

COMPETITIVENESS ANALYSIS AND STRATEGY FORMULATION IN IMPROVING INDONESIAN COFFEE COMMODITIES

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Abstract

This research was motivated by a decline in Indonesia's export rating due to several problems such as limited capital and technology, a decrease in plantation area, the amount of coffee production, and the productivity of coffee plants, as well as the low quality of coffee produced had an impact on international trade in Indonesian coffee. This study aims to analyze the condition of coffee agribusiness in Indonesia. Analyze the competitiveness of Indonesian coffee both comparatively and competitively. Analyze and formulate the right strategy to improve the competitiveness of Indonesian coffee. The data used is secondary data from 2015-2019.

The results of the descriptive analysis showed that the marketing subsystem found that the coffee business chain in Indonesia has not been effective because the marketing flow at the farmer level is still long and causes large price margins. On the other hand, financial institutions as support have also not supported coffee agribusiness activities, especially in providing financing support to farmers. Based on the results of the comparative competitiveness analysis of Indonesian coffee in the international market using the RCA method, it produces an average value of 5.76 which shows that Indonesia has comparative competitiveness. However, when compared to the average RCA value of other coffee exporter countries, Indonesia is the lowest. This shows that Indonesia is still less competitive. Based on the analysis using the Porter Diamond System, shows that Indonesian coffee has competitiveness competitively because four of the six main pairs of components have mutually supportive links. Based on the SWOT matrix, the focus of the S-O strategy (using the main force to seize the opportunities at hand) obtained five strategies to increase competitiveness.

Keywords: Coffee, Comparative Advantage, Competitive Advantage, Competitiveness.

INTRODUCTION

Indonesia was the 4th largest coffee-producing country in the world from 2015-2019. Indonesia's coffee production volume in 2016 increased from the previous year, but in 2017-2019 Indonesia's coffee production continued to decline. In contrast to coffee production, Indonesia's coffee exports from 2015-2017 experienced a decline which previously ranked 4th as a world coffee exporting country until in 2018 Indonesia's position fell to become the 5th exporter country in the world even though coffee as one of the export commodities that has an important role in the Indonesian

economy, especially as a source of foreign exchange, a provider of employment, and is a source of income for farmers or other economic actors related to coffee.

The downgrade of Indonesia's export rating was due to several problems. The first problem is the limited capital and technology owned by farmers. Based on data from the *International Trade Center* (ITC) (2018), the type of coffee exported by Indonesia is still in the form of coffee beans with *the Harmonized System* (HS) code 090111. Coffee that is not roasted and not removed caffeine contributes the most compared to other types of coffee, which is 99% of the total exports of coffee commodities then followed by the contribution of coffee roasted and not eliminated caffeine by 1%. The second problem is the declining area of coffee plantations. The decrease in coffee plantations is due to the conversion of land functions to non-plantation land or the transfer of commodities to other types of crops (DitjenBun, 2016). The next problem is the decrease in the amount of production and productivity. The decrease in plantation areas also has an impact on the production and productivity of coffee plants in Indonesia. The low productivity of smallholder plantations is because smallholder coffee farmers have not used superior coffee seeds and the application of cultivation techniques is still simple. Meanwhile, the decline in the productivity of large private plantations is due to the slow rejuvenation of coffee plants and pest attacks (DitjenBun, 2016).

Based on this description, research on competitiveness analysis and strategy formulation in improving coffee commodities in Indonesia needs to be carried out. This study aims to, 1) analyze the condition of coffee agribusiness in Indonesia, 2) analyze the competitiveness of Indonesian coffee both comparatively and competitively, and 3) analyze and formulate the right strategy to improve the competitiveness of Indonesian coffee.

RESEARCH METHODS

Data Types and Sources

Time *series* data were selected for 2015-2019. The coffee that is the object of the study is coffee with the HS code 090111 namely *coffee not roasted, not decaffeinated*, or coffee beans that have not been roasted and have not been removed caffeine.

Data Analysis

Revealed Comparative Advantage (RCA)

The RCA is formulated as follows:

$$RCA_{ij} = \frac{X_{ij}/X_j}{X_{iw}/X_w}$$

Information:

- X_{ij} = Export value of coffee commodities from country j to international market
- X_j = The total value of exports of all commodities from country j to the international market
- X_{iw} = Export value of coffee commodities from all countries to international markets
- X_w = Export value of all commodities from all countries to international markets
- I = Coffee commodities
- J = Coffee exporting countries to international markets
- W = All countries of the world

If the value of $RCA > 1$ ($RCA > 1$), then a country has a comparative advantage above the world average so that the commodity has strong competitiveness.

If the value of $RCA < 1$ ($RCA < 1$), then a country has a comparative advantage below the world average so that a commodity has weak competitiveness.

Porter Diamond Analysis

Porter's Diamond Theory can be used to determine the competitiveness of Indonesian coffee based on the condition of the national coffee agribusiness which is then grouped into the main components (resource factor conditions, demand conditions, related and supporting industries, as well as national structure, competition, and strategy) and supporting components (the role of the government and the role of opportunity).

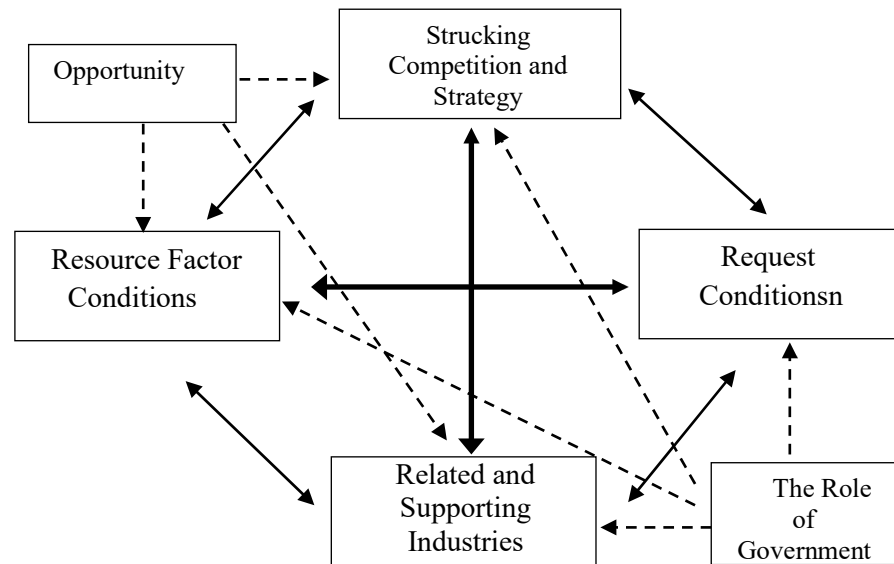


Figure 1. *The Complete System of National Competitive Advantage*
Source: Porter. 1990

SWOT Analysis

The initial stage in SWOT analysis is the identification of internal factors and external factors by creating an IFAS (*Internal Factor Analysis Summary*) matrix and an EFAS (*External Factor Analysis Summary*) matrix. The IFAS matrix aims to find out whether the strengths possessed are greater than the weaknesses, while the EFAS matrix aims to find out whether the coffee industry *stakeholders* have been able to take advantage of opportunities to deal with existing threats. The value of the IFAS and EFAS analysis will determine the position of the company's strategy through a SWOT diagram.

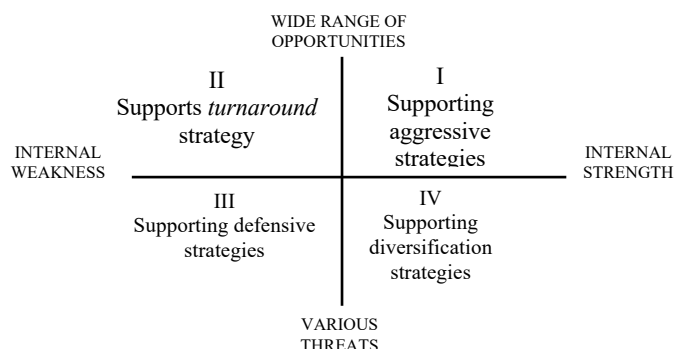


Figure 2. SWOT Analysis Diagram

Source: Rangkuti. 2016.

Furthermore, it uses a SWOT matrix to clearly describe the external opportunities and threats faced which can also be adjusted to the strengths and weaknesses possessed.

Table 2. SWOT Analysis Matrix

Internal	<i>Strengths (S)</i> Determine 5-10 factors-internal strength factors	<i>Weakness (W)</i> Determine 5-10 factors-factors of internal weakness
External	<i>Opportunities (O)</i> Determine 5-10 factors-external opportunity factors	<i>WO Strategy</i> Create a strategy that minimizes weaknesses to take advantage of chance
<i>Treaths (T)</i> Determine 5-10 external threat factors	<i>Strategy ST</i> Create strategies that use power to address threats	<i>WT Strategy</i> Create strategies that minimize weaknesses and avoid threats

Source: Rangkuti. 2006

RESULTS AND DISCUSSION

Indonesia's coffee agribusiness system is divided into several subsystems. The first subsystem is the upstream subsystem. This subsystem consists of four main activities. Coffee breeding business. Coffee seeds can be obtained in two ways, namely vegetatively (artificially) by using parts of coffee plants or generatively (naturally) with seeds or coffee beans. Seeding of coffee plants with seeds is generally done for arabica coffee types, while robusta coffee is more often propagated vegetatively or artificially. Generative propagation is more commonly used because it is easy to implement, and shorter to produce seeds ready for planting compared to vegetative (clonal) propagation of seedlings. The first thing that must be considered in the vegetative breeding of coffee plants is to choose a mother plant that will be used as planting material to be bred/cloned. Clones recommended by the Coffee and Cocoa Center (ICCRI) include BP 308, BP 42, BP 358, BP 409, SA 436, BP 234, BP 939, BP 288, BP 534, BP 936, and SA 203. Sources of clones can be obtained in research halls or seedling stores. The government through the Decree of the Minister of Agriculture No.30-34/kpts/KB.020/2/2019 issued five varieties of robusta coffee, including Hibiro 1, Hibiro 2, Hibiro 3, Hibiro 4, and Hibiro 5. As for arabica coffee

planting material, there is 1 clone and six varieties, namely AS2K Clone, Komasti, Andungsari 1, Gayo 1, and Gayo 2.

The business providing transportation facilities and services. The location of coffee plantations in the highlands requires a means of transportation that can bring coffee fruits from coffee plantations to processing plants. Meanwhile, in the marketing process, to market coffee both in the domestic market where the territory of Indonesia is divided into several large islands and separated by the ocean. It needs to be supported by the shipping industry and airlines.

Agro-chemical business in the form of fertilizers and medicines that can be used. The types of chemical fertilizers used in the activities of coffee plant cultivation include Urea, SP36, KCl, and Kieserit. In addition to the type of chemical fertilizer, coffee farmers also use manure and coffee fruit skin as fertilizer. While the types of drugs that are generally often carried out in coffee cultivation are fungicides, feticides, insecticides, herbicides, and several other types of drugs. Fertilizers circulating among producers are divided into two, namely subsidized fertilizers and non-subsidized fertilizers. However, the government prioritizes providing fertilizer subsidies for food crop farming, while for plantation crops only a small part of the subsidies provided by the government and an uncertain period.

Business provider of agricultural tools and machinery. The tools used in coffee plantations are generally in the form of mechanical pruning tools, pest spraying machines, and several other mechanical equipment. Meanwhile, the agricultural machinery used in the coffee processing process consists of a coffee fruit peeling machine, a coffee bean washing machine, a mechanical dryer, a drying machine for drying HS coffee beans, a sorting device, and a packaging tool.

The second subsystem is the coffee farming subsystem. Based on the type of ownership, coffee plantations in Indonesia consist of People's Plantations (PR), State Large Plantations (PBN), and Private Large Plantations (PBS). The area of PR area reaches 96.53%, with production of about 727,614 tons. Meanwhile, the area of PBN is 1.59% and PBS reaches 1.78% with the production reaching 13,267 tons and 14,868 tons. PR productivity reached 601.26 Kg/Ha, PBN was 665.91 Kg/Ha and PBS reached 668.31 Kg/Ha. Generally, the area of PR land is only small, while for PBN and PBS, the plantation area can reach thousands of hectares.

The third subsystem is the processing subsystem. Coffee fruits that have been harvested must go through a processing process so that they can be enjoyed with attractive and long-lasting quality taste, aroma, viscosity, and color of coffee. The processing of coffee fruit can affect the quality of the taste of the coffee produced. The coffee processing process is divided into two, namely wet coffee processing and dry coffee processing.

The fourth subsystem is the marketing subsystem. The length of the marketing path at the farmer level raises price margins at every level of the trader. This is what makes coffee marketing at the farmer level inefficient. In contrast, coffee marketing through farmer groups or large plantations that can market their coffee directly to coffee agents and exporters is considered more efficient. Next is the subsystem of supporting services. One of the research and research institutions as supporting institutions for coffee agribusiness in Indonesia is the Indonesian Coffee and Cocoa Research Center. The role of Puslitkoka is as a provider of seeds derived from superior varieties and clones that have high productivity and are resistant to pest and disease attacks.

So far there are five largest coffee exporting countries in the world namely Brazil, Colombia, Vietnam, Honduras, and Indonesia. The five coffee exporting countries have a comparative advantage over coffee products. The competitiveness of Indonesian coffee in the international market can be seen from its comparative advantages. One of the methods for knowing the comparative advantages of a country's commodities in the international market is *the Revealed Comparative Advantage* (RCA) method. The RCA value of Indonesian coffee in the international market in 2015-2019 averaged 5.76. Comparatively, Indonesia has competitiveness. However, when compared with the RCA value of other exporting countries. Indonesia's RCA value is the lowest. The largest average RCA score in the same period was owned by Honduras at 232.43. The second highest RCA score is owned by Colombia, with an average RCA value of 60.21. Furthermore, the third highest RCA score is Brazil with an average RCA value of 21.10. Furthermore, the fourth highest RCA average value is Vietnam with an average score of 16.60.

Based on BPS in 2018, there are six main destination countries for Indonesian coffee exports, namely the United States, Japan, Italy, Egypt, Malaysia, and Germany. The 2015-2019 period from the results of the RCA analysis of HS coffee 090111 Indonesia to export destination countries, showed that Egypt has the highest RCA value as an export destination country. Egypt is Indonesia's coffee export destination country which has the highest RCA value compared to five other export destination countries with an average RCA value of 44.97. Based on the competitiveness analysis using the Porter Diamond System, shows that Indonesian coffee agribusiness has competitiveness competitively. This is shown by the relationship between the main components, of the six main components, four of them have a mutually supportive relationship. Meanwhile, in the components of the government's role, the policies and attitudes given by the government towards Indonesian coffee agribusiness are considered capable of supporting the components of resource factors, related industries, and demand conditions, but the government has not yet created competitive competition in the domestic market for coffee products, because the private sector is still in control.

The IFAS matrix shows the condition of the distinctive taste of Indonesian coffee compared to other countries. This strength has the most score of 1.0833. Through this strength, it is hoped that Indonesia will be able to market its coffee products in the domestic and international markets with its own marketing market. However, Indonesia has a major weakness in developing national coffee agribusiness, namely the low coffee price bargaining position with a score of 0.1220. Meanwhile, based on the results of the EFAS matrix analysis, it shows that in the development of Indonesian coffee agribusiness, the main opportunity is the presence of clones and superior varieties of coffee with high productivity and resistance to disease pests released by the government through the Indonesian Coffee and Cocoa Research Center with the highest score of 1.4167. The main problem faced by Indonesian coffee agribusiness is the presence of exporters from other countries as competitors in the international market with a score of 0.2500.

Based on swot matrix analysis, it is obtained that the position of Indonesian coffee agribusiness is in quadrant I which means it shows a very profitable position. Indonesia 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 (*Growth-Oriented strategy*). In this condition, the aggressive

growth strategy will be focused on all aspects that maximize strength by utilizing existing opportunities so that the aggressive growth strategy that is suitable to be implemented is the SO (*Strength-Opportunity*) strategy. Focus on the S–O strategy (using key strengths to capture opportunities). From the S-O strategy, five strategies were obtained to increase the competitiveness of Indonesian coffee, namely: Implementing a good coffee plantation cultivation system (GAP) and sustainable (*sustainable coffee production*), increasing national coffee production and productivity, increasing the marketing of coffee products both in the domestic market and in the international market, improving the quality standards of coffee products and expanding arabica coffee planting areas, especially in areas that have conformity agroclimatic.

CONCLUSIONS AND SUGGESTIONS

The study concludes that the Indonesian coffee agribusiness system is divided into the upstream subsystem which consists of four main activities, namely the coffee breeding business, the business of providing transportation facilities and services, the business of providing fertilizers and medicines, and the business of providing agricultural tools and machinery. Cultivation Subsystem where coffee plantations in Indonesia consist of People's Plantations (PR), Large State Plantations (PBN), and Private Large Plantations (PBS). The Coffee Processing subsystem is divided into two, namely wet coffee processing and dry coffee processing. Marketing subsystems such as marketing carried out by farmers are still inefficient because the large margins of selling prices at each stage create price inequality between the purchase price of consumers at the final level and the selling price of coffee to farmers. Supporting Services Subsystems such as the Indonesian Coffee and Cocoa Research Center, as well as the role of Puslitkoka, namely as a provider of seeds derived from superior varieties and clones that have high productivity and are resistant to pest and disease attacks.

Based on a comparative analysis of the competitiveness of Indonesian coffee using RCA, Indonesia's comparative has competitiveness. However, when compared with the RCA value of other exporting countries. Indonesia's RCA value is the lowest. Based on the competitiveness analysis using the Porter Diamond System, shows that Indonesian coffee agribusiness has competitiveness competitively. This is indicated by four of the six major component pairs having interrelationships that support each other.

Based on swot matrix analysis, the focus of the S–O strategy is obtained (using the main force to capture the opportunities that exist). From the S-O strategy, five strategies were obtained to increase the competitiveness of Indonesian coffee, namely: Implementing a good (GAP) and sustainable coffee cultivation system (*sustainable coffee production*), increasing national coffee production and productivity, increasing the marketing of coffee products both in the domestic market and in the international market, improving the quality standards of coffee products and expanding arabica coffee planting areas, especially in areas that have agroclimatic suitability.

The advice that can be given in this study is that the government should focus on solving problems in smallholder plantations to improve coffee agribusiness because most of the national coffee plantations are filled by smallholder plantations, as well as conducting counseling and training on the application of *Good Agricultural Practices*.

(GAP) to smallholder farmers with the aim of improving the quality of human resources, especially smallholder farmers in the national coffee agribusiness.

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