



## **COCOA EXPORTS IN INDONESIA: INFLUENCING FACTORS**

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### **Abstract**

*Indonesia is an Asian country that is among the top five largest producers of cocoa in the world. Indonesia's advantages include its low cost, high production capacity, availability of supply, open trading, and marketing system within its business environment. However, its cocoa exports, like any other agricultural export product from most developing countries are inconsistent due to some factors affecting its farming, processing, production, and exports. Such factors are maybe product-related, industry-related, government-related, or export-related; but altogether they may influence the quantity and the quality of Indonesia's cocoa exports annually. Hence this study aims to assess the factors influencing the exportation of cocoa from Indonesia. The reviewed literature enabled the identification of the twelve factors that influence Cocoa Exports in Indonesia. Mono Qualitative research method was adopted. Data was collected using questionnaires which were randomly distributed to stakeholders from both the public and private sectors. The data obtained were analyzed using Mean Item Scores, Relative Importance Index (RII), and T-test. The assessment shows that Global demand due to the Chocolate industry boom; Low Cost of Production; Cocoa Bean Quality (Fat Content of Indonesia's Cocoa); Government Policies and Taxes; Open Market System; Pest and Infestations in cocoa farms were the factors with extreme impact and influential on the cocoa exports. These were followed by Access to Finances by Cocoa Farmers; Capacity of Local Cocoa Processing Industry; Geographical Location of Indonesia. The lowest influential factors were Loyalty of Export Customers; International Cocoa Prices; and Cocoa Value Chain. These factors have a significant influence on the overall cocoa exports from Indonesia as attested by the hypothesis testing using T-test.*

**Keywords:** Cocoa; Exports; Factors; Indonesia, International trade



## INTRODUCTION

International trade is accepted globally as a parameter of measuring the economic performance of a country because it has a significant impact on the gross domestic product (GDP), foreign reserves and exchanges, inflations rate, etc. such trades range from manufactured goods, services, raw materials, natural resources or agricultural products, etc. This allows countries (and or organizations) to conduct trade across national borders with each trying to maximize exports and minimize imports. However, this depends on a country's competitive advantages.

Indonesia is an Asian country with a population of about 274 million which makes it the 4<sup>th</sup> most populous country on the planet[1][2]. It is also the world's 16th largest economy, with a GDP of \$1.12 trillion as of 2019/2020[3]. Indonesia's economy is the largest in Southeast Asia, and it is based largely on commodity export industries. Major exports include coal and petroleum products as well as agricultural commodities suitable for industrial use, such as rubber, palm oil, and cocoa. [2]. Indonesia is among the top five largest producers of cocoa in the world after Ghana and the Ivory Coast, and some times ahead or behind Nigeria. It is the most significant cocoa bean producer and supplier in East Asia[4]–[7]. Indonesia's biggest competitive advantages include its low cost, high production capacity, availability of supply, open trading, and marketing system within its business environment[4].

Indonesian cocoa exports, like any other agricultural export product from most developing countries, were inconsistent due to some factors affecting its farming, processing, production, and exports. Such factors are maybe product-related, industry-related, government-related or export-related; but altogether they may influence the quantity and the quality of Indonesia's cocoa exports annually[6]–[11]. Hence, the aim of this study is to identify, assess and rank the factors influencing the exportation of cocoa from Indonesia with a view to determine the significance of such factors on the total annual cocoa exports.

## LITERATURE REVIEW

### Global Cocoa Beans Production and Indonesia

The cocoa bean is mostly produced by countries that are located in the equatorial regions in the world known to have a warm, tropical climate[12]. Cocoa is basically hand-produced and has never experienced widespread mechanization in its production. Despite this limitation, more than 4.8million tonnes of cocoa beans have been produced annually since

2010[13]. The bean can be used to help make things like garden fertilizer and animal feed, but it is better known for being the key ingredient in chocolate, cakes, and butter. Today, the chocolate industry is valued at more than \$100 billion. Therefore, the cultivation of the cocoa bean is of the utmost importance to chocolate producers. This has pushed global cocoa production to more than 4.85million tonnes[12]. The cocoa beans are transformed into cocoa liquor and then into cocoa butter or cocoa powder for producing chocolate, cosmetics, and a variety of foodstuffs. Exported cocoa beans, whether whole or broken, raw or roasted have a global market and demand among countries like the USA, China, Netherland and Germany, etc. [13].

Cocoa exports had a combined value of \$8.6 billion in 2017. The global cocoa beans market is expected to grow at a compound annual growth rate (CAGR) of 7.3% from 2019 to 2025 to reach \$16.32 billion. The chocolate industry, which consumed 43% of all cocoa in 2017, had a retail market value of \$106.19 billion in 2017 and is expected to grow to USD 189.89 billion by 2026[13]. Figures 1 and 2 below show the global cocoa productions and the producing locations in the world.



Figure 1. Global Cocoa Production

Source: [14]

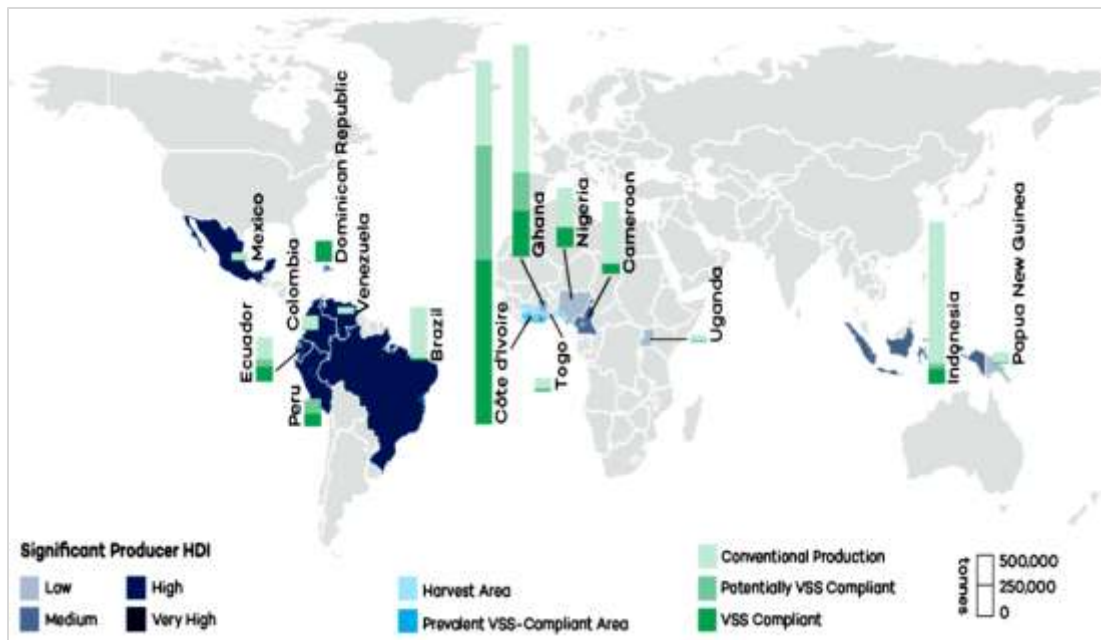


Figure 2: Global Cocoa Producers, Mostly Located in the Tropics

Source: [13]

The figure above shows that cocoa producers are located along the tropics because the cocoa bean is locally and mostly produced by countries in the equatorial regions in the world known due to warm, tropical climate with rainy and hot seasons. The top 5 major producing countries are Ivory Coast, Ghana, Indonesia, Nigeria, and Cameroon [15]. Table 1 below shows Indonesia is ranked as the third among the top 10 cocoa producers in the world.

Table 1: Indonesia’s ranking among top 10 cocoa producers

Rank	Country	Cocoa Production in 2020
1	Ivory Coast	2,034,000
2	Ghana	883,652
<b>3</b>	<b>Indonesia</b>	<b>659,776</b>
4	Nigeria	328,263
5	Cameroon	295,028
6	Brazil	235,809
7	Ecuador	205,955
8	Peru	121,825
9	Dominican Republic	86,599
10	Colombia	56,808

Source: [15]

The cocoa bean value chain in Indonesia has experienced phenomenal growth over the past few decades [4]. With over 451,000 metric tons (MT) of cocoa beans produced annually, Indonesia is the third-largest producer of cocoa in the world after Ghana and the Ivory Coast,

and the major cocoa bean supplier in East Asia and Australia[11]. Aside from the raw cocoa beans, Indonesia also produces, and exports processed cocoa products such as cocoa powder, paste/liquor, cake, and butter. Such exports are valued at approximately \$500-700 million per year[11]. These provide employment and income for over 400,000 families; mostly smallholder farmers of the cocoa. These smallholder cocoa farmers are mostly on the islands of Sulawesi who work on plots of 0.5 -1.5 hectares and grow over 85% of Indonesian cocoa beans for export. Less than a quarter of these farmers are located in Sumatra [4], [16], [17]. Figure 3 shows the location of the Sulawesi island on the Indonesian map.



Figure 3: Cocoa Production Map in Indonesia showing Private Sector Partners in Sulawesi Island and Sumatra  
Source:[18]

The rapid growth of cocoa plantations has had an impact on the large of cocoa production so that exports also increase. Almost 80% of cocoa production is exported to the international market. This is due to the low consumption of local communities to cocoa and the absorption capacity of the domestic cocoa processing industry is still low compared to other countries[10]. The Indonesian cocoa processing industry has significantly contributed to foreign exchange especially during the covid-19 pandemic, with US\$549-million worth of exports in January-June 2020, rising 5.13 percent from the corresponding period last year, 2019. Nearly 80 percent of the output of the cocoa processing industry’s production was exported. In 2019, processed cocoa products had contributed over US\$1.01 billion in export value. Currently, the

cocoa processing industry has produced several variants, including cocoa liquor, cocoa cake, cocoa butter, and cocoa powder [11].

### Indonesian Cocoa Exports and the Influential Factors

Indonesia's cocoa main export being of cocoa butter spread across countries, such as the United States, the Netherlands, India, Estonia, Germany, and China [11]. The U.S. imports 136,000 MT of Indonesian cocoa and is the most important market for cocoa beans from Indonesia. (The U.S. is the second-largest buyer of cocoa beans in the world.) Other major buyers of Indonesian cocoa beans include Brazil, China, and the Philippines. Markets in Asia (most notably in Malaysia and Singapore) also offer expanded export opportunities for Indonesian cocoa beans. U.S. chocolate manufacturers are the largest international buyers of processed cocoa products from Sulawesi, purchasing about 40 percent of total cocoa butter exports, followed by European and Southeast Asian buyers. The market for Sulawesi cocoa powder is split fairly evenly between buyers in the U.S, Southeast Asia, and Europe. Sulawesi cocoa is traded on the global market as an unfermented, fat, bulk bean. Processors and manufacturers use Sulawesi bean as filler, due to its sufficient fat content and lower cost, and blend it with other fermented beans that add flavor. Global demand for these unfermented bulk beans has become relatively inelastic and is not significantly affected by changes in price [4].

Figure 4 below shows Indonesia's cocoa exports from 2015-2019 to its major buyers which are the USA, Malaysia, Netherlands, China, and India. Despite the corona pandemic in 2020, the total exports of cocoa reached US\$549-million, which shows the demand for Indonesia's cocoa.

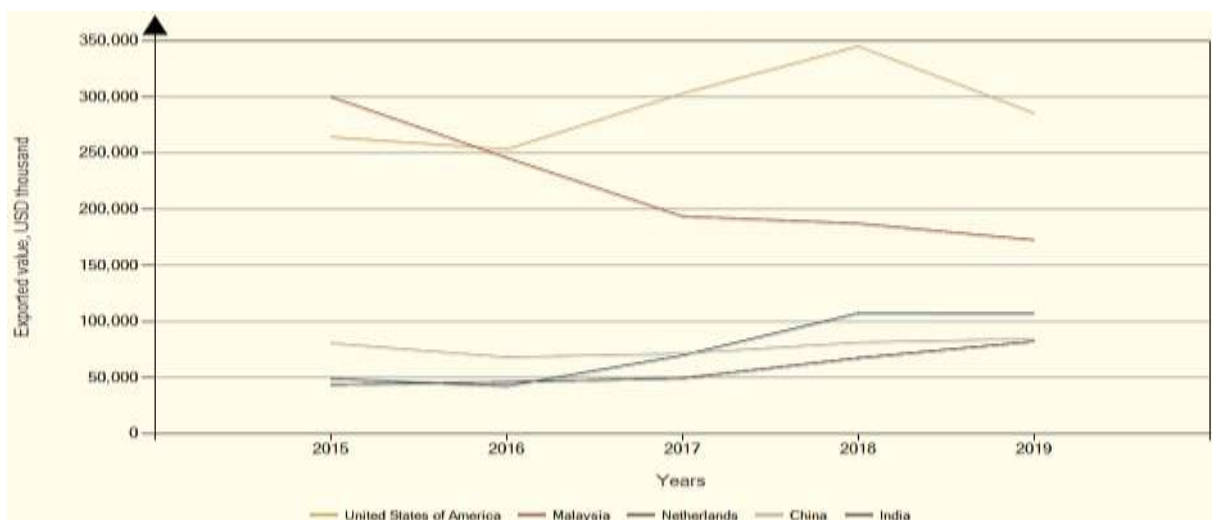


Figure 4: Indonesia's cocoa exports from 2015-2019

Source: [19]



Indonesia has an institutional cap on its national budget deficit, at 3% of GDP, which has led to its relatively low debt burden and investment-grade credit rating. However, regional inequality, lack of infrastructure, and governmental corruption remain problems for Indonesia's rising economy[20]. Altogether, this has effects on maximizing agricultural products like local cocoa farming, production, processing, and its exports.

Cocoa is one of Indonesia's major agricultural exports and foreign exchange-earners. As such it must be sustained and stay competitive for the export market. To improve the competitiveness of cocoa farming, the islands of Sulawesi and Sumatra are two islands that require special policies, especially on cocoa out-put price policy, input prices, and cocoa farming productivity, as well as improvement of other cocoa commodity farming systems, as these two islands contributed more than 80% of Indonesia cocoa bean production[21]. According to Dewanta [22], the Indonesian cocoa industry has been transforming into a processed cocoa exporter by imposing export taxes. The policy has managed to increase exports of processed cocoa and decreased cocoa bean exports. However, the overall export value of cocoa commodities (cacao bean and processed cocoa) has a declining trend, where an increase in the export value of processed cocoa has not been able to offset the decline in the export value of cocoa beans.

Several studies[8], [22], [23] have shown the impact of taxes and their related issues on cocoa farming in Indonesia. These led to the decision-makers in the cocoa sector immediately undertook a review or reduction of export taxes to become the optimum and took steps to improve and rehabilitate people's cocoa plantations to increase the productivity and quality of cocoa beans. For a while waiting for the process of recovery of the cocoa plantation to finish, the domestic cocoa processing industry allows to import cocoa beans at a minimum economic scale.

A study by Permani et al. [23] pointed three lessons regarding government actions in the cocoa industry. First, an export tax on Indonesian exports of cocoa beans would indeed divert some of the crops to domestic use. However, this leads to significant losses to cocoa bean producers and does little to develop a processing sector. Second, the interdependence between major cocoa exporting countries' policies is evident. Third, due to limited readily available data, better econometric techniques do not necessarily lead to improved robustness of estimates of elasticities. This could significantly affect estimates of optimal export taxes and, therefore, analysis of welfare effects.

Indonesia's cocoa demand by the USA has remained relatively static over the past few years but markets in Asia (most notably in Malaysia, Philippines, China, and Singapore) offer expanded export opportunities for Indonesia. Some beans are used primarily for their flavor (to

produce cocoa powder), and others are used for their fat content (to produce cocoa butter). Beans from Latin America tend to have the richest flavor, while cocoa beans from Indonesia have little flavor and are used for their fat content (referred to sometimes as "fat beans"). Most large U.S. chocolate manufacturers (e.g., Hershey's, Master foods / Mars, etc.) sell in the high volume, mass production North American market where the flavor is not as important. Other large manufacturers, in Europe and Asia, produce for more discriminating chocolate consumer markets[24][6], [25]–[27]. This also indicates that Indonesia's cocoa beans are inelastic, either in compensated or uncompensated elasticities, which means it is not sensitive to price changes. Meanwhile, cocoa beans from Ivory Coast and Nigeria are elastic and Ghana inelastic[26]. Also, the international cocoa price variable has a negative and significant effect on the export volume of Indonesian cocoa beans. When international cocoa prices increase by 1 unit, the export volume of cocoa beans will decrease by -7.073793 and vice versa, when international cocoa price decreases by 1 unit, the export volume of cocoa beans will increase by -7,073793[10].

The cost of production per kg of cocoa in Indonesia has rocketed. This had already happened in the 1990s in the Malaysian plantations and this is the main reason why they shifted to oil palm. This shift is part of the 'cocoa cycle model': after a certain period, entire cocoa regions abandon cocoa and shift to other crops or activities. Compared to West Africa, the regional cocoa cycles in Sulawesi are even shortened, with an accelerated bust due to the magnitude of the CPB outbreak and other pests and diseases [15]. Besides, the productivity and quality of cocoa are also low. This is because of the development of downstream products that are still not optimal and the quality of plantations is still low, one of which comes from cacao pests and the depletion of soil nutrients. Cocoa Fruit Snoring (PBK) and Vascular Streak Dieback (VSD) causes weak cocoa beans taste, high levels of dirt, and a lot of bacterial contamination. The constraints that cause poor quality of cocoa are still not fully overcome, either at the production level, post-harvest, and downstream industries[9], [27], [28] [10].

Fahmid et al.[27] concluded that the cost structure of cocoa farming production in Indonesia is almost 50% for wages which indicated labor-intensive farming, and 31.6% for land rental. Stagnant production over the past five years, and declined in productivity, due to the traditional management of cocoa farms by the majority of poor farmers. Under these conditions, the cocoa commodity farming system in Indonesia, generally has no financial or economic competitiveness or lacks comparative advantage, but has a competitive advantage. Therefore, productivity, output prices, and exchange rates should be increased, and input prices should be lower, resulting in higher net transfer value for the farmers. To improve the competitiveness of cocoa farming in Indonesia, the islands with 80% contribution of cocoa beans in Indonesia namely Sulawesi and Sumatra are two islands that require special policies, especially on output



and input price policy, productivity, and improvement of other cocoa commodity farming systems.

Though, the Indonesia cocoa value chain has experienced phenomenal growth from the 1980s - upwards, its continued competitiveness is threatened by inconsistent and poor-quality production. A widespread pest infestation, especially from the cocoa pod borer (CPB), is a primary cause of poor cocoa bean quality. To address the problems of CPB infestation, various public and private sector initiatives have been undertaken to conduct research, train, and improve the traditional practices of smallholder cocoa farmers in Indonesia. Despite these efforts, the adoption of improved production and post-harvest skills by cocoa farmers has been limited[4]. According to Ruf and Yodang[15], the big disadvantage for Indonesia remains the Cocoa pod borer outbreak. There is no equivalent pest in West Africa. This brief country comparison shows again that the CPB is the main reason for the fall in yields, directly through heavy losses in pods and beans and indirectly by decreasing revenues and thus the capacity of re-investment.

Table 2 below summarizes the factors influencing cocoa exports in Indonesia based on the literature reviewed above.

Table 2: Cocoa Export Influential Factors

S/N	Cocoa Export Influential Factors
1	Low Cost of Production
2	Cocoa Bean Quality (Fat Content of Indonesia's Cocoa)
3	International Cocoa Prices
4	Open Market System
5	Global demand due to Chocolate industry boom
6	Geographical Location of Indonesia
7	Government Policies and Taxes
8	Capacity of Local Cocoa Processing Industry
9	Pest and Infestations in cocoa farms
10	Access to Finances by Cocoa Farmers
11	Cocoa Value Chain
12	Loyalty of Export Customers

Source: Authors' compilation from the reviewed literature

## RESEARCH METHODOLOGY

Research involves the collection of information in a 'systematic way' based on logical relationships and not just beliefs; mostly streamlined according to various disciplines. This is vital as practical knowledge through which research on business and managerial practices are inter-and-correlated [29]–[31]. The data collection methods comprise of both the Primary and Secondary sources of data. The secondary sources involve the review of existing literature to acquire an in-depth understanding of relevant issues related to the subject matter such as

textbooks, academic journals, reports, magazines, newspapers, internet sources/databases, and conference proceedings, etc., that are relevant to this topic on Indonesian cocoa exports. The secondary sources enabled the identification of the twelve (12nr.) of the factors that influence Cocoa Exports in Indonesia. The primary source involves a survey using a questionnaire. The 12nr. factors identified were structured as a questionnaire using a 5-point Likert scale.

Mono Qualitative Method (MQM) was adopted as the research method, which involves all techniques and ways to design, collect, and analyze the data based on the MQM framework and analytical tools [32]–[34]. The MQM design involves the use of questionnaires. Krejcie and Morgan's [35] table of sampling technique in any given population was used. The table fixed 384 as the total sample number for a population up to 1,000, 000. The random sampling technique was adopted to enable the equal opportunity of representation within the sampling frame[36]. The questionnaires were randomly distributed to stakeholders from public and private sectors (cocoa farmers, processing companies, exporters, regulators, and financiers, etc.) that are involved in the cocoa business. Mean Item Scores, Relative Importance Index (RII), and T-test was used to assess the data obtained on the factors. Figure 5 below shows the research method adopted in this study.

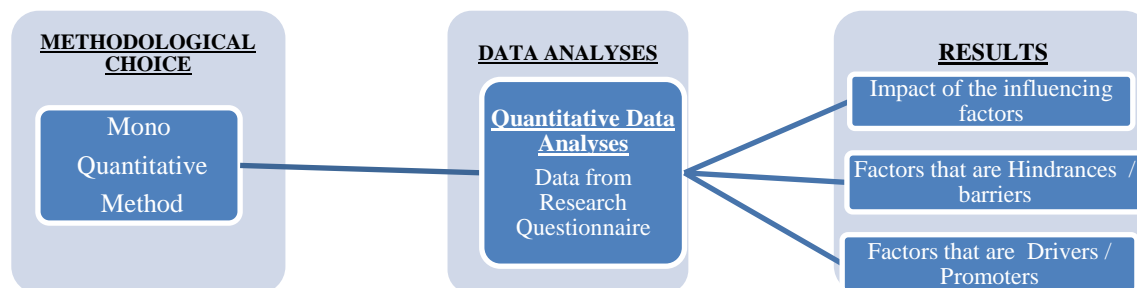


Figure 5: Research Methodological Framework

## ANALYSES AND RESULTS

A total of 700nr of questionnaires were distributed randomly to the various stakeholders comprising of stakeholders from the public and private sectors such as cocoa farmers, processing companies, exporters, regulators, and financiers, etc. that were involved in the cocoa business. The obtainable and analyzed responses amount to 411nr (58.7%) while 289nr (41.3%) questionnaires were non-responsive. From the responsive questionnaires, the private sector consists of 63.02% (259nr) while the public sector 36.98% (152nr). The overall assessments of the factors are shown in Tables 3, 4, 5, and also figure 6 below using the Mean Item Score model and Relative Importance index.

Table 3: Factors Influencing Cocoa exports - Data

S/N	Cocoa Export Influential Factors	Extreme Impact = 5	High Impact = 4	Moderate Impact = 3	Low Impact = 2	Not at all = 1	Total
1	Low Cost of Production	248	141	11	8	3	411
2	Cocoa Bean Quality (Fat Content of Indonesia's Cocoa)	268	115	9	8	11	411
3	International Cocoa Prices	143	21	161	27	59	411
4	Open Market System	139	193	74	2	3	411
5	Global demand due to Chocolate industry boom	292	87	18	11	3	411
6	Geographical Location of Indonesia	111	83	141	64	12	411
7	Government Policies and Taxes	176	185	41	3	6	411
8	Capacity of Local Cocoa Processing	132	123	41	94	21	411
9	Pest and Infestations in cocoa farms	171	111	113	10	6	411
10	Access to Finances by Cocoa Farmers	148	138	59	22	44	411
11	Cocoa Value Chain	108	128	19	61	95	411
12	Loyalty of Export Customers	151	68	74	48	70	411

The overall assessments of the factors are shown in tables 4, 5, and also figure 6 below. The table below shows the Assessment of Cocoa Export Influential Factors using the Mean Item Score (MIS) model.

Table 4: Assessment of Cocoa Export Influential Factors using Mean Item Score

S/N	Cocoa Export Influential Factors	MIS	Remarks
1	Low Cost of Production	4.52	Extreme Impact
2	Cocoa Bean Quality (Fat Content of Indonesia's	4.51	Extreme Impact
3	International Cocoa Prices	3.39	Moderate Impact
4	Open Market System	4.13	High Impact
5	Global demand due to Chocolate industry boom	4.59	Extreme Impact
6	Geographical Location of Indonesia	3.53	High Impact
7	Government Policies and Taxes	4.27	High Impact
8	Capacity of Local Cocoa Processing Industry	3.61	High Impact
9	Pest and Infestations in cocoa farms	4.05	High Impact
10	Access to Finances by Cocoa Farmers	3.79	High Impact
11	Cocoa Value Chain	3.23	Moderate Impact
12	Loyalty of Export Customers	3.44	Moderate Impact

The table below shows the Assessment of Cocoa Export Influential Factors using the Relative Importance Index (RII) based on the assessment in table 4 above.

Table 5: Assessment of Cocoa Export Influential Factors using Relative Importance Index (RII)

S/N	Cocoa Export Influential Factors	RII	Rank
1	Low Cost of Production	0.90	2
2	Cocoa Bean Quality (Fat Content of Indonesia's	0.90	3
3	International Cocoa Prices	0.68	11
4	Open Market System	0.83	5
5	Global demand due to Chocolate industry boom	0.92	1
6	Geographical Location of Indonesia	0.71	9
7	Government Policies and Taxes	0.85	4
8	Capacity of Local Cocoa Processing Industry	0.72	8
9	Pest and Infestations in cocoa farms	0.81	6
10	Access to Finances by Cocoa Farmers	0.76	7
11	Cocoa Value Chain	0.65	12
12	Loyalty of Export Customers	0.69	10

The figure below was derived from tables 4 and 5 above.

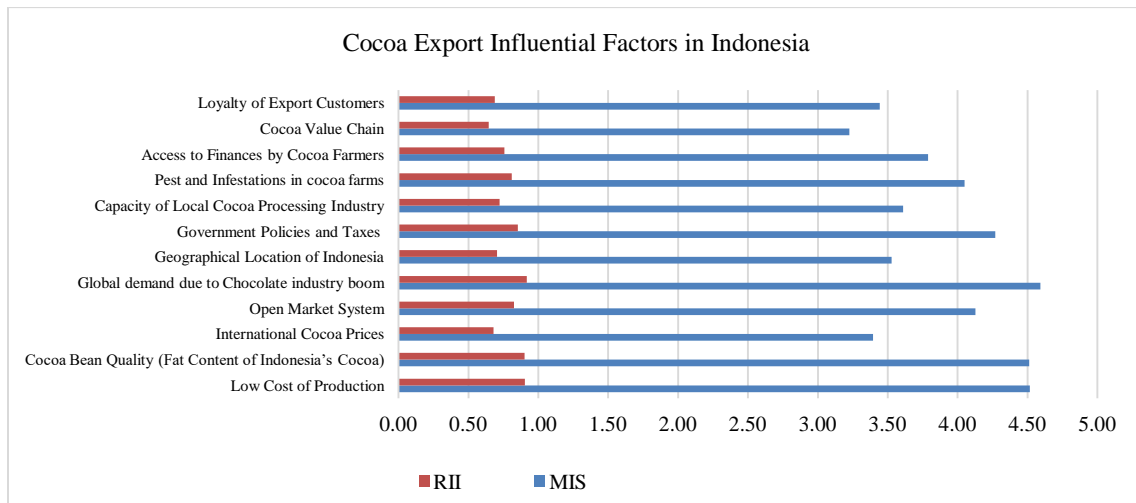


Figure 6: Assessment of Cocoa Export Influential Factors using the Mean Item Score Model and Relative Importance index.

From tables 4, 5, and also figure 6 above, the following deductions were made:

- From the overall twelve factors identified, three factors were deemed to have an extreme impact on cocoa exports; six factors have high impacts while three factors have moderate impacts. No factor has a low or no impact at all on the cocoa exports based on the respondents' perceptions. These clearly indicate that all the identified factors have certain impact on cocoa exportation in Indonesia.
- The top-ranked factors were Global demand due to the Chocolate industry boom; Low Cost of Production; Cocoa Bean Quality (Fat Content of Indonesia's Cocoa); Government Policies and Taxes; Open Market System; Pest and Infestations in cocoa farms. The middle-ranked factors were Access to Finances by Cocoa Farmers; Capacity

of Local Cocoa Processing Industry; Geographical Location of Indonesia. The lowest-ranked factors were Loyalty of Export Customers; International Cocoa Prices; and Cocoa Value Chain.

The hypothesis testing for the statistical significance of the twelve factors was done using T-test statistics based on the Mean Item Score values in table 4 above and the result is in table 6 below.

Table 6: Research Hypothesis Testing using T-test

<b>One-Sample Statistics</b>						
	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>		
Factors Influencing Cocoa Exports	12	3.9217	.48551	.14016		
<b>Test Value = 0</b>						
	<b>t</b>	<b>df</b>	<b>Sig. (2-tailed)</b>	<b>Mean Difference</b>	<b>95% Confidence Interval of the Difference</b>	
					<b>Lower</b>	<b>Upper</b>
Factors Influencing Cocoa Exports	27.981	11	.000	3.92167	3.6132	4.2301

With 11 degrees of freedom (DF) and 5% level of significance, the statistical T-test calculated (Tstat = 27.98) is greater than T-test Critical the significance level (alpha-5% = 0.05) is greater than the Probable value (P-value = 0.000). As such, the null hypothesis was rejected, and the alternative hypothesis was accepted; which states that the “The factors influencing Indonesian cocoa exports are significant”. These clearly indicate that the 12 identified/outline, assessed and ranked factors influencing Indonesian cocoa exports are influential as they affect the total exportation of cocoa. initiative. This was further attested by the overall perception of the respondents on the overall impacts of such factors.

## CONCLUSIONS

The study reviewed literature that enabled the identification of the twelve (12nr.) factors that influence Cocoa Exports in Indonesia. Mono Qualitative Method (MQM) was adopted as research design to collect, and analyze the questionnaire data. The questionnaires were randomly distributed to stakeholders from both the public and private sectors. The data obtained

was based on the MQM framework and quantitative analytical tools used. Mean Item Scores, relative Importance Index (RII) and T-test were used to assess the data obtained on the factors. From the overall twelve factors identified, three factors were deemed to have extreme impact on cocoa exports; six factors have high impacts while three factors have moderate impacts. No any factor has low and no any impact at all on the cocoa exports based on the respondents' perceptions. These clearly indicate that all the identified factors have impact on cocoa exportation in Indonesia. The top-ranked factors were Global demand due to the Chocolate industry boom; Low Cost of Production; Cocoa Bean Quality (Fat Content of Indonesia's Cocoa); Government Policies and Taxes; Open Market System; Pest and Infestations in cocoa farms. The middle-ranked factors were Access to Finances by Cocoa Farmers; Capacity of Local Cocoa Processing Industry; Geographical Location of Indonesia. The lowest-ranked factors were Loyalty of Export Customers; International Cocoa Prices; and Cocoa Value Chain. The hypothesis testing shows that the statistical T-test calculated was greater than T-test Critical; the significance level (alpha) is greater than the Probable value (P-value); paving the way for accepting the alternative hypothesis which states that the "The factors influencing Indonesian cocoa exports are significant." These indicate that the 12 identified, assessed, and ranked factors influencing Indonesian cocoa exports are influential as they affect the total exportation of the cocoa initiative. This was further attested by the overall perception of the respondents on the overall impacts of such factors.

## RECOMMENDATIONS

Sequel to the analyses, results, and conclusions on the limited twelve factors identified and assessed in this study; the following recommendations were made for future studies:

- (1) Comparative Analyses of Indonesian cocoa exports and other top-ranked global exporters. This recommendation may highlight the advantages and disadvantages of cocoa production and export based on comparative advantage, geographical location, demand, internal and externally related factors compared to other top competitors.
- (2) Evaluation of critical and success factors shaping the cocoa export in Indonesia. This recommended topic of study will enable an in-depth understanding of more influencing factors, and also the critical nature of the factors that may positively affect or hinder cocoa exports from Indonesia. The nature and criticality of such factors will shed more light on issues such as risks in cocoa beans exports.
- (3) Multi-criteria evaluation of decision factors for cocoa bean exports and local cocoa processing industries in Indonesia. This suggested area of study will explain the



stakeholders' decisions on whether to export cocoa beans or to develop the local cocoa processing industries in Indonesia.

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