
Effectiveness of Implementation of Good Agricultural Practices and Productivity Improvement Strategy for Arabica Specialty Kintamani Coffee

I Komang Suwedi*; I Gusti Bagus Udayana; I Gusti Agus Maha Putra Sanjaya;
Yohanes Parlindungan Situmeang

Master of Agricultural Science, Postgraduate Program, Warmadewa University, Denpasar, Bali, Indonesia

*Corresponding author: komangsuwedi@gmail.com

Abstract

Specialty Arabica coffee is coffee beans, roasted coffee, and ground coffee that come from a certain geographical area and have a delicious, unique, and different taste from other coffees. So far, Bali Kintamani Arabica Coffee, which is classified as specialty coffee, grows and develops at altitudes above 1,000 meters above sea level. The study aimed to determine the effectiveness of the application of GAP in increasing the productivity of Kintamani specialty Arabica coffee, to find out what factors influence the strategy for increasing the productivity of Kintamani specialty Arabica coffee, and to find out what strategies can be applied to increase the productivity of Kintamani specialty Arabica coffee. This research was conducted in Belantih Village and Catur Village, Kintamani District, Bangli Regency, Bali Province. To analyze the effectiveness of implementing Good Agricultural Practices, researchers used descriptive qualitative analysis to analyze the data obtained from the results of the FGD (Forum Group Discussion) conducted at the research location. The application of GAP turned out to affect increasing the productivity of Kintamani specialty arabica coffee. The results of IFE and EFE analysis on the IE Matrix found that Kintamani specialty Arabica coffee was in a strong position and had opportunities, so 7 strategies were developed, namely collaboration in raw material research, raw material supply chain, and alternative raw materials. procurement, development of product diversification that has Kintamani identity or characteristics through strategic research results, conducting periodic performance appraisals, preparing alternative supply chain strategies for raw materials to distribution, designing farmer group cooperation to secure market prices, developing production operational standards through adjustments and approaches to local culture, developing integrated promotion management.

Keywords: Good Agricultural Practices, Strategy, Productivity, Arabica Coffee Specialty, Kintamani

1. Introduction

Indonesia is the fourth largest coffee-producing country in the world, after Brazil, Vietnam, and Colombia [1]. Apart from being a source of foreign exchange for coffee, coffee production is also a source of income for 14.116 million farmers in the plantation sub-sector in Indonesia [2]. According to data from the Directorate General of Plantations for 2022, the area under cultivation for coffee in Indonesia reaches 1.2 million ha, consisting of 958 thousand ha of robusta coffee (77.77%) and 251 thousand ha of arabica coffee (22.23%). Indonesia's total coffee production in 2022 will reach 748 thousand tons consisting of 601 thousand tons (78.37%) of robusta coffee and 147 thousand tons of arabica coffee (21.63%). Indonesia's geographical position is ideal for a microclimate for coffee growth and production. With abundant biological resources, supported by specific geographical conditions and optimal agroecosystems, and local wisdom owned by its people, Indonesia produces specialty coffee products that have a distinctive taste and aroma and are in demand throughout the world [3].

The economically important varieties of coffee are *Coffea Arabica* (arabica coffee) which accounts for more than 70% of world products and *Coffea Canephora* (robusta coffee). Two other species that grow on a smaller scale are *Coffea Lierica* (Liberia coffee) and *Coffea Dewevrei* (Exelsa coffee). In the world of trade, several coffee groups are known, but only Arabica, Robusta, and Liberika coffee are often cultivated [4]. Arabica coffee has many varieties, depending on the country, climate, and soil where it is grown. Coffee originating from Brazil and Ethiopia controls 70% of the world coffee market. Local coffee such as Toraja, Mandailing, and Kintamani, and foreign coffee such as Columbia and Brasilia are several variants of Arabica coffee. Arabica coffee has a fragrant aroma similar to a mixture of flowers and fruit that lives in cold and cool areas. Arabica also has a slightly sour taste, thick taste when inhaled in the mouth, is bitter, and has a smoother texture than Robusta coffee types [5].

The word coffee comes from the Arabic *qahwah* which means strength because coffee was originally used as a high-energy drink. The word qahwah again changes to kahveh which comes from Turkish and then changes again to *koffie* in Dutch. The use of the word *koffie* was immediately absorbed in Indonesian to become the word coffee that is known today. Coffee then continues to develop until now it has become one of the most popular drinks in the world which is consumed by various groups of people. Indonesia alone is capable of producing more than 400 thousand tons of coffee per year [6].

Coffee has become a culture of the Indonesian people since the colonial period by the Dutch until now. So that Indonesia has many coffee bean producers in all corners of the archipelago, not even a few of which have foreign quality. This is supported by Indonesia's famously fertile soil and tropical climate which makes it very suitable for growing coffee plants. One of the provinces producing quality coffee beans in Indonesia, namely Bali Province, is located in the Kintamani area, Bangli Regency, which is known as Kintamani Arabica coffee [7].

Kintamani arabica coffee is a type of coffee that has a high selling value in the world market. This recognition elevates the name and value of Kintamani Arabica coffee in the local and world markets. The coffee center area in Bali Province is part of the Geographical Indication Protection Community (MPIG). With legal protection from the Geographical Indication Protection Society, coffee production in the Province of Bali can differentiate coffee products in the face of global market competition [3]. Kintamani arabica coffee has a high selling value but coffee productivity is still relatively low. Arabica coffee production in Kintamani is not uniform, some farmers get low yields and some other farmers get production results that are not optimal. This is due to the good and correct application and understanding of coffee farmers regarding good and correct Good Agricultural Practices (GAP) cultivation techniques [8].

Specialty coffee or specialty coffee is coffee with good quality. The higher the value of the cupping test, the higher the selling price of a coffee or coffee beans. The majority of Indonesian people are less educated about this type of coffee [9]. The existence of Kintamani specialty Arabica coffee has received national and international recognition by granting a Geographical Indication certificate in 2008 with the ID number G 000000001. The feature of Kintamani specialty Arabica coffee is that Arabica coffee is grown in the Kintamani highlands with an altitude above 900 meters above sea level, at the slopes of the Batur volcano where the soil and climate are very supportive of coffee growing. Kintamani specialty Arabica coffee beans have quality 1 with a physical defect value of less than 5 per 30 g according to the Indonesian National Standard (SNI) and American Coffee Standard (SCAA), namely: 1) The maximum bean moisture content is 12%, 2) The coffee beans are green grayish, 3) The size of coffee beans is 16 mm in diameter or larger. The taste of medium roast (Medium Roast) Kintamani special Arabica coffee shows a relatively homogeneous roast, and the aroma of ground coffee seems sweet with a slight aroma of spices, sometimes tastes of fruit, especially orange juice. Apart from being a center for Arabica coffee plants, Kintamani has also begun to develop an agro-industry that processes coffee beans into ground coffee [10].

The decline in Arabica coffee productivity in Bangli Regency will certainly have an impact on people's income levels. One effort that can be done is to introduce farmers to the cultivation

of coffee plants according to GAP. The correct application of the GAP arabica coffee plant can increase production achievements, product quality produced, market demand, farming sustainability, increase the welfare of coffee farmers and increase regional economic income. According to [11] increased Arabica coffee production can be achieved with an intensification strategy through optimizing land use and using family labor as well as implementing GAP, land conservation, and pest control. In addition, it is also necessary to pay attention to the socio-economic and ecological conditions faced by farmers to encourage sustainable growth that is oriented towards certain standards. This is what makes researchers interested in knowing how effective GAP is and looking for strategies that can increase the productivity of Kintamani specialty Arabica coffee [12].

2. Materials and Methods

2.1 Time and Place of Research

The time for the research was carried out for 3 (three) months starting from January to March 2023. This research was carried out in Belantih Village and Catur Village, Kintamani District, Bangli Regency, Bali Province. Kintamani District is one of the sub-districts in Bangli Regency which is one of the centers of coffee production in Bali, generally coffee grown in Kintamani is Arabica coffee. In the Kintamani area there are 48 villages and 18 villages of which are small and medium coffee development industries including the areas of Catur Village and Belantih Village, the altitude of the research site is ± 1281.5 meters above sea level, with an average temperature of $17^{\circ}\text{C} - 20^{\circ}\text{C}$ with 96% humidity.

2.2. Methodology

The method used in this study is more directed at analytical and comparative descriptive methods. In other words, the sample units are adjusted to certain criteria set based on the research objectives. The purposive sampling method was carried out by taking the coffee agro-industry which are still members of farmer groups that have been selected by researchers according to the following criteria: 1) The production process is sustainable to date, 2) The type of production is based on Arabica coffee raw materials originating from the village itself, 3) It is a formal agro-industry registered at the Department of Agriculture, Food Security and Fisheries, Bangli Regency and the Office of Industry and Trade, Bangli Regency. 4) The selected agro-industry is willing to provide the data needed by the researcher. Sampling was carried out by researchers by selecting 5 (five) people from 6 (six) farmer groups in two villages (Belantih and Catur), namely 30 people.

2.3. Data analysis method

To analyze the effectiveness of implementing GAP, researchers used descriptive qualitative analysis to analyze the data obtained from the results of the FGD (Forum Group Discussion) conducted at the research site.

2.4. SWOT analysis

According to [13], a popular model for analyzing situations is to use a SWOT analysis. In principle, SWOT analysis is an activity to analyze internal factors in the form of strengths and weaknesses as well as external factors in the form of opportunities and threats from an organization to determine what strategy must be carried out so that the organization can operate and even develop continuously in an effective, efficient and sustainable manner. The SWOT matrix is an analytical tool used to compile strategic factors for the Kintamani specialty Arabica coffee business in Bangli Regency. The SWOT matrix describes how opportunities and threats can be combined with business strengths and weaknesses. The formulation of this strategy produces four alternative strategies, namely the strategy of adjusting strengths and opportunities (S-O strategy), weaknesses and opportunities (W-O strategy), strengths and threats (S-T strategy), and strategies for adjusting weaknesses and threats (W-T strategy).

The matrix tabulated data is then taken 5 (five) alternative strategies to plan the improvement of the Kintamani specialty Arabica coffee farming business in Bangli Regency by taking into account several important aspects such as natural resources, human resources, and institutions. The SWOT matrix is an important matching tool to help managers develop four types of strategies to be implemented [14].

SWOT analysis is used to examine the prospects and strategies for increasing Kintamani specialty Arabica coffee in Bangli Regency. According to [13], the SWOT analysis consists of an analysis of internal factors (Internal Factor Analysis Summary/IFAS) and an analysis of external factors (External Factor Analysis Summary/EFAS).

2.5. Identification of Internal and External Factors

The method used in this research is descriptive and analytical. According to [13], the descriptive method is useful for making systematic, factual, and accurate descriptions, drawings, and drawings regarding the facts, characteristics, and relationships between the phenomena investigated. The analytical method is a method that aims to test hypotheses and make interpretations of existing relationships.

Factor identification is carried out by identifying possible influencing factors based on relevant literature for each aspect and facts in the field. Identification was carried out using a listing and checking system for each influencing factor, namely the identification of the type of growth and improvement of Arabica coffee in Bangli Regency. The method used refers to [13] in identifying internal and external factors.

2.6. Evaluation of Internal and External Factors

Evaluation of internal and external factors was carried out to assess the size of the influence of certain factors related to the objectives of the Kintamani arabica coffee farming business. Evaluation of the factors is carried out to assess the size of the influence of certain factors related to the purpose of launching the product. The value generated from the evaluation of this factor describes the business conditions internally and externally [13]. This evaluation activity is known as Internal Factor Evaluation (IFE) and External Factor Evaluation (EFE).

Evaluation of internal and external factors was carried out on respondents in 2 villages (Belantih Village and Catur Village) each of 3 farmer groups involved in the ongoing process of the Kintamani specialty Arabica coffee business. Evaluators are people who are directly (internally) and indirectly (externally) related to the Kintamani specialty Arabica coffee business process.

Identification of these factors can create the effect of the strategy carried out by the business so far can be known and business improvement can be formulated by determining strategies that can take advantage of existing external and internal factors. The stages in filling out the IFE matrix [13] are as follows:

1. Make a list of internal factors (strengths and weaknesses)
2. Give a weight ranging from 0-1 (not important-very important) for each factor. The weight given is the factor's significance to the success of the goal (the total number of weights should be 1). Determination of weights is done by paired comparison with a scale; 1=horizontal factor is less important than vertical; 2 = horizontal factors are as important as vertical factors; 3=horizontal factors are more important than vertical factors.
3. The weight of each variable is obtained by determining the value of each variable to the total value of the whole with equation 3 as follows:

$$\alpha_i = \frac{X_i}{\sum_{i=1}^n X_i}$$

Information:

α = weight variable I

X = the value of the i-variable

$i = 1,2,3,n$

$n =$ Number of data

4. Ratings 1 to 4 are assigned to each factor (1=very weak, 2=weak, 3=strong, 4=very strong). Ratings on individual data are determined using a frequency distribution [15]. The data for each individual is then grouped into group data whose main ranking is determined by the mode.
5. The steps for evaluating external factors are the same as the stages in evaluating internal factors, the difference is in the final stage a total weight score of 4.0 indicates that the business strategy has a good response to opportunities and threats. The total weight score of 1.0 indicates the company's strategy does not take advantage of opportunities or does not avoid threats.

2.7. Internal-External (IE) Matrix Analysis

This stage is a business positioning with a matrix called the IE matrix. Filling in this matrix is done by plotting the results of internal and external evaluations [16]. The total weighted average IFE is the x-axis and the total EFE score is the y-axis. The results of the evaluation are drawn toward the matrix until the two meet at one coordinate point. The point of intersection of these two factors is the company's strategic position. Strategy formulation is carried out descriptively according to the results of factor identification, factor evaluation, and business positioning. The strategy is formulated based on the business position and the strategies needed to achieve it. The results of the identification of strengths, weaknesses, opportunities, and threats are used to formulate alternative strategies using the SWOT matrix.

3. Results and Discussion

The results of the IFE factor analysis of Kintamani specialty Arabica coffee obtained from the processing of the questionnaire results are presented in Table 1.

Table 1. The highest IFE factor for Kintamani specialty arabica coffee

Strength Factor	Weight	Rating	Score
1. Availability of good sources of raw materials	0.050	4	0.200
2. Has a strategic partner in increasing the productivity of Kintamani specialty Arabica coffee (research institutes, universities, government, banking)	0.050	4	0.200
3. The profession of a farmer has been passed down from generation to generation	0.050	4	0.190
4. Customer cooperation in increasing the productivity of Kintamani specialty Arabica coffee is quite good	0.050	3	0.160
5. Farmers and farmer groups have the enthusiasm to move forward	0.050	3	0.160

Weakness factor	Weight	Rating	Score
1. There is no soup for the production process	0.060	2	0.116
2. Arabica coffee cultivation system has not been implemented effectively	0.050	2	0.100
3. Media promotion and execution in the company have not been integrated	0.040	2	0.080
4. Management of the Kintamani specialty Arabica coffee cultivation is conventional	0.040	2	0.077
5. Small economies of scale	0.030	2	0.058

In analyzing the internal environment using the IFE matrix, it was found that the availability of good sources of raw materials had the highest score of 0.200. According to [17], inventory control is very important for a company, because without proper inventory control, the company will experience problems such as meeting consumer needs both in the form of goods and services produced by the company.

Furthermore, the factor of having a strategic partner in increasing the productivity of Kintamani specialty Arabica coffee (research institutions, universities, government, banking) has the highest score of 0.200, this is following [18] the role of strategic partners and the role of change agents and management jointly play a role in efforts to shape, maintain and improve the performance of university and industry collaboration providing benefits to both parties to invest in the development of research capabilities carried out by universities and industry in the focus of research areas of both parties and find the best solutions to problems faced by the industrial world through research collaborations to improve company performance and will ultimately have an impact on national economic growth. The thing that needs to be considered is how to build a knowledge-based industry so that innovation can be achieved through cooperation between industry and universities. The university as higher education can provide an increase in the knowledge-based economy through mutually beneficial cooperation with industry, and the impact is also expected to be felt by the community through small and medium-scale industries [19].

The third factor is the hereditary farming profession with a score of 0.190. Knowledge to optimally manage a farmer's land includes knowledge about methods, benefits, and use of fertilizers, benefits of terracing or Rorak, post-harvest management, use of superior seeds, and marketing. With a low level of education, farmers usually do not master all the farming techniques needed to manage agricultural land optimally. However, several farming techniques have been passed down from generation to generation, for example making terraces or Rorak, managing crops simply using local techniques, and selling the produce prospectively [20].

Table 2. The highest value of the EFE factor for Kintamani specialty arabica coffee

Opportunity Factor	Weight	Rating	Score
1. Potential for collaboration in the field of research and service	0.015	3	0.045
2. Potential processed products	0.010	4	0.040
3. Bali Province area segment	0.010	4	0.040
4. The potential for integrative cooperation programs	0.010	4	0.040
5. Operational cost efficiency is increased	0.010	4	0.040
Threat factor			
1. Competitors who imitate similar products	0.010	2	0.021
2. Potential product unavailability and continuity	0.010	2	0.020
3. Selling prices and margins are threatened by competitors	0.009	2	0.018
4. Promotional communication media threatens to be irrelevant to current customer behavior	0.007	2	0.014
5. An open market	0.005	2	0.010

In analyzing the external environment, the EFE matrix used the opportunity factor for potential collaboration in the field of research and community service with a score of 0.045 (Table 2). The existence of coffee research and development institutions aims to create innovations in improving quality and production. This institution can also improve the quality of human resources in agriculture and the coffee industry through outreach, training, and counseling [21].

The second factor is the potential for processed products with a value of 0.040. According to [21] one of the leading commodities in the plantation sub-sector is coffee. Coffee is a product that has good market opportunities both domestically and abroad.

The third factor is the Bali province area segment of 0.040, according to [22], market segmentation is the process of dividing markets into groups of consumers with the same needs or characteristics and selecting one or more segments to be targeted. Segmentation strategy helps manufacturers to differentiate their offerings. As described by [23], a market segment consists of a group of customers who have a similar set of needs and wants. Product differentiation can boost product marketing [24].

The effectiveness of GAP implementation and its effect on increasing the productivity of Kintamani specialty arabica coffee can be shown through environmental analysis using the IFE matrix with the results obtained that the availability of good GAP-supporting raw material sources has the highest score of 0.200. The availability of raw material sources plays a very important role in increasing the productivity of Kintamani specialty Arabica coffee because this raw material is included in the GAP inventory control is one of the most important aspects of an agro-industry because without inventory control agro-industry will reduce production, As stated by [17] it is stated that inventory control is very important for an agro-industry, because without good inventory control, an agro-industry will experience problems in meeting consumer needs both in the form of products produced by agro-industry. Another factor that also determines increased productivity is the hereditary farming profession with a score of 0.190. Knowledge of managing farmer's land optimally includes knowledge of proper and correct farming practices, the benefits and use of fertilizers, the benefits of terraces, planting shade and ground cover plants, pruning, post-harvest management, use of superior seeds and marketing (part of GAP. With a low level of education, farmers usually do not master all the farming techniques needed to manage agricultural land optimally. However, some farming techniques are passed down from parents, for example making terraces/Rorak, managing yields simply with simple techniques locally, as well as selling crops prospectively [20].

Various factors need to be analyzed, for this, it begins with identifying internal and external factors (Tables 1 and 2). Factor analysis is carried out to obtain key success factors that can be used as determinants in policymaking. Achieving the desired goals and objectives is strongly influenced by internal and external factors. Internal factors in the scope of the problems taken can be in the form of Strengths and Weaknesses, while external factors that affect the organization can be in the form of Opportunities or Threats. Furthermore, from internal factors and external factors, an assessment is carried out to determine the urgency value (NU) and Support Value (ND).

		IFE		
		Strong (3 – 4)	Moderate (2 – 2.99)	Weak (1– 1.99)
EFE	Height (3 - 4)	I	II	III
	Moderate (2 – 2.99)	IV	V	VI
	Low (1 – 1.99)	VII	VIII	IX

Figure 1. IE Matrix

The results of the EFE and IFE analysis are combined in the IE matrix (Figure 1) and the result is that the key resource element is in quadrant II. Quadrant II means Kintamani specialty arabica coffee is a strong and potential product. Despite facing various threats, this product still has internal strength. The strategy that must be implemented is to use strength to take advantage of long-term opportunities through a strategy implementing GAP Arabica coffee. This is under the directives of [25] where GAP is a technical implementation of an agricultural production process certification system that uses advanced technology that is environmentally friendly and sustainable so that the products harvested are safe for consumption, pay attention to the welfare of workers and agriculture provides economic benefits for farmers. Meanwhile, according to Permentan 48/2006, GAP Guidelines are guidelines for managing plant cultivation starting from pre-harvest activities to post-harvest handling to become general

guidelines in carrying out food crop cultivation properly. and appropriate, to obtain high productivity, good product quality, maximum profit, environmentally friendly, and pay attention to aspects of safety, health, and welfare of farmers, as well as sustainable production efforts. In another chart, reveal that the application of GAP reflects the three pillars of sustainability, namely good agricultural practices must be economically feasible, environmentally friendly, and acceptable socially or in society including food safety and quality. Through the Regulation of the Minister of Agriculture of the Republic of Indonesia Number 49 of 2014 concerning Technical Guidelines for Good Agricultural Practices/GAP Coffee, the scope of this guideline includes internal activities, namely: sustainable coffee production; good coffee cultivation; coffee cultivation business diversification; harvest and post-harvest handling. According to [26], an agro-industry that implements GAP has opportunities and strengths so that it can take advantage of existing opportunities. The strategy that must be applied in this condition is to support an aggressive growth policy. The strategy recommendations provided are progressive, meaning that the company is in good condition so that it has a great opportunity to develop, increase growth, and achieve maximum progress [27].

The results of external and internal environmental factors that form the internal and external matrix. Based on the five highest factors from the IFE and EFE factors, a SWOT matrix is compiled (Figure 2), from this matrix, several alternative strategies are generated for the key resource element as follows:

- 1) S-O (Strengths-Opportunities) strategy, namely conducting cooperation in raw material research, raw material supply chain and alternative procurement of raw materials, developing product diversification through strategic research results, conducting periodic performance appraisals;
- 2) Strategy S-T (Strengths-Threats), namely preparing alternative supply chain strategies for raw materials to distribution, planning farmer group cooperation to secure market prices;
- 3) W-O (Weaknesses-Opportunities) strategy, namely the development of production SOPs through adjustments and local cultural approaches;
- 4) W-T Strategy (Weaknesses-Threats), namely developing integrated promotion management.

Based on the SWOT Matrix in Figure 2. was obtained based on the first SO Strategy, namely cooperation in raw material research, raw material supply chains, and alternative procurement of raw materials. The existence of coffee research and development institutions aims to create innovations in improving quality and production. This institution can also improve the quality of human resources in agriculture and the coffee industry through outreach, training, and counseling [21].

	Strengths (S)	Weaknesses (W)
IFE/EFE	1. Availability of good sources of raw materials 2. Having strategic partners in increasing the productivity of Kintamani specialty Arabica coffee (research institutes, universities, government, banking) 3. The profession of a farmer has been passed down from generation to generation 4. Customer cooperation in increasing the productivity of Kintamani specialty Arabica coffee is quite good	1. There is no SOP for the production process 2. The Kintamani specialty Arabica coffee cultivation system has not been carried out effectively 3. Media promotion and execution in the company have not been integrated 4. The management of Kintamani specialty Arabica coffee cultivation is conventional 5. Small economies of scale

	5. Farmers and farmer groups have the enthusiasm to move forward	
Opportunity (O)	Strategy S-O	Strategy W-O
1. Potential for collaboration in the field of research and service 2. Potential processed products 3. Bali Province area segment 4. The potential for integrative cooperation programs 5. Operational costs are increased efficiency (employee salaries and operational costs)	1. Collaborate in raw material research, raw material supply chain, and alternative procurement of raw materials. 2. Development of product diversification that has Kintamani identity or characteristics through the results of strategic research. 3. Conduct periodic performance appraisals.	1. Development of production SOPs through adjustments and approaches to local culture
Threat (T)	Strategy S-T	Strategy T-O

Figure 2. SWOT Matrix

The second S-O strategy is the development of product diversification through strategic research results. diversification strategy is an effort to find and develop new products or markets, or both, to pursue growth, and increase sales, profitability, and flexibility [28]. The product development strategy aims to increase added value, increase product competitiveness, reduce risk, utilize existing technology, stabilize income and take profits. [29] say that consumers can be attracted to new product diversification with slight modifications to the shape, packaging design, product expansion, product taste, and the addition of new products. [30] adds that diversification can be done by: acquiring and restructuring, transferring competencies, and creating economic scope.

The third S-O strategy is to conduct periodic performance appraisals. According to [31], the reasons for companies to evaluate the performance of their employees are as follows:

- 1) Based on a practical view, most decisions about salary and promotion of employees are taken through employee performance appraisal;
- 2) Assessment plays an integral role in the performance of enterprise process management. Appraisals can translate the company's strategic goals into employee-specific goals;
- 3) The assessment provides an opportunity for superiors and subordinates to develop plans to correct various deficiencies, and strengthen things that have been done properly and correctly by subordinates;
- 4) The assessment will serve a useful career planning purpose. The assessment provides an opportunity to review an employee's career plan in terms of strengths and weaknesses.

In the S-T Strategy, the first strategy is to prepare alternative strategies for the supply chain of raw materials to distribution. Two important things are obtained when carrying out a supply chain strategy, the first is collaboration as a result of joint efforts between each part or process in the product cycle and the second is that SCM can cover all product cycle activities [32]. In addition, supply chain management is planning and controlling the flow of information and materials along the supply chain to meet customer needs efficiently now and in the future. Supply Chain Management is the management of activities that procure materials and services, turn them into semi-finished goods and final products, and send products through a distribution system [33]. The supply chain has interrelated relationships between suppliers of raw materials and services that include the transformation of raw materials into products and services as well as the delivery process to the hands of customers. Supply chain management seeks to link every activity within the company and its suppliers to match the flow of raw materials, services, and information according to customer demands. developing product diversification through strategic research results, and conducting periodic performance appraisals [34].

The second S-T strategy is designing farmer-group cooperation to secure market prices. According to [35]. The partnership pattern of government programs tends to develop partnerships vertically with the "adopted father" relationship pattern, which in plantation agribusiness is known as the PIR (People's Nucleus Plantation) pattern. While the pattern of market partnerships developed as a result of the inclusion of a market economic system in rural people's agricultural businesses. The type of agricultural business being targeted is agriculture which produces agricultural commodities with high economic value and have a strong demand on the world market. This pattern involves farmers who own large capital engaged in product processing and marketing industries. They establish cooperation ("partnership") because of their interests in various economic benefits (mutual benefit). Smallholder agriculture can coexist with large companies by growing interdependence where farmers feel they own the company through share ownership. This form of partnership has the following characteristics:

- 1) Producing farmers must become shareholders so that farmers collectively control the agribusiness entity;
- 2) Farmer organizations are not limited to raw material production activities;
- 3) The output of an agricultural business is not unstable raw materials, but processed (final) commodities with high added value;
- 4) Partnership relations between agribusiness actors are based on economic rationality and the division of organic labor specialization. The principle of openness and the application of democracy as well as decision-making either through deliberations or voting.

The first W-O strategy is the development of production SOPs through adjustments and local cultural approaches. The adoption of innovations by members of farmer groups results in increased production yields among member farmers. [36], said that an increase in production costs is in line with an increase in the amount of production, but at a certain level the addition of input will no longer increase output, it can even make output decrease. By Sukirno's theory, the adoption of new technology by members makes the costs incurred for farming higher, but the increase in costs is accompanied by a significant increase in the amount of production.

The second W – O strategy is to produce products that have Kintamani identity or characteristics. Brand Identity is a stage in determining the brand of a product, by having its characteristics on the product so that it can provide differentiation from other products, which can stick and attract the minds of customers, which causes curiosity about the product. offered and want to buy it [37]. The existence of an identity will make it easier to identify a brand among other brands. Customers will immediately know a product or service offered when they see a brand identity. That way, consumers will more easily decide whether to buy the product or not. According to [38], decisions include choices between two or more alternative actions (or behaviors). Meanwhile, according to [30], purchasing decisions are making decisions about buying or not making purchases, whose decisions are based on the results obtained from activities or activities before making a purchase. Thus buying is not just buying without awareness. Buying is the final decision after considering several options. According to [38], the consumer's purchasing decision is to buy the most preferred brand, but there are two factors between purchase intention and purchase decision. Both of these lead to purchase decisions According to [39], decisions include choices between two or more alternative actions (or behaviors). Meanwhile, according to Sofjan [30], purchasing decisions are making decisions to buy or not to make purchases, where the decision is based on the results obtained from activities or activities before making a purchase. Thus buying is not just buying without awareness. Buying is the final decision after considering several options. According to [38], the consumer's purchasing decision is to buy the most preferred brand, but there are two factors between purchase intention and purchase decision, both of which culminate in a purchase decision.

The first T-O strategy is to arrange integrated promotion management. The development of a marketing network needs to be supported by value communication or promotions that are tailored to the marketing system alternatives that will be determined. Alternative marketing systems are offered, such as using an existing direct selling system, creating a new direct selling system specifically for new products, opening special outlets or boutiques selling these products, and selling online via the internet (making homepages or via social media networks) [40].

Based on the SWOT analysis, calculating the total score of IFAS and EFAS, the position of Kintamani specialty Arabica coffee is in quadrant IV. Kintamani specialty arabica coffee is located in quadrant IV because the difference between the two weight values is positive and negative, namely 0.72 and -1.20. Visually it can be seen in Figure 3 below.

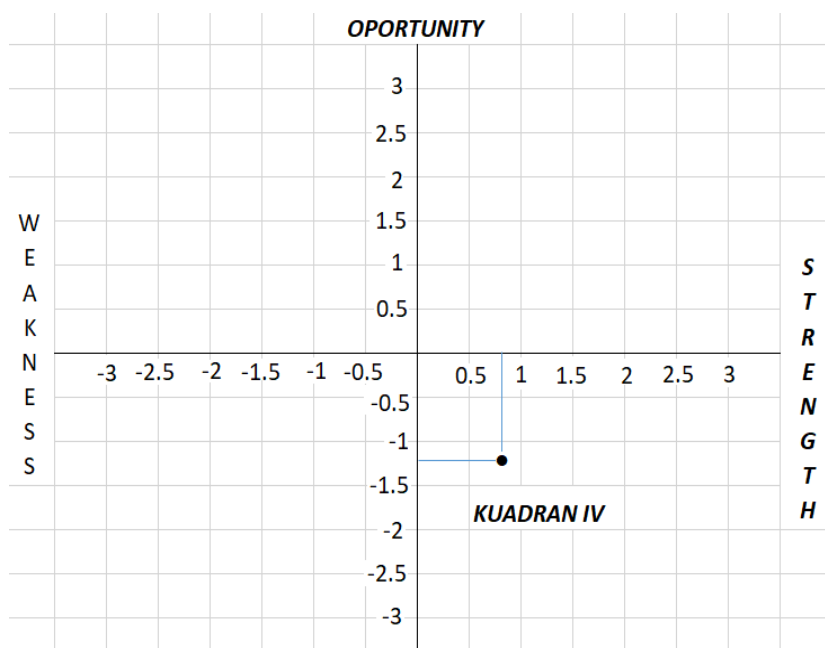


Figure 3. Position of Kintamani Special Arabica Coffee in the SWOT Matrix

Following the SWOT matrix image above, Kintamani specialty Arabica coffee should use a diversification strategy. In quadrant IV (its position on the path of strength and threat) means that Kintamani specialty Arabica coffee has a strong competitive position, but is in an industry with slow growth. This product has the power to launch diversified programs into more promising growth areas. Businesses or products that are in quadrant IV have high levels of cash flow and limited internal growth needs and can often engage in related or unrelated diversification. Companies/agro-industries in Quadrant IV can also carry out joint ventures (cooperation or partnerships) [41].

4. Conclusion

The application of GAP is influential and effective in increasing the productivity of Kintamani specialty Arabica coffee. There are five highest factors respectively on internal and external factors in increasing the productivity of Kintamani specialty Arabica coffee. Where internal factors consist of strengths and weaknesses, while external factors consist of opportunities and threats. The results of IFE and EFE analysis on the IE Matrix found that Kintamani specialty Arabica coffee is in a strong and opportunity position so that 7 strategies are obtained, namely: 1). Collaborate in raw material research, raw material supply chain and raw material procurement alternatives, 2). Development of product diversification that has

Kintamani identity or characteristics through strategic research results, 3). Conduct periodic performance appraisals, 4). prepare alternative supply chain strategies for raw materials to distribution, 5). Designing farmer group cooperation to secure market prices, 6). Development of production SOPs through adjustments and approaches to local culture, 7). Develop integrated promotion management.

It is hoped that Kintamani specialty Arabica coffee farmers who are members of farmer groups can apply the strategies that have been given, including conducting research collaborations on raw materials, raw material supply chains, and alternative sources of raw materials, developing product diversification owned by Kintamani identity or characteristics through strategic research results; conduct periodic performance appraisals, prepare alternative raw material supply chain strategies to distribution; Design farmer group cooperation to secure market prices, develop production SOPs through local cultural adjustments and approaches, and develop integrated promotion management; Further research is needed on other elements to determine strategies and other alternative strategies so as to reduce constraints and increase the productivity of Kintamani specialty Arabica coffee.

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