing community forests in Ranggang Village is still low due to their limited skills and dynamism. The improvement of farmers' independence can be achieved through enhancing their skills and dynamism in managing community forests (Ruhimat, 2014). Several referenced studies provide considerations for re-examining the factors influencing farmers' independence in the Subak Abian Tri Guna Kerya of Catur Village, Kintamani Bangli.

The findings of this research aim to promote independence through empowering farmers based on the Subak-Abian Institution. The use of a synthesis of theories related to social systems, human resources, and rationality among farmers of Subak-Abian Tri Guna Karya drives an agribusiness approach based on smallholder coffee plantations. The Subak-Abian coffee community is at a highly independent level. However, the independence of Subak-Abian Tri Guna Karya farmers in Kintamani District, Bangli Regency, still requires the allocation of funding to strengthen the capacity of individual farmers in processing and marketing plantation products.

2. Methods

This research was conducted in the Subak Abian Tri Guna Karya group in Catur Village, Kintamani, Bangli, with the consideration that the group is still surviving as coffee-producing farmers, especially Arabica coffee, and group members appear To enhance autonomy in the marketing and processing of coffee products. Another consideration is that Subak-Abian Tri Guna Karya is a Subak that receives the largest Business Capital Strengthening (PMU) fund for processing and marketing plantation products from the Bali Provincial Government and still receives guidance from the Bali Provincial Plantation Agency. In terms of business development and capital return, it has been relatively successful, indicating excellent prospects for Subak-Abian Tri Guna Karya in processing and

marketing plantation products. Independence in this research encompasses 1) Economic Independence, 2) Intellectual Independence, and 3) Emotional Independence. The independence of farmers in Subak-Abian Tri Guna Karya, Kintamani District, Bangli Regency, in processing and marketing plantation products began with an initial survey on the existence of Subak-Abian in Bali, particularly those involved in processing and marketing specific products such as coffee.
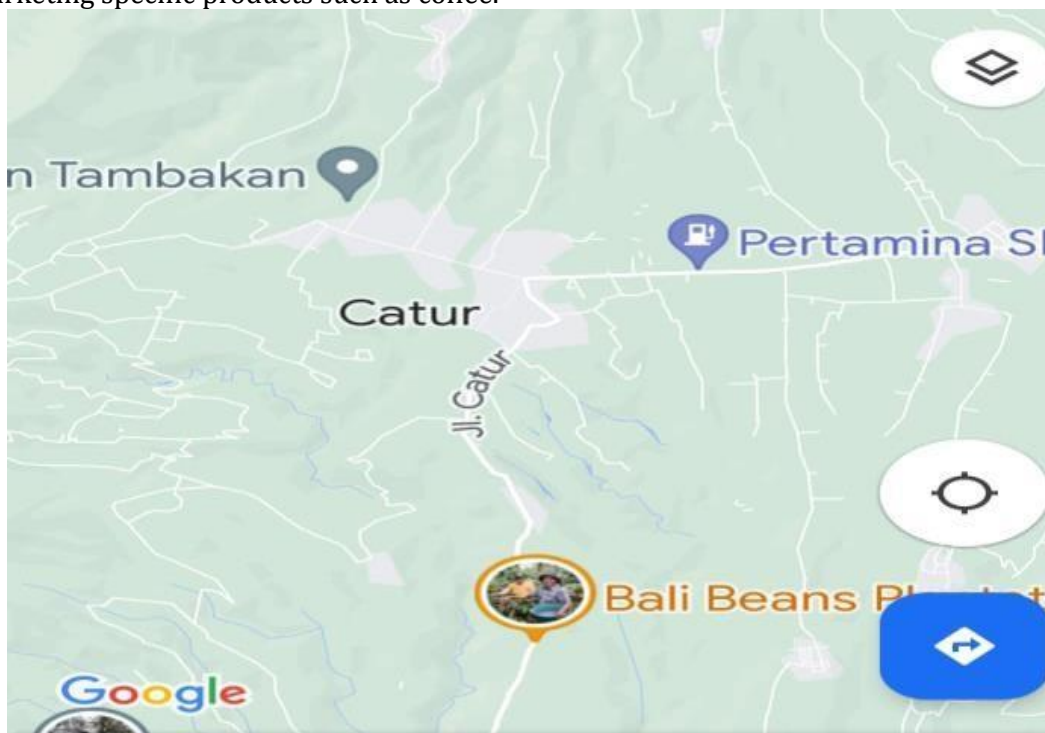
Picture 2.1 Research Site
Source: Googlemap, 2023

The total population used in this study was 77 people, or all farmers belonging to the Subak Abian Tri Guna Karya group (Karyati, 2021). Sampling was done by simple random sampling. Members of the population have the same opportunity to be sampled (Sugiyono, 2020). The sample determination uses the slovin formula (RA etal, 2021), as follows.

$$n = \frac{N}{1 + N(e^2)}$$

Description: n=77/(1+ 77(x 0.05)
n : number of sample   n=77/(1+ 77(x 0.1)
N: number of population   n=77/(1+ 7,7) n=77/1,77
e: fault tolerance limit (0.05)   n= 43

The results of the calculation above get a sample of 43 people. The data sources used here are primary data and secondary data (Sugiyono, 2020). The primary data sources were collected through interviews with respondents, while the secondary data sources comprised reports authored by various individuals, relevant agencies such as the agriculture service, interviews, and scientific publications (Karyati, 2021). The type of data used is quantitative data which is a research method based on the philosophy of positivism, as an objective and measurable scientific method (Sugiyono, 2020). Data collection using

research instruments, as well as quantitative or statistical data analysis (Sugiyono, 2020). Data collection techniques by: 1) Observation. Making observations during the research process. 2) Interview. Conducted to get a complete picture through debriefing with respondents (Susanti et al., 2022).

Data collection techniques used in this study were as follows: 1) Observation, which involved systematic data collection through observing and recording the phenomena under investigation (Setyabudi and Daryanto, 2015). Observations were conducted directly at the research location to obtain a clear picture of the situation and conditions there. The process of coffee processing by the group and the marketing methods employed by the group were observed. 2) Interview, which involved primary data collection through direct interviews with the farmers as respondents using a pre-prepared questionnaire. Interviews were conducted to obtain comprehensive insights through question-and-answer sessions with the respondents (Susanti et al., 2022). 3) Documentation study, which involved data collection by examining and studying relevant documents. This included reviewing research journals, studying books related to marketing and processing of plantation products.

The data analysis used is quantitative analysis which is expressed in numbers (Karyati, 2021). The data obtained will be presented in table form to make it easier to analyze and understand the data, so that the data presented is more systematic (Sugiyono, 2020). The statistical analysis technique was carried out using Partial Least Square (PLS). This technique does not have to use large samples (Berutu et al., 2018). The objective of this analysis is to forecast the impact of the independent variable X on the dependent variable Y and explain whether or not there is a relationship between the two variables (Riefky and Hamidah, 2019). This analysis is complemented by descriptive analysis, to describe the data that has been collected as it is. Descriptive statistics use numerical and graphical methods to provide data information in the desired form (Kuncoro, 2007).

The empirical study referred to in this research was conducted by Gunawan et al. (2016), which stated that the level of independence among self-supporting rubber farmers in decision making related to cultivation and post-harvesting is considered high. The factors associated with the independence of self-supporting rubber farmers include: (a) internal factors of the farmers, such as age, formal education, non-formal education, family size, farming experience, land management, entrepreneurial motivation, cosmopolitan level, farmer's income, and (b) external factors of the farmers, such as support from farmer groups, availability of production facilities and infrastructure, support from financial institutions, support from extension agencies, support from information sources, and support from government policies.

3. Results and Discussion

Before it was named Desa Catur, it was originally called Desa Padangwah. Desa Catur is one of the villages located in Kecamatan Kintamani, Kabupaten Bangli, which has the potential for developing coffee plants with a unique flavor that is favored by coffee enthusiasts in Indonesia and several countries around the world. Subak-Abian Tri Guna Karya is one of the subaks (traditional Balinese irrigation cooperatives) in Desa Catur, which processes and markets coffee plantation products. Its activities are regulated by Awig-awig, which originates from the word "wig" meaning broken, while "awig" means unbroken or good. So Awig-awig is interpreted as something that is good. According to Perda Nomor 3 Tahun 2001 (Regional Regulation Number 3 Year 2001) concerning Desa Pakraman and Customary Institutions, Awig-awig refers to the rules made by the respective karma (customary village) of Desa Pakraman. In Peraturan Daerah Provinsi Bali Nomor 3 Tahun 2003 (Provincial Regulation Number 3 Year 2003), it is stated that Adat Law (Awig-awig and Pararem) is the customary law of Bali that exists in Balinese society, sourced from Catur Dresta and inspired by Balinese Hinduism. Catur Dresta consists of Sastra Dresta,

which refers to religious teachings; Kuna Dresta, which represents cultural values; Loka Dresta, which represents a worldview; and Desa Dresta, which encompasses local customs and traditions (Monica et al., 2018).

The Awig-awig (written rules) held by Subak-Abian Triguna Karya are highly respected by its members (krama subak). In addition to having the subak abian Triguna Karya awig-awig, there are also other rules called kerta-sima (long-standing customs practiced in subak activities), as well as unwritten rules based on the agreement of subak members during subak meetings and other occasions, commonly known as perarem. The krama subak, in maintaining harmonious relationships, always upholds the concept of Tri Hita Karana. Tri Hita Karana refers to three harmonious relationships or causes of well-being. In all activities, all members of Subak-Abian Triguna Karya refer to the concept of Tri Hita Karana, which is encompassed within the Awig-Awig Subak. Any violations committed by subak members will be subject to sanctions as stated in the Awig-awig subak, which consists of 32 paos/articles.

Subak-Abian Triguna Karya also has a type of ceremony called Nyeeb ceremony. There is another ceremony that is regularly held every six months, namely on the holy day of Tumpek Pengatang or Tumpek Wariga (a ceremony dedicated to expressing gratitude to plants). Tumpek Pengatang or Tumpek Wariga is a day when Hindus in Bali offer offerings to plants on earth as a sign of human gratitude for the abundance of food and the many functions of plants that support human life. Tumpek Pengatang serves as a milestone for preserving the environment, especially plants, because it holds a noble meaning. As human beings, subak members are required to maintain a good relationship with God, maintain good relationships with fellow human beings, and maintain a good relationship with the environment (plants) in accordance with the teachings of Tri Hita Karana (three causes of balance in the universe). The implementation of Tumpek Pengatang or Tumpek Wariga aims to remind people to at least remember the services of plants to humans, so that humans can take care of the environment, and in return, the environment can take care of humans according to the law of action and reaction.

1. Characteristics of Respondents

   a. Judging from the average age of respondents aged between 15-65 years, there were 38 people (88.3%), while those above 65 years were 5 people (11.7%). This data was obtained from distributing questionnaires. It can be seen that most of the respondents are in the age range of 15-65 years (88.3%). This means that young respondents have a great interest to achieve than older respondents. Respondents who are younger are usually more creative in developing their businesses. In the technological era, By leveraging online media, you will enhance your ability to stay updated with technological advancements, particularly in the realm of marketing. (Karyati, 2021). Younger respondents usually have more creativity to develop their businesses. In the era of technology, they are more capable of keeping up with technological advancements, especially in terms of marketing, which can be done through online media (Karyati, 2021). Demographic bonus refers to a condition in an area where the population of productive age (15-64 years) is larger than the population of non-productive age (<15 years and >64 years) (Adisti and Ali, 2017). The age of a farmer generally affects their activities in farming and the processing and marketing of their agricultural products. Age can influence physical condition and thinking ability. Demographic bonus refers to a situation where the population of the productive age group (15-64 years) is larger than the non-productive age group (below 15 years and above 65 years) within a certain period of time. Changes in population structure occur due to demographic transitions (Wina and Panji, 2022).

b. All respondents were male as many as 43 people (100%). This is because jobs in agriculture are more suitable for men. But it is also necessary to involve women, especially in terms of decision making, so that there is a combination in decision making, between rational and emotional (Karyati, 2021). However, the involvement of women in agricultural activities such as coffee picking, post-harvest cleaning, and sun drying is still needed. Technological advancements in coffee processing should enable women to participate in the processing and marketing of coffee plantation products. It should not be only men who engage in coffee processing and marketing activities; women should also be involved, especially in decision-making processes. Having a companion to provide input and correction in decision-making is important. Men tend to prioritize rationality, while women often emphasize emotions. The combination of rational and emotional decision-making usually leads to better outcomes (Karyati, 2021).

c. From the level of education, 11 people or 25.58% of respondents had elementary education, 12 people or 27.91% junior high school education, 17 people or 39.53% high school/vocational high school, 3 bachelor degrees (6 98%). So most of the farmers here have high school education at 39.53%. This implies that there is still room for the development of coffee farmers in terms of fostering creativity, productivity, critical thinking, self-sufficiency, and collaboration with fellow coffee farmers and other relevant stakeholders (Karyati, 2021). High school graduates typically possess competencies including: 1) behaving in accordance with their religious teachings and adolescent development; 2) being confident and responsible for their work; 3) respecting diversity; 4) demonstrating logical, critical, creative, and innovative thinking skills in decision-making; 5) demonstrating the ability to develop a learning culture for self-empowerment; 6) exhibiting a competitive and sportsmanlike attitude to achieve the best results; 7) utilizing land and the environment productively and responsibly; 8) participating in community life; 9) effectively and politely communicating orally and in writing; 10) respecting differences of opinion and showing empathy towards others (Ministry of National Education Regulation, 2006). Farmers in Subak-Abian Triguna Karya, Kintamani, Bangli, should possess competencies that are developed towards creativity, productivity, critical thinking, independence, and the ability to collaborate with coffee farmers and others involved in the processing and marketing of coffee products. They should also have communication skills to build networks and cooperation in the activities related to the processing and marketing of agricultural products.

d. Respondents based on behavior, farmers assessed from attitudes, knowledge, and skills. The findings indicate that when assessing the characteristics of the respondents, individual farmers demonstrate highly proficient skills with a score of 4.29, reflecting their excellent abilities. However, in terms of their knowledge about individual farming, they score 3.39, suggesting that their knowledge level falls short in comparison to their skills. The farmers excel in practical skills due to their direct learning experiences from the environment. On the other hand, their knowledge of modern agriculture remains limited (Karyati, 2021).

2. Factors Affecting the Independence of Farmers in the Processing and Marketing of Production.

Subak-Abian Tri Guna Karya is a farmer group that in their daily activities is engaged in agriculture, especially coffee plantations (Karyati, 2021). To find out the factors that affect the independence of farmers in the processing and marketing of plantation products, statistical tests are carried out as follows:

a. SEM Test
   1) Assessment of measurement models
      a) Convergent validity
         Testing the model design used Partial Least Squares Path Modeling (PLS-SEM) analysis with the Smart PLS version 2.0 M3 freeware application (Ringle, et al., 2020. In the PLS model, it meets Convergent validity, the loading value can be considered valid when it falls within the range of 0.5 to 0.6 (Ghozali, 2016). The convergent validity test uses a recommended loading factor value greater than 0.7. An indicator is considered valid if it has an outer loading value of > 0.7 and is assessed by a t-statistic > 2.64.

Table 1.1
Value Check of *outer loading*

Variable	Item	*Outer Loading*
X1	X1.1	0.611486
X1	X1.2	0.887179
X1	X1.3	0.840752
X2	X2.1	0.733841
X2	X2.2	0.840121
X2	X2.3	0.825624
X3	X3.1	0.0671142
X3	X3.2	0.686360
X3	X3.3	0.916776
X3	X3.4	0.677103
Y	Y1	0.739569
Y	Y2	0.850468
Y	Y3	0.553301

Table 1.2
Value Check after Elimination

Variable	Indicator/Item	*Outer Loading*	*t-statistic*
X1	X1.2	0.912723	39.086726
X1	X1.3	0.904033	29.369515
X2	X2.1	0.755844	13.161684
X2	X2.2	0.822645	25.262063
X2	X2.3	0.827178	22.249434
X3	X3.3	1.000000	
Y	Y1	0.808813	12.733839
Y	Y2	0.913636	24.839820

The results above show that the outer loading value is > 0.7 and the t-statistic is > 2.64, so that the test results meet the criteria for the covergen validity test..
      b) Discriminant validity
         The subsequent test involves examining discriminant validity,

which is indicated by the square root of Average Variance Extracted (AVE) for each construct. It is advised that the AVE value should exceed 0.50 for satisfactory results (Fornell and Larcker, 1981 in (Ghozali, 2016).

Tabel 1.3
Discriminant validity checking

Correlation						
Variable	AVE	√AVE	X_1	X_2	X_3	Y
X1	0.825170	0.908	1.000000			
X2	0.644090	0.802	0.398331	1.000000		
X3	1.000000	1	0.564658	0.767612	1.000000	
Y	0.744454	0.862	0.321292	0.430734	0.453909	1.000000

Based on Table 1.3 above, it shows that the AVE root value is greater than the latent variable correlation coefficient. Based on the results, the discriminant validity test employed in this study can be considered reliable/valid.

c) Composite Reliability and Cronbach's Alpha.

To assess the reliability of reflexive indicators, there are two methods available: Composite Reliability and Cronbach's Alpha. It is recommended to utilize Composite Reliability as it provides a more accurate estimation compared to Cronbach's Alpha, which tends to underestimate the construct reliability. The rule of thumb for construct reliability tests with reflexive indicators can be seen in Table 1.4.

Table 1.4
Rule Of Thumb Construct Reliability Test

Parameter	*Rule Of Thumb*
Composite Reliability	a. > 0,70 for *confirmatoryresearch* 0,60 – 0,70 It is still considered acceptable for *exploratory research*
Cronbach's Alpha	a. > 0,70 is deemed acceptable for confirmatory research b. 0,60 is deemed acceptable for exploratory research

Source : (Ghozali, 2016)

Table 1.5

Composite Reliability dan *Cronbach's Alpha Values*

Variable	*Composite Reliability*	*Cronbach's Alpha*
X1	0.904210	0.788232
X2	0.844240	0.724879
X3	1.000000	1.000000
Y	0.853047	0.666570

Source: Respondent Data Analysis Results

Table 1.5 above shows that the four latent variables show Composite Reliability values above 0.70. Because each indicator has a value above 0.07, it can be concluded that these indicators are declared reliable. Whereas Cornbrash's Alpha for variable Y has a value of 0.666570 when rounded to 0.70. This shows that the indicator is also declared reliable.

2) Evaluation of structural models
   a) R-Square and Goodness of Fit Evaluation

Table 1.6

Evaluation Results

Variable	*R-Square*
(X_2)	0.591
(Y)	0.186
Calculation of *Goodness of Fit*:	
$Q^2 = 1-(1-R_1^2)$	
$Q^2 = 1-(1-0,591) (1-186)$	
$Q^2 = 1-(0,409) (0,814)$	
$Q^2 = 1-0,333$	
$Q^2 = 0,667$	

Based on the data from Table 1.6 above, where (X2) has an R-square of 0.591, it means that (X1) and (X3) are able to explain (X2) by 59.1%. While the variable Y has an R-square value of 0.186, this means that (X2) is able to explain (y) by 1.86%. Evaluation of the structural model made by the Goodness of Fit proved the Q2 value of 0.667 (Q2> 0). Based on this assessment, the structural model exhibits a satisfactory goodness of fit, indicating that 66.7% of the information contained in the data can be explained by the model, while the remaining 33.3% is accounted for by other variables.

   b) Evaluation of the indicator coefficient

The evaluation of the indicator coefficients is employed to

assess the extent of contribution from each indicator of the variables (X1), (X2), and (X3) to the variables formed and their level of significance. Evaluation of the Coefficient of Indicators with Variables (X1) is seen in Table 1.7.

Table 1.7
Evaluation of Indicator Coefficients with Variables (X1)

Variable	Indicator/Item	*Original Sample*	*Standard Error*	*t-statistic*
(X_1)	X1.2	0.912723	0.023351	39.086726
(X_1)	X1.3	0.904033	0.030781	29.369515

Based on Table 1.7 it appears that (X1) has a very significant effect on forming the variable (X1) at the 1% level with a t-statistic value > 2.64. The physical capital indicator has the dominant factor (X1.2) with the largest contribution in forming (X1) of 0.913 with a t-statistic value > 2.64.

Table 1.8
Evaluation of Indicator Coefficients with Variables (X2)

Variable	Indicator/Item	*Original Sample*	*Standard Error*	*t-statistic*
(X_2)	X2.1	0.755844	0.057428	13.161684
(X_2)	X2.2	0.822645	0.032564	25.262063
(X2)	X2.3	0.827178	0.037177	22.249434

The test results with 3 indicators to measure the variable (X2) each have a very real influence in forming the variable (X2) at the 1% level with a t-statistic value >2.64. The dominant indicator (X2) is (X2.3) with the contribution of the magnitude of the influence of the highest indicator coefficient at a value of 0.827 with a t-statistic > 2.64.

Table 1.9
Evaluation of Indicator Coefficients with Variables (X3)

Variable	Indicator/Item	*Original Sample*	*Standard Error*	*t-statistic*
(X_3)	X3.3	1.000000		

Table 1.9 shows that the variable indicator used to measure (X3) has an original sample value of 1.0, meaning that the variable X3, namely material capital, has an effect of only 1.0%.

Table 1.10
Evaluation of Indicator Coefficients with Variables (Y)

Variable	Indicator/Item	*Original Sample*	*Standard Error*	*t-statistic*
(Y)	Y1	0.808813	0.063517	13.161684
(Y)	Y2	0.913636	0.036781	25.262063

Based on the test results, it appears that the 2 indicators used to measure (Y) each have a very significant influence in forming (Y) at the 1% level with a t-statistic value of > 2.64. The most dominant indicator (Y) is (Y2) with the greatest effect on the indicator coefficient in forming the variable (Y) of 0.914 with a t-statistic value > 2.64.

c) Evaluation of structural path coefficients

To address the hypothesis and ascertain the degree of influence, it is necessary to determine the magnitude of the impact, each variable is tested by testing the structural path coefficient.

Table 1.11
Structural Path Coefficient

Relations Between Variables	Path Coefficient	t-statistics	Information
X1 -> X2	-0.051540	0.674875	Negative and Not Significant
X2 -> Y	0.430734	5.835256	Positive and Significant
X3 -> X2	0.796715	10.956728	Positive dan Significant

Source: (Karyati, 2021).

Table 1.11 above it is possible to construct a structural regression equation model that relates exogenous constructs to endogenous constructs in the following manner:
(1) $X2 = -0,052 \, X1 + 0,797 \, X3$
(2) $Y = 0,431 \, X2$

3) Inner model evaluation
   a) Structural model test
   This test is conducted to assess the relationship between latent constructs. The output from PLS 3.0 produces the depicted image in Figure 1.1.
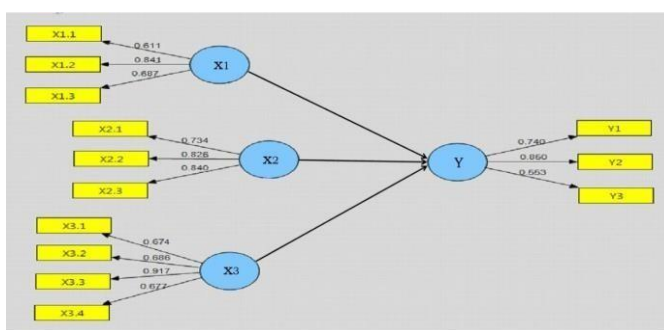
Figure 1.1 Structural Model

The results of the structural test of the model above show that individual characteristics of farmers, capacity building, and development capital have a positive effect on farmer independence.

b) Hypothesis testing

To evaluate the model using PLS, one can examine the R-Square values for each dependent latent variable. The changes in R-Square values can be utilized to assess the substantive impact of specific independent latent variables on the dependent latent variable. This study shows that capacity building in groups affects the level of independence of farmers with a value of 0.591037.

Discussion

Based on the results of the study, if the independence of farmers is influenced by factors that affect the independence of farmers as shown from: 1) economic independence, 2) intellectual independence, and 3) emotional independence in Subak AbianTri Guna Karya, Kintamani, Bangli, Bali can be seen in Figure 1.2 below:
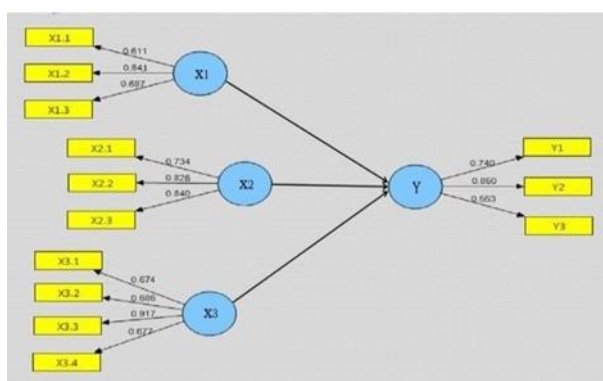
Figure: 1.2

Factors that influence the independence of farmers before being eliminated

Figure 1.2 above shows that individual characteristics, capacity building and development capital are related to the independence of Subak-Abian Tri Guna Karya farmers, Kintamani, Bangli, Bali in marketing and processing agricultural product. Furthermore, after confirmation with the PLS SEM model, it can be shown that factors that still affect farmer independence are factors as shown in Figure 1.3 below.
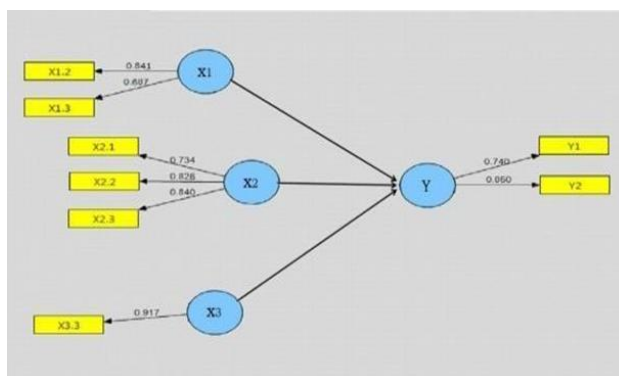
Figure 1.3

Factors that affect the independence of farmers after being eliminated

Figure 1.3 above shows the independence of farmers is influenced by factors that are still surviving such as; (1) individual characteristics consist of skills (X1.2) with a value of 0.841; and attitude (X1.3) has a value of 0.687. (2) Capacity building consisting of a system (X2.1) with a value of 0.734, a group (X2.2) with a value of 0.826, and individuals (X2.3) with a value of 0.840. (3) Development capital, where the surviving factor is human capital (X3.3) with a value of 0.917. From Figure 1.3 above, if one pays attention to the factors that still affect the independence of farmers after confirmation of individual characteristics, namely skills and attitudes, more details are shown in Figure 1.4 below.
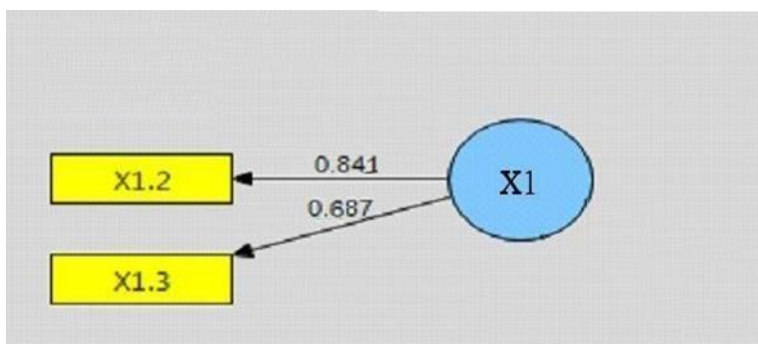
Figure 1.4

Factors that influence the independence of farmers from individual characteristics

Figure 1.4 shows that individual characteristics are characterized by the skills and attitudes of subak farmer members. Between skills and attitudes, it turns out that it is skills that most characterize individual characteristics of farmers. In Figure 1.4 there is an interesting phenomenon, namely knowledge is not strong enough to characterize individual characteristics of farmers. This is supported by conditions in the field where subak member farmers carry out more direct practices of processing and marketing plantation products, rather than looking for theories and concepts before practice. This is what is called learning by doing. It turns out that the results of this study support the development of the times that specific skills are prioritized for survival in line with the

independent campus policy, so this research also supports the concept of creating human resources by providing specific meter subjects, in this case what Subak member farmers need is skills in processing and marketing of plantation products.

This is also in line with Albert Bandura's social cognitive theory of self-efficacy theory which refers to the belief that members of Subak Abian Tri Guna Karya, Kintamai Bangli in Bali are able to work on and motivate themselves to achieve the desired results. Furthermore, the surviving factors affecting capacity building are characterized by systems, groups and individuals, shown in Figure 1.5 below.
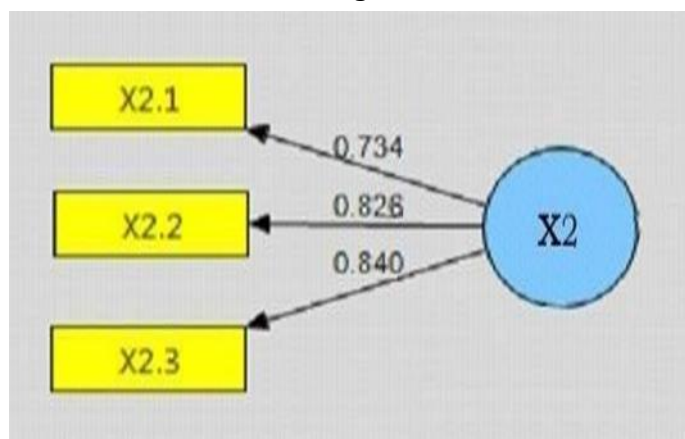
Figure 1.5

Factors that influence the independence of farmers from the characteristics of capacity building

Based on Figure 1.5, it shown that capacity building is characterized by individual capacity, group capacity, and system capacity. Individual capacity is the highest characteristic of strengthening group capacity. This can be explained that if each individual subak member has the capacity in processing and marketing good plantation products, then the group's capacity can automatically increase, and vice versa.

Individual capacity trumps group and system capacity markers. This shows that mutual cooperation is very important in building group capacity. Even though the individual is qualified, if there is no cooperation, gradually the group will disappear. This is in line with the theory of social capital that mutual trust between individuals will strengthen group capacity. Furthermore, the surviving factors affect the independence of farmers seen from the development of Human Resources (HR) capital, as can be seen in Figure 1.6 below.
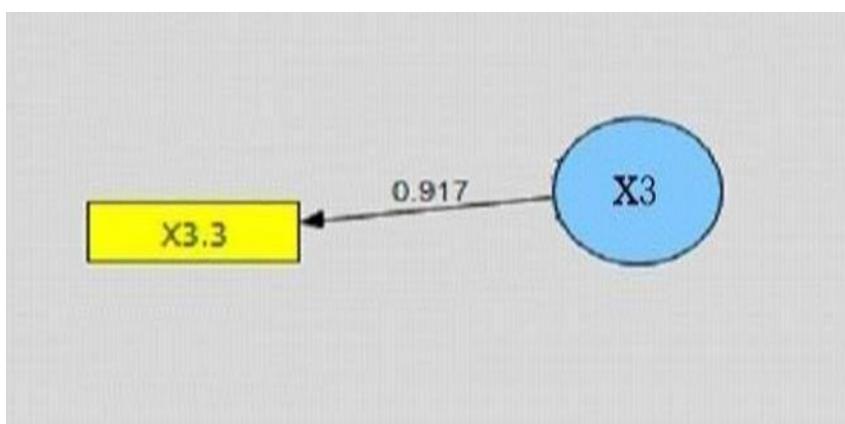
Figure 1.6

Factors that influence the independence of farmers from the characteristics of development capital

Figure 1.6 shows that development capital is characterized by human capital. The results of this study indicate that human capital is a determinant of the success of agricultural development. There is an interesting demonstration in this study regarding HR capital, where HR capital trumps physical capital and social capital. This shows that even though they do not have abundant natural wealth, qualified human resources can develop agriculture.

This good HR capability will be able to create appropriate innovations and technologies to build agriculture. However, this does not mean that we have to put aside physical and social capital. Development capital will be optimal if physical, human and social capital mutually support one another. The human resources of Subak-Abian members at Tri Guna Karya are classified as good, so they are able to process physical (natural) capital in the form of existing natural resources (coffee plants).

In discussing the factors that influence the independence of farmers, the final results are shown by the following factors: skills, attitudes, systems, groups, individuals and human resources. From the values generated through SEM PLS analysis, a ranking can be made from the most influential to the less influential factors based on the CFA value, namely; 1) skills (X1.2) with a value of 0.913; 2) attitude (X1.3) with a value of 0.904; 3) individual (X2.3) with a value of 0.827; 3) group (X2.2) with value

of 0.823; 4) system (X2.1) with a value of 0.756; 5) human resources (X3.3) with a value of 0.820. A large CFA value indicates a very large influence on independence. In this case the most influential factor is skills with a value of 0.913.

Based on Figure 1.6 it shown that the most influential is the skills of coffee farmers. If you want to create a program to increase the independence of coffee farmers, then the first step is to improve their skills. The skills needed by coffee farmers from on farm to off farm skills. Skills needed on farm such as selecting quality coffee seeds, cutting unproductive materials, using organic fertilizers, harvesting red picks, by abandoning the spoils harvesting system technique because it is very detrimental to farmers. Meanwhile, off-farm skills such as picking, sorting, tempering, drying (drying techniques), and processing coffee into quality coffee beans.

The next step is to build a farmer's attitude. The right step to take is to invite coffee

farmers to conduct comparative studies to places that have coffee products that are accepted by the world market. Such as Gayo coffee, Mount Tilu Coffee (Bandung), and other places that have superior coffee products. Another big factor is HR. Because human resources are a determining factor for independence, in the future what can be done to maintain the sustainability of cultivation and processing and marketing of coffee products is to send farmer's children to study programs related to coffee. This is the most effective way to maintain the continuity of natural resources which are already very rich.

Catur Village has a world-recognized coffee nuftah plasma and this potential will last a long time, if it is managed by qualified human resources. Investment in human resources requires a long time, therefore the government should help provide scholarships for young people in Catur Village to pursue education related to modern coffee processing, whether industrial engineering, coffee machines, packaging, etc. (Karyati, 2021).

4. Conclusions

The conclusion that can be drawn from the results of the discussion is that the factors that influence farmer independence are individual farmer skills, strengthening individual capacities, and development capital, in which in this study the most influential is human resource capital. conceptually and theoretically, the factors found prove that the independence of farmers is determined by the choice of rationality and skills possessed by each individual farmer. in order to build farmers' self-sufficiency, it should be based on strengthening individual capacity through counseling and training and accompanied by the provision of financial assistance from the government and other interested parties. it is recommended that this activity be developed in the learning class to become a forum for farmer dialogue in improving quality and skills in the field of coffee processing and marketing and solving problems faced by the agribusiness approach by considering market availability and product processing technology. in order to build farmers' independence, it is advisable to focus on strengthening individual capacities through extension and training programs, accompanied by financial assistance from the government and other stakeholders. it is recommended that these activities be developed within a learning framework to serve as a platform for farmers' dialogue, enhancing their skills and quality in coffee processing and marketing, and addressing the challenges they face using an agribusiness approach that considers market availability and product processing technology. The bali provincial government is advised to establish agricultural schools that prioritize the development of market-oriented products based on specific location conditions. it is also recommended to create a brand (such as kopi kintamani) to enhance coffee production. The district and provincial plantation offices in bali should create more opportunities and provide learning opportunities for farmers to improve their quality and group capacity, leading to farmer independence. Strengthening social networks among farmers with similar products is also crucial in this process. furthermore, attention should be given to the development and utilization of information and communication technology. Academics are encouraged to conduct further research, focusing on topics such as private sector involvement in building partnerships with farmers within the subak-abian institutional framework. Another theme could be the development of programmed funding from various sources to support agricultural investments that empower farmers. if we observe that desa catur has a recognized coffee germplasm and this potential will last long if managed by qualified human resources. investing in human resources requires a long-term commitment, therefore the government should also assist by providing scholarships to the young generation of desa catur to pursue education related to modern coffee

processing, such as industrial techniques, coffee machines, packaging, and others (Karyati, 2021)

Ethical Review Board Statement:
Ethical review and approval were waived for this study due to no personal data was collected in this study. The number of informants is six, and the interviews are mainly to gain insights on how food bank operates in Indonesia, no personal information is collected.

Informed Consent Statement:
Informed consent was obtained from all subjects involved in the study.

Data Availability Statement:
The data is available upon request.

Conflicts of Interest:
The authors declare no conflict of interest.

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