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Export Competitiveness of Indonesian Chocolate Drink Powder and Its Barriers and Challenges

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Abstrak

Indonesia ranks among the world's largest cocoa bean producers; however, its export value is largely confined to semi-processed products. Major importers like Malaysia and China possess advanced cocoa processing industries, importing Indonesian cocoa beans to produce higher-value products. While demand for processed cocoa in China has rapidly increased, Indonesia's cocoa powder exports (HS Code 180610) to Malaysia and China from 2020 to 2024 have shown significant fluctuations, with competitiveness notably declining in the Chinese market. This study employs a mixed-methods approach, combining quantitative analysis using Revealed Comparative Advantage (RCA) and Export Product Dynamics (EPD), with qualitative insights from interviews with MSME stakeholders and the FTA Center. Findings reveal that Indonesia retains comparative advantage in Malaysia (RCA > 1), yet experiences stagnation or decline in competitiveness, identified as Lost Opportunity and Falling Star segments in the EPD matrix. Conversely, competitiveness in China deteriorates sharply due to decreasing market share. MSMEs face challenges such as stringent regulatory and certification demands, high logistics costs, and competition from industrial producers. Policy recommendations include enhancing downstream processing, innovating high-value products meeting international standards, diversifying export markets, and strengthening government support to boost Indonesia's cocoa powder export competitiveness.

Keywords: Indonesia, Cocoa Powder, Export Competitiveness, Comparative Advantage, Msmes, Market Dynamics.

1. Introduction

Indonesia ranks as the world's fourth-largest cocoa producer and the leading producer in Asia, with an estimated output of 632,000 tons in 2023 (BPS, 2024; ICCO, 2023). The cocoa subsector plays a pivotal role in the national economy, contributing significantly to rural employment and foreign exchange earnings. In 2024, the country exported approximately 346,140 tons of cocoa products, predominantly in semi-processed forms such as cocoa butter (HS 1804) and pure cocoa powder (HS 1805) (ITC, 2025). The plantation subsector itself accounts for 12.53% of Indonesia's economic output (BPS, 2024). Despite this substantial volume, Indonesia's export structure remains dominated by low-value semi-processed products. Major importers, including Malaysia (10.35%) and China (11.73%), possess advanced cocoa processing industries, importing semi-finished Indonesian products for further processing and re-export, thereby capturing a larger share of the value chain.

Performance indicators reveal a paradox in Indonesia's cocoa powder (HS 180610) exports. The product consistently exhibits a strong revealed comparative advantage (RCA) in major markets, particularly Malaysia and China, with values exceeding 1 and peaking at 21.3 in China in 2015 (Augustin et al., 2022; Fadillah et al., 2024). However, Export Product Dynamics (EPD) analysis suggests a declining competitive trajectory, with classifications shifting to "Falling Star" and "Retreat" between 2010 and 2019 (Augustin et al., 2022). Recent data (2020–2024) confirm this trend, showing volatile declines in exports to China and stagnation in Malaysia (BPS, 2024; ITC, 2025). This disconnect between high RCA and weakening competitiveness underscores structural constraints in Indonesia's downstream cocoa industry, especially among MSMEs, where limited production capacity, stringent certification requirements, high logistics costs, and competition from integrated industrial processors hinder value addition and market expansion (Susanti et al., 2024). Previous studies have largely examined quantitative export performance in isolation, without integrating MSME-level qualitative insights, resulting in an incomplete understanding of the barriers to sustained export growth.

The RCA index, introduced by Balassa, measures a country's comparative advantage by comparing the share of a product in national exports to its share in global exports (Susanti & Nugroho, 2022). An RCA value greater than 1 indicates a comparative advantage; however, RCA is static and does not capture shifts in competitiveness over time. Sustained competitiveness requires more than comparative advantage; it depends on continuous product innovation, improved packaging, and compliance with international quality and food safety standards in destination markets such as Malaysia and China (Rahman & Santoso, 2022).

Trade barriers, both tariff and non-tariff, further complicate market access. Non-tariff barriers such as technical regulations, sanitary and phytosanitary (SPS) measures, halal certification for Malaysia, and food safety requirements in China necessitate costly adjustments in production processes (Rahman & Santoso, 2022). Addressing these barriers demands enhanced production efficiency and export management capabilities (Nauly et al., 2023), as well as collaboration with stakeholders and the adoption of technology to increase value addition. From a theoretical perspective, comparative advantage is determined not by absolute productivity but by opportunity cost. Even if a country is less efficient in all sectors, it retains a comparative advantage in goods with lower opportunity costs of production (Pane et al., 2025). For Indonesia's cocoa powder beverages, strengthening competitiveness requires an integrated strategy that combines RCA and EPD analyses with targeted product innovation to overcome market barriers (Alaini, 2023; Gultom, 2024). Such an approach offers a comprehensive framework for sustaining and expanding market share in Malaysia and China, both of which represent high-potential strategic markets.

This study addresses the existing research gap by integrating quantitative RCA and EPD analyses with qualitative evidence from MSMEs specifically Cokelatin Signature Indonesia and institutional stakeholders. By linking macro-level trade data with micro-level operational realities, this research provides a holistic assessment of Indonesia's cocoa powder export competitiveness for the 2020–2024 period. The study's novelty lies in bridging statistical indicators with enterprise-level insights to develop actionable strategies for downstream product upgrading, market diversification, and policy support. Guided by three key questions (1) What are Indonesia's comparative and competitive positions in cocoa powder (HS 180610) exports to Malaysia and China between 2020 and 2024? (2) How have export volumes and values evolved in these markets? and (3) What key challenges do MSMEs face in enhancing export competitiveness? this research seeks to generate evidence-based policy recommendations to strengthen Indonesia's position in the international cocoa powder market, stimulate MSME growth, and promote sustainable economic development.

2. Research Method

This section outlines the methodological framework adopted to achieve the objectives of the study. It details the research design, types and sources of data, data collection procedures, operationalization of variables, and analytical techniques employed. By integrating both quantitative and qualitative approaches, the methodology ensures that the analysis captures not only statistical measures of export competitiveness but also contextual insights from industry stakeholders. Such a comprehensive approach is intended to provide robust and actionable findings for policymakers, practitioners, and academic audiences.

2.1. Research Design

This study employs a mixed-methods approach that integrates quantitative and qualitative techniques to provide a comprehensive analysis of Indonesia's export competitiveness in cocoa powder (HS Code 180610) to Malaysia and China. The quantitative analysis measures comparative advantage using the Revealed Comparative Advantage (RCA) index and competitive positioning using the Export Product Dynamics (EPD) matrix. The qualitative analysis explores practical challenges, constraints, and opportunities faced by exporters, particularly micro, small, and medium-sized enterprises (MSMEs), through in-depth interviews. This combination enables both the numerical measurement of competitiveness and the contextual interpretation of the results.

2.2. Types and Sources of Data

The research utilizes both secondary and primary data. The secondary data consist of export statistics for cocoa powder containing added sugar (HS Code 180610) covering the years 2020–2024, obtained from the International Trade Centre (ITC), the Badan Pusat Statistik (BPS), and the UN Comtrade database. The primary data comprise

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qualitative insights gathered through semi-structured interviews with the owner of Cokelatin Signature Indonesia, a representative MSME in the cocoa processing sector, and a trade expert from the FTA Center Bandung.

2.3. Data Collection Techniques

Secondary data were gathered from official publications and online databases specializing in international trade. Primary data were collected through field interviews conducted in accordance with a semi-structured interview guide tailored to the study's objectives. The interviews addressed market perception, regulatory and certification processes, logistics, competitive pressures, and institutional support for export activities.

2.4. Variables Operationalization
The study Operationalizes the variables as follows:

Table 1 Variables Operationalization

Variable	Operational Definition	Indicator	Data Source
Comparative Advantage	Relative export performance of a product compared to the world average	RCA > 1 indicates comparative advantage	ITC Trade Map, UN Comtrade
Competitive Advantage	Market positioning based on growth in market share and world demand	EPD quadrant classification (Rising Star, Falling Star, Lost Opportunity, Retreat)	ITC Trade Map, UN Comtrade
Barriers and Challenges	Constraints hindering export competitiveness	Regulatory barriers, certification, logistics, competition, institutional support	Primary interviews

2.5. Data Analysis Methods
The data analysis method in this study is aligned with the chosen approach, which combines both quantitative and qualitative analyses. The quantitative analysis is employed to objectively measure the export competitiveness of Indonesian cocoa powder beverages (HS 180610) using the RCA and EPD methods. Meanwhile, the qualitative analysis is applied to interpret the challenges and obstacles to exports based on interview results.

2.5.1 Quantitative Analysis
The RCA index, introduced by Balassa (1965), is calculated as:

$$\mathrm{RCA_{kc}} = \frac{X_{ij} / X_{it}}{X_{wj} / X_{wt}}$$

In this formula, X_{ij} refers to the export value of commodity j from country i, while X_{it} denotes the total exports of country i. X_{wj} represents the world export value of commodity j, and X_{wt} indicates the total world exports. The interpretation of the Revealed Comparative Advantage (RCA) index is as follows: an RCA value greater than 1 suggests that the country has a comparative advantage in the commodity, whereas an RCA value less than 1 indicates that the country does not possess a comparative advantage in that commodity.

The EPD framework maps the competitive position of a product based on two dimensions: the growth rate of the country's market share (X-axis) and the growth rate of world demand (Y-axis). This framework produces a matrix consisting of four quadrants. The first quadrant, Rising Star, represents products with both high market share and high growth. The second quadrant, Falling Star, refers to products with high market share but low growth. The third quadrant, Lost Opportunity, includes products with low market share but high growth. Lastly, the fourth quadrant, Retreat, represents products with low market share and low growth.
Matematically:

A. Market Share Growth (Y-axis)

$$\text{Market Share Growth} = \left(W_{ijt} / W_t - W_{ijt-1} / W_{t-1} \right) \times 100\%$$

Where:
W_{ijt} = export value of product i from the world to destination market j in year t
W_t = total export value of all products from the world to destination market j in year t

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B. Business Strength (X-axis)

$$\text{Business Strength} = \left(W_{ijt} / W_{it} - W_{ijt-1} / W_{it-1} \right) \times 100\%$$

Where:
W_{ijt} = export value of product i from country j to the destination market in year t
W_{it} = total export value of product i from country j to all markets in year t

The positive or negative values in these two calculations determine the quadrant in which the product is classified within the EPD matrix (Bappenas, 2022). This two-dimensional concept aligns with the theory of competitive advantage and strategic adaptation in international business, as comprehensively outlined by Hill, Jones, and Schilling (2020) in Strategic Management: Theory & Cases. They emphasize the importance of dynamic market analysis in formulating differentiation strategies and sustainable product positioning in the global market.

2.5.2 Qualitative Analysis
The qualitative data from interviews are analyzed using a thematic analysis approach. This process involves reading transcripts multiple times, coding significant statements, and categorizing them into overarching themes such as regulatory challenges, certification requirements, logistics and cost constraints, market competition, and government or institutional support. This thematic synthesis complements the quantitative findings, providing a well-rounded interpretation of the competitive dynamics in the Malaysian and Chinese markets.

3. Results

Export volume and export value are two key indicators in evaluating the international trade performance of a commodity. Export volume refers to the physical quantity of products shipped to the destination country, while export value represents the total foreign exchange earnings generated from these export transactions. Analyzing both indicators simultaneously is essential to obtain a comprehensive picture of export dynamics, both in terms of demand volume and economic contribution. Comparing export volume and export value can also help identify changes caused by global price fluctuations, shifts in market demand, or improvements in product competitiveness in the international market. Therefore, to strengthen the competitiveness analysis of Indonesian cocoa powder beverages (HS 180610), the following table presents a comparison of the export volume and value of this commodity to two main trading partners, Malaysia and China.

Table 2 Comparison of Export Volume and Export Value of Indonesian Cocoa Powder Beverages

Price Per Kg Cocoa Powder Beverages (*HS Code 180610*) to Malaysia					
Data	2020	2021	2022	2023	2024
Export Volume (kg)	125.016	100.397	105.908	76.085	62.000
Export Value (USD)	194.285	173.688	180.098	143.585	126.000
Price Per kg (USD)	1,554	1,730	1,701	1,888	2,032
Price Per Kg Cocoa Powder Beverages (HS Code 180610) to China					
Data	2020	2021	2022	2023	2024
Export Volume (kg)	3.568.540	8.583.444	3.811.922	697.277	29.000
Export Value (USD)	2.057.884	5.234.932	2.514.699	476.607	21.000
Value Per kg (USD)	0,577	0,610	0,660	0,684	0,725

The data indicate that exports to Malaysia have experienced a downward trend in both volume and value. Export volume to Malaysia decreased from 125,016 kg in 2020 to 62,000 kg in 2024. This decline was accompanied by a reduction in export value, falling from USD 194,285 to USD 126,000. Nevertheless, the export value per kilogram demonstrated an upward trend, rising from USD 1.554 in 2020 to USD 2.032 in 2024, suggesting an increase in the average export price despite the drop in volume. In contrast, exports to China exhibited a fluctuating pattern but remained relatively stable in terms of value per kilogram. The highest export volume was recorded in 2021, reaching 5,883,444 kg, whereas in 2024 it sharply declined to 290,000 kg. The highest export value was also observed in 2021 at USD 3,234,932, before plummeting to USD 211,000 in 2024. However, the export value per kilogram showed a consistent upward tendency, increasing from USD 0.577 in 2020 to USD 0.725 in 2024.

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Table 2 illustrates that despite the decline in export volumes to both countries, there has been an increase in the average export price per kilogram. This may reflect a strategic shift towards higher value-added products or adjustments in line with the specific demand patterns of each export destination.

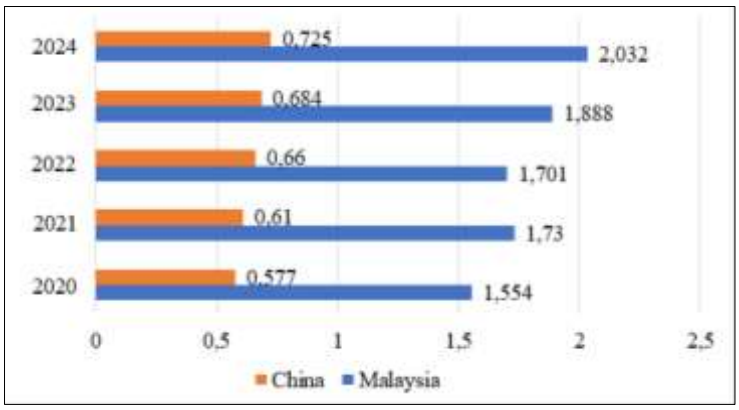

Figure 1. Export Value per Kilogram of Cocoa Powder Beverages (HS Code 180610) to Malaysia and China
Source: UN Comtrade, Processed in 2025

Based on the graph above, the export value per kilogram of Indonesian cocoa powder beverages to Malaysia shows a consistent upward trend over the period 2020 to 2024. In 2020, the value per kilogram was recorded at USD 1.554, rising to USD 1.730 in 2021. This upward trajectory continued in the following years, reaching USD 1.701 in 2022, increasing significantly to USD 1.888 in 2023, and peaking in 2024 at USD 2.032 per kilogram. Overall, the export value to Malaysia increased by approximately 30.75 percent over the past five years. This trend reflects either an improvement in the competitiveness or demand for Indonesian cocoa powder beverages in the Malaysian market, or it may be attributed to enhancements in the quality of the exported products. Conversely, the export value per kilogram to China also increased over the same period, although it remained at a much lower price level compared to exports to Malaysia. In 2020, the value per kilogram for exports to China was recorded at USD 0.577, gradually rising to USD 0.610 in 2021, USD 0.660 in 2022, and USD 0.684 in 2023. The highest value was achieved in 2024 at USD 0.725 per kilogram. The increase over the five-year period amounted to approximately 25.64 percent. Despite this growth, the per-kilogram value of exports to China in 2024 was still only about one-third of that obtained from exports to Malaysia. This suggests that the Chinese market tends to offer lower value for this commodity, likely due to more intense price competition or differences in targeted market segments.

A comparison between the two export destinations indicates that Malaysia is a more profitable market in terms of export value per kilogram, with consistently higher values than China. The steady increase in both countries also indicates a positive trend in demand or perceived quality of Indonesian cocoa powder beverages in the international market. Nevertheless, this price disparity could serve as an important indicator for export strategies whereby, if export volumes to China are high but unit values remain low, there may be opportunities to increase selling prices through quality improvements, product diversification, or entry into premium market segments.

3.1 Comparative Advantage

Comparative advantage is measured using the Revealed Comparative Advantage (RCA) method. The RCA indicator is used to determine the extent to which a product holds an advantage in international trade. The RCA value is calculated based on the proportion of a commodity's exports to total national exports, compared with the same proportion at the global level. In other words, RCA indicates how strong a product's position is within the national export structure relative to the global export structure. To obtain a more comprehensive overview, a comparison is also made between Indonesia's RCA values and those of its five main competitor countries with the largest export volumes of cocoa powder beverages to Malaysia and China. These competitor countries were selected based on their top rankings in the export of products under HS code 180610 to each respective destination country. This analysis aims to assess how competitive Indonesian cocoa powder beverages are compared with their key competitors in the Malaysian and Chinese export markets.

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The following are the top five cocoa powder beverage exporting countries to Malaysia and China.

Table 3 Export Volume of Cocoa Powder Beverages to Selected Countries

Eksportir Country	Malaysia Import Volume (kg)	China Import Volume (kg)
Thailand	334.000	1.709.000
Australia	104.647	25.000
Indonesia	46.000	29.000
United Kingdom	3.000	4.000
South Korea	791	941

Sumber: International Trade Centre dan UN Comtrade, 2025

Based on the table above, the comparative advantage analysis was conducted for five countries, namely Indonesia, the United Kingdom, Thailand, Australia, and South Korea. This analysis employed the Revealed Comparative Advantage (RCA) approach to measure the extent to which each country possesses a comparative advantage in exporting cocoa powder beverages (HS Code 180610) during the 2020–2024 period. The data used in the RCA analysis include the export value of cocoa powder beverages from each country to a specific target market, as well as the total export value of all commodities from each country to the same market. In addition, the global export value of cocoa powder beverages to that market and the total global export value of all commodities were also taken into account. Once all the data were collected, the RCA values were calculated using the formula established in RCA theory. The RCA value serves to indicate the degree of comparative advantage a country holds in exporting a particular commodity. An RCA value greater than 1 indicates that the country has a comparative advantage in that commodity, whereas an RCA value less than 1 suggests that the country does not yet have a comparative advantage.

The results of the RCA calculations for each country's exports of cocoa powder beverages (HS Code 180610) are presented in the following table.

Tabel 4 RCA Analysis Results for Export Destination Countries: Malaysia and China

RCA Analysis Results for Malaysia as Export Destination Country					
Year	Indonesia	United Kingdom	Thailand	Australia	Korea
2020	3,83	1,17	0,25	15,37	0,34
2021	1,52	3,00	0,01	33,07	0,69
2022	1,56	6,27	0,45	25,61	0,55
2023	2,25	0,03	0,07	2,34	0,01
2024	2,05	0,45	10,39	14,21	0,16
Rata-rata	2,24	2,18	2,23	18,12	0,35
RCA Analysis Results for China as Export Destination Country					
Year	Indonesia	United Kingdom	Thailand	Australia	Korea
2020	11,90	1,66	10,07	0,17	0,07
2021	18,00	0,74	0,10	0,37	0,05
2022	13,98	0,16	0,27	0,58	0,03
2023	3,34	0,08	2,28	0,35	0,01
2024	0,10	0,03	14,51	0,01	0,05
Rata-rata	9,47	0,53	5,45	0,30	0,04

Source: UN Comtrade and ITC Trade Map, processed in 2025

Based on the results of the Revealed Comparative Advantage (RCA) analysis for cocoa powder beverage exports (HS Code 180610) to Malaysia and China from five countries Indonesia, the United Kingdom, Thailand, Australia, and South Korea over the 2020–2024 period, there are significant variations in the comparative competitiveness of each country in these two export markets.

In the Malaysian market, Indonesia's RCA values exhibited notable fluctuations. In 2020, Indonesia recorded an RCA of 3.83, indicating a clear comparative advantage in exporting this product to Malaysia. However, the value dropped sharply to 1.52 in 2021 and remained relatively stagnant in subsequent years, fluctuating between 1.50 and 2.05. This suggests that while Indonesia retained a comparative advantage, its competitiveness tended to

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decline over time. Conversely, Australia demonstrated a very strong dominance with the highest RCA value of 33.07 in 2021, although it later decreased to 14.21 by 2024. This indicates that Australia remained the dominant player in Malaysia's market for this product, despite a gradual reduction in its comparative advantage. The United Kingdom experienced a sharp spike in RCA to 6.27 in 2022, but this value declined rapidly thereafter, suggesting that its advantage may have been temporary. Thailand and South Korea consistently recorded RCA values below 1, often extremely low (e.g., 0.01 for Thailand in 2021), indicating that these two countries did not possess a comparative advantage in cocoa powder beverage exports to Malaysia during the period.

In the Chinese market, Indonesia initially posted very high RCA values 11.90 in 2020, rising to 18.00 in 2021 indicating strong export competitiveness for cocoa powder beverages to China. However, by 2024 the RCA had fallen drastically to 0.10, reflecting a significant loss of comparative advantage. This decline could be attributed to various factors, such as a sharp decrease in export volume, increased competition from other countries, or shifts in market preferences in China. In contrast, Thailand showed the opposite trend: starting with low RCA values in the early period, it surged to 14.51 in 2024, reflecting a remarkable improvement in competitiveness over recent years. The United Kingdom and Australia maintained RCA values below 1 throughout the period, suggesting no substantial comparative advantage. South Korea recorded very low and relatively stagnant RCA values, indicating that it was not a major player in exporting this product to China.

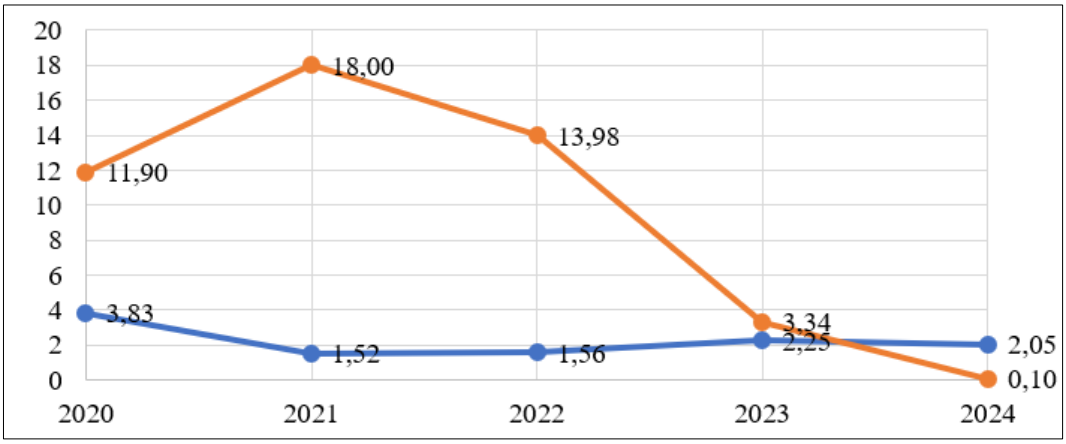

Figure 2. Comparison of RCA Values for Indonesia's Cocoa Powder Beverage Exports
Source: International Trade Centre and UN Comtrade, 2025 (Processed)

Figure 2 presents a comparison of the Revealed Comparative Advantage (RCA) values for Indonesia's cocoa powder beverage exports (HS Code 180610) to two major markets, Malaysia and China over the period 2020 to 2024. The figure reveals a marked contrast in Indonesia's comparative competitiveness trends in these two export destinations. At the beginning of the period, Indonesia possessed a very strong comparative advantage in the Chinese market, as indicated by an RCA value of 11.90 in 2020, which then surged sharply to 18.00 in 2021. This reflected Indonesia's dominant position in exporting this product to China at that time. However, this trend did not persist. From 2022 onward, Indonesia's RCA in the Chinese market experienced a consistent and steep decline, falling to 13.98 in 2022, dropping further to 3.34 in 2023, and ultimately plunging to just 0.10 in 2024. This sharp downturn indicates a significant loss of comparative advantage within a relatively short time frame, serving as a critical signal of weakening competitiveness in the Chinese market.

In contrast, the RCA values for Indonesia's cocoa powder beverage exports to Malaysia displayed a more stable pattern, albeit at relatively lower levels compared to China at the start of the period. In 2020, Indonesia's RCA with respect to Malaysia stood at 3.83, signifying a reasonably strong comparative advantage. However, the value fell sharply to 1.52 in 2021, likely influenced by market pressures, changes in export volume, or supply chain disruptions. Thereafter, Indonesia's RCA to Malaysia fluctuated but remained relatively stable, rising slightly to 1.56 in 2022, surging to 3.34 in 2023, before decreasing again to 2.05 in 2024. Although not as high as the RCA values for China in the early years, the RCA for Malaysia consistently remained above 1 throughout the study period, indicating that Indonesia retained its comparative advantage in this market.

3.2 Competitive Advantage

This study employs the Export Product Dynamics (EPD) approach to analyze the competitive advantage of Indonesia's cocoa beverage powder exports (HS Code 180610) in the international market, with a particular focus

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on its primary export destinations, Malaysia and China. The EPD framework serves as a quantitative analytical tool for identifying both the position and the dynamics of a product's competitiveness, based on its export performance in the context of market growth in the destination country. This approach enables an evaluation of the extent to which changes in a country's export value for a given product align with, surpass, or lag behind the growth rate of global demand for the same product.

The EPD calculation in this study is conducted by comparing Indonesia's export values with those of its principal competitors at two points in time: the base year (2019) and the final year (2024). Export values for each country are measured using international trade data sourced from the United Nations Comtrade Database and the International Trade Centre. Subsequently, Indonesia's export growth rate is compared with the total import growth rate of HS Code 180610 products by each destination country from all trading partners. This analytical process not only reveals the magnitude of Indonesia's export increase or decline but also situates such changes within the broader dynamics of global market demand. The results are then classified into four categories, or quadrants, based on the direction of both export growth and market growth. The Rising Star quadrant describes situations in which a country's exports grow positively alongside an expanding market, signifying strong competitiveness and promising market potential. The Falling Star quadrant denotes a decline in export value despite overall market growth, indicating potential loss of competitiveness or diminished consumer preference. The Lost Opportunity quadrant reflects conditions where both exports and market demand decrease, signaling limited prospects and possible stagnation. The fourth quadrant, referred to as Retreat, characterizes a situation in which a country's export value increases despite a declining market, typically indicating an aggressive market penetration strategy or the presence of specific conditions that facilitate export growth amid falling global demand. To visualize the competitive positioning of Indonesia's exports and those of its competitors within each quadrant, this study utilizes the Python programming language to construct EPD quadrant charts. Such visualization serves to enhance the comprehensiveness of data interpretation and assists in identifying patterns, positional shifts, and potential strategies for strengthening export competitiveness. Through the EPD approach, this research aims to provide deeper insights into the dynamics of Indonesia's competitiveness in the international trade of value-added cocoa beverage products. The results of these calculations are presented in the following table.

Table 5 Results of EPD Calculation for Cocoa Powder Beverage Exports in the Malaysian Market

Year	Business Strength (X)	Market Share Growth (Y)	Description
2020	0,24%	-0,00014%	*Lost Opportunity*
2021	-4,92%	0,00033%	*Falling Star*
2022	2,63%	-0,00021%	*Lost Opportunity*
2023	8,98%	-0,00023%	*Lost Opportunity*
2024	13,69%	-0,000003%	*Lost Opportunity*
Mean	4,12%	-0,00005%	*Lost Opportunity*

Source: ITC and UN Comtrade, 2025 (Processed)

Based on the results of the Export Product Dynamics (EPD) analysis for Indonesia's cocoa beverage powder exports to the Malaysian market during the period 2020–2024, as presented in Table 4.5, the product was generally positioned within the Lost Opportunity quadrant. This position is indicated by an average Business Strength (X-axis) value of 4.12 percent, which is positive, yet accompanied by an average Market Share Growth (Y-axis) value that is negative, at –0.00005 percent. This suggests that although the export value of the product experienced an upward trend (as reflected in the positive business strength), this growth was not accompanied by an expansion in market share within Malaysia. Consequently, potential market opportunities that could have been leveraged by Indonesia were not fully realized.

In 2020, 2022, 2023, and 2024, Indonesia's cocoa beverage powder exports consistently fell into the Lost Opportunity category, indicating that growth in export value was insufficient to counterbalance the declining trend in market share. For instance, in 2024, despite a relatively high Business Strength value of 13.69 percent, Market Share Growth remained negative at –0.000003 percent, suggesting that Indonesian products were losing market dominance likely due to increased competition from domestic Malaysian producers or other ASEAN countries. Conversely, in 2021, the product shifted to the Falling Star quadrant, characterized by a negative Business Strength value of –4.92 percent but a slightly positive Market Share Growth of 0.00033 percent. This pattern indicates that, while Indonesia managed to secure a marginal increase in market share, the overall export value declined. Such a scenario may be attributed to lower export prices compared to competitors or a general reduction in export volumes.

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Based on the calculated EPD values, the results can be visualized in a quadrant chart to provide a more comprehensive understanding of the competitive position of Indonesia's cocoa beverage powder exports in the Malaysian market during the 2020–2024 period. This visualization aims to categorize the product into four strategic classifications by combining export performance and market growth indicators, thereby facilitating the formulation of more targeted export development policies. The EPD quadrant chart illustrates the dynamics of the product's competitive position, as presented in the following figure.

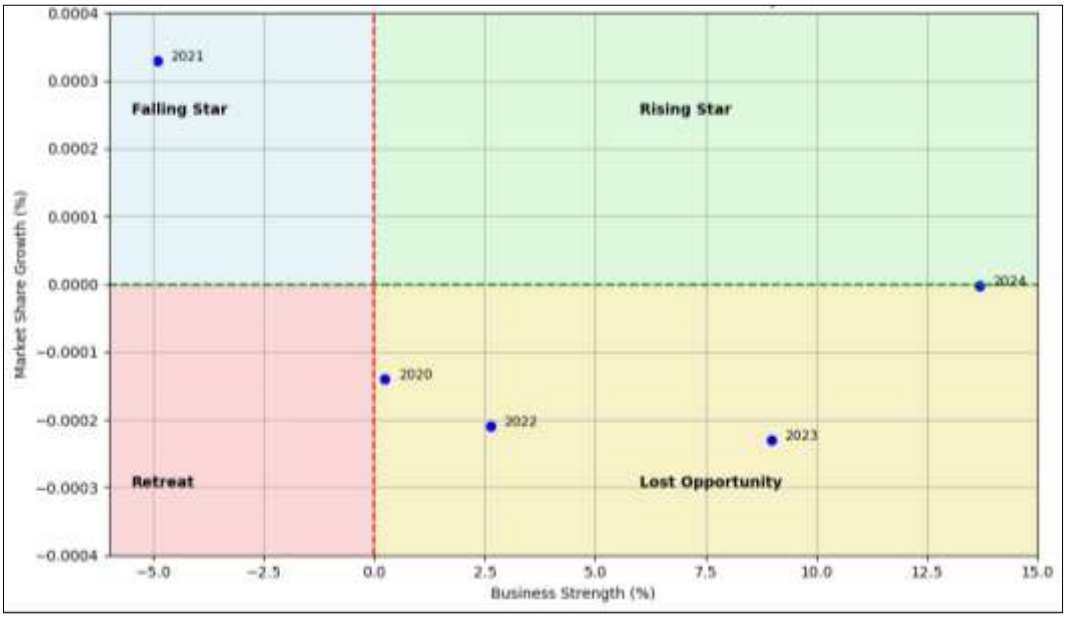

Figure 3. EPD Quadrants for Cocoa Powder Beverage Products in the Malaysian Market, 2020–2024
Source: Processed by the author based on data from ITC Trade Map and UN Comtrade (2025)

Based on the results of the Export Product Dynamics (EPD) analysis of Indonesia's cocoa beverage powder exports to Malaysia during the 2020–2024 period, it can be concluded that this product possesses a dynamic yet not fully stable competitive advantage. This is reflected in the shifting position of the product within the EPD quadrants, indicating fluctuations in export growth both from Indonesia's side and within the Malaysian market as a whole. Although the product demonstrated promising performance in certain years, the consistency of its competitiveness still requires strengthening, particularly in sustaining export momentum and expanding market share. Therefore, strategies aimed at enhancing product value-added, reinforcing distribution networks, and implementing adaptive trade diplomacy are essential to ensure the sustainability of Indonesia's cocoa beverage powder competitiveness in the Malaysian market.

After gaining insights into the dynamics of the Malaysian market, the subsequent discussion will focus on the competitiveness analysis of the same product in the Chinese market, providing a more comprehensive overview of its global position. Following the previous analysis of Indonesia's cocoa beverage powder export competitiveness in Malaysia, the next step is to examine the competitive position of the same product in the Chinese market. This analysis employs the Export Product Dynamics (EPD) approach, which considers both Indonesia's export growth and China's import growth for HS Code 180610 during the 2020–2024 period. The EPD calculation results are presented in the following table to illustrate the dynamics and competitive position of Indonesia's cocoa beverage powder in the Chinese market.

Tabel 6 EPD Calculation Results for Cocoa Powder Beverage Products in the Chinese Market

Year	Business Strength (X)	Market Share Growth (Y)	Description
2020	0,98%	-0,006134%	*Lost Opportunity*
2021	7,98%	-0,000003%	*Lost Opportunity*
2022	-13,08%	-0,000268%	*Retreat*
2023	-30,89%	-0,000053%	*Retreat*
2024	-44,02%	0,000101%	*Falling Star*

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Mean	-15,81%	-0,001271%	*Retreat*

Source: ITC and UN Comtrade, 2025 (processed)

The table above presents the results of the Export Product Dynamics (EPD) analysis of Indonesia's cocoa beverage powder (HS Code 180610) exports to the Chinese market during the 2020–2024 period. The EPD method examines two key indicators: business strength (X-axis) and market share growth (Y-axis). Based on the position of these two variables, products are categorized into one of four quadrants. Rising Star, Falling Star, Retreat, and Lost Opportunity, each reflecting distinct dynamics of competitiveness and export market potential. The analysis reveals that, over the observation period, Indonesia's cocoa beverage powder has tended to experience a consistent decline in competitiveness in the Chinese market, as indicated by the negative trend in both business strength and market share growth.

In 2020 and 2021, the product was positioned in the Lost Opportunity quadrant, indicating that while the Chinese market as a whole was expanding, Indonesia's position within it did not improve accordingly. The business strength values remained positive, at 0.98% and 7.98%, suggesting that Indonesia still retained the capacity to compete in this product category. However, the negative market share growth values indicate that Indonesia's share of the market contracted relative to other competitors. This suggests that, despite market expansion, Indonesia failed to capitalize on available growth opportunities. Contributing factors may include weak market penetration, suboptimal promotion and branding in China, or the absence of an aggressive local distribution strategy. Potential solutions involve strengthening strategic market engagement, such as establishing partnerships with local distributors, participating in international-scale trade fairs in China, and adapting the product to align with local consumer preferences.

Entering 2022 and 2023, the product's position shifted to the Retreat quadrant. This serves as a critical warning signal, as this position indicates not only a contraction in Indonesia's market share but also a sharp decline in business strength, evidenced by negative values of –13.08% and –30.89%. This quadrant reflects a situation in which both Indonesia's competitive position and the overall global market dynamics are unfavorable. In this case, Indonesia's cocoa beverage powder not only lost ground to competing countries but also failed to benefit from overall market growth. Possible contributing factors include product quality that does not meet Chinese market expectations, disruptions in the supply chain, insufficient product differentiation, and intensified competition from rival countries such as Thailand, which during the same period experienced an increase in its RCA value. To exit this quadrant, a strategic repositioning is required, focusing on product upgrading, rebranding, and strengthening supply chain management to enhance efficiency and delivery timeliness.

In 2024, the position shifted again, this time to the Falling Star quadrant, with business strength remaining negative (–44.02%) but market share growth turning slightly positive (0.000101%). This quadrant indicates that although the market as a whole was growing albeit marginally, Indonesia's competitiveness in this product continued to weaken. This suggests that market opportunities still exist, yet Indonesia is becoming increasingly uncompetitive. Potential causes may include weak product innovation, insufficient brand reinforcement in the international market, and price misalignment with Chinese consumers' purchasing power. To transition from this position toward the Rising Star quadrant, strategic interventions are required from both policymakers and industry players.

The government can provide support through trade diplomacy and export facilitation, while producers such as Cokelatin Signature Indonesia can enhance competitiveness through product innovations tailored to local preferences, such as flavor variants adjusted to Chinese consumer tastes and repackaging aligned with East Asian market aesthetics. On average, Indonesia's position over the five-year period fell within the Retreat quadrant, with an average business strength of –15.81% and market share growth of –0.001271%. This indicates that, in general, Indonesia's cocoa beverage powder exports to China are in a phase of declining performance and systemic loss of competitiveness. Without significant intervention, the potential for this product to grow in the Chinese market will continue to diminish. Therefore, it is essential to conduct a comprehensive evaluation of the entire export value chain from upstream (raw materials, formulation) to downstream (marketing, distribution) and to strengthen collaboration between the government, cocoa associations, and industry players such as Cokelatin Signature Indonesia to formulate a sustainable competitiveness recovery strategy.

Based on the business strength and market share growth values presented in Table 6, the following illustrates the product's position within the EPD quadrants, visualizing the dynamics of Indonesia's export performance in the Chinese market:

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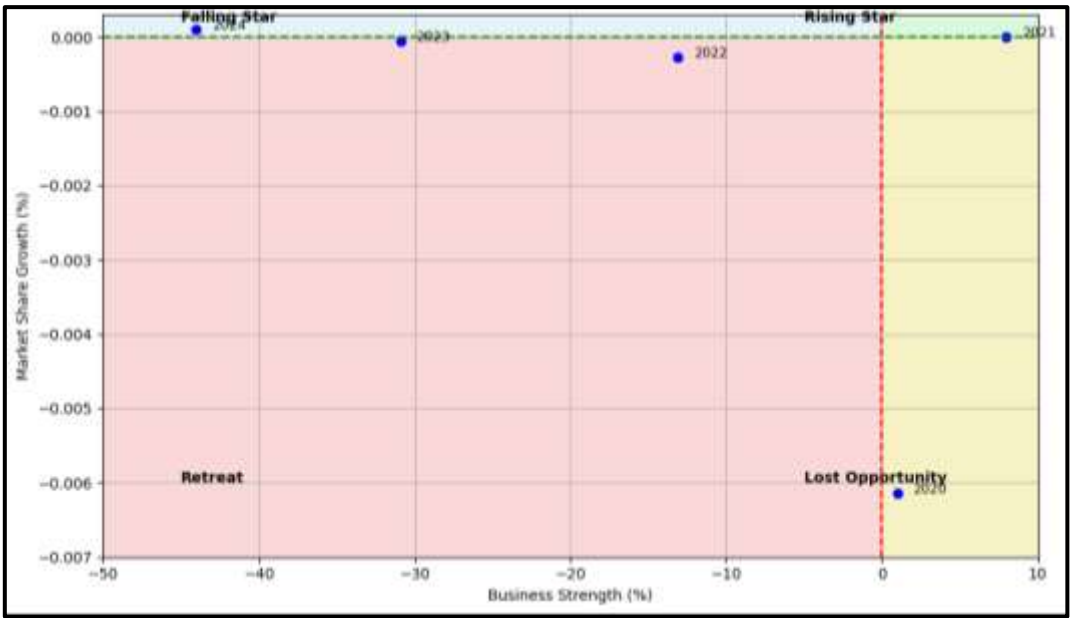

Figure 4. EPD Quadrant of Cocoa Powder Beverage Products in the Chinese Market for the 2020–2024 Period
Source: Processed by the author based on data from ITC Trade Map and UN Comtrade (2025)

An examination of the annual positions reveals that there was no year in which Indonesia entered the Rising Star quadrant the ideal position that reflects both strong competitiveness and positive market share growth. On the contrary, the distribution of data points is dispersed across three other quadrants: Lost Opportunity (2020–2021), Retreat (2022–2023), and Falling Star (2024). The transition from Lost Opportunity to Retreat indicates a clear deterioration in export performance, moving from a position that still retained competitive strength to a condition in which Indonesia not only lost market share but also weakened in terms of competitiveness. The Retreat position, observed in 2022 and 2023, serves as a critical warning signal. This position reflects that the product is not only uncompetitive but also fails to capitalize on global market growth. Visually, the data points for these two years are located in the lower-left quadrant, representing the highest-risk zone in a trade context. Meanwhile, 2024 falls into the Falling Star quadrant, indicating a slight improvement in market share growth yet accompanied by a steep decline in business strength. In the context of exports, this condition may be attributed to stagnant innovation, price–quality mismatches, limited distribution channels, and inadequate promotion in the highly competitive and dynamic Chinese market.

3.3 Barries and Challenges

In order to understand the dynamics that hinder the development of Indonesia's cocoa beverage powder exports, this study adopts a qualitative approach through in-depth interviews with two key informants: the business owner of Cokelatin, representing an MSME producer of cocoa beverage powder, and an expert from the International Trade Agreement Export Facilitation Center (FTA Center). These interviews were conducted to obtain direct insights into the challenges faced by business actors in the field, as well as the obstacles related to international trade policies and regulations. By combining the perspectives of business practitioners with the technical support of a government agency, this analysis aims to reflect the actual realities of the export process and provide a solid foundation for formulating future policy recommendations. The following section presents the barriers and challenges to cocoa beverage powder exports, based on the interviews with Cokelatin and the FTA Center, complemented by the regulatory context and on-the-ground conditions.

3.3.1 Market Perceptions and Consumer Characteristics

The first significant barrier arises from consumer perceptions and preferences in both domestic and international markets. Domestically, the majority of consumers are more familiar with and inclined toward sweet, mass-produced chocolate products such as SilverQueen or Milo. As a result, artisan products like authentic Indonesian cocoa beverage powder with its distinct flavor profile and lower sugar content are still less widely favored. Cokelatin emphasizes that market education is crucial to raise awareness that Indonesian cocoa is of high quality and has substantial export potential. In the export market, Malaysian consumers similarly tend to prefer sweet chocolate products from large-scale manufacturers, making consumer education and preference shifts a major

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challenge that requires long-term effort. In contrast, China presents a highly promising market, as consumers and industry players there have begun seeking high-quality cocoa raw materials, including imports from Indonesia for further processing. However, protective regulations and low trust in local brands pose barriers that can only be overcome through strict compliance with standards and certifications.

3.3.2 Regulatory and Product Certification Barriers

According to interviews with the FTA Center, regulations and certification standards in export destination countries represent one of the most complex challenges for SMEs. For the Chinese market, products must be registered with the General Administration of Customs of China (GACC), comply with Good Manufacturing Practice (GMP) standards, undergo microbiological and heavy metal testing, and feature complete product labeling with information in Mandarin. This process requires significant time, costs, and intensive technical assistance, creating a substantial barrier for small enterprises. In Malaysia, products must comply with the Food Regulations 1985, which govern safety and quality, including the absence of foreign materials, controlled moisture levels, and laboratory testing. Mandatory certificates such as the MD (Distribution Permit) from Indonesia's National Agency of Drug and Food Control (BPOM) and nutritional testing must be obtained through a multi-layered verification process. These bureaucratic procedures can take months, often involving physical inspections by officials, making the export process more complicated and demanding a level of operational capacity that not all SMEs possess. The FTA Center provides consultation and technical support but cannot fully eliminate these complexities.

3.3.3 Export Costs and Logistics

High logistics costs, particularly for small-scale shipments or sample deliveries, constitute a tangible barrier faced by SMEs such as Cokelatin. The shipment of goods from the production site to major ports, followed by transit ports (e.g., Singapore) before reaching the final destination, results in layered and substantial expenses. Limited local and national transportation infrastructure, combined with the scarcity of large vessels providing direct connections to main ports, further increases both the costs and duration of shipments. Container fees, port handling charges, and internal transportation costs from production areas to ports all add to the financial burden. Cokelatin suggests that the government should provide shipping subsidies for SMEs, particularly for sample deliveries, for instance, through Indonesia's postal service, which is considered an effective channel. While various export training programs have been implemented, practical support in the form of logistical subsidies and improved transportation facilities remains essential to enable SME products to compete in international markets.

3.3.4 Market Competition and Market Strategy

Indonesian artisan cocoa beverage powder competes against globally recognized brands such as Milo, Ovaltine, and chocolate products from Belgium, Switzerland, and the United States, all of which have extensive distribution networks and established market bases. Artisan products generally command higher prices due to their use of authentic raw materials and complex downstream production processes. This competition is intensified by the fact that international buyers tend to favor well-known brands that inspire greater consumer trust. Cokelatin's marketing strategy focuses on highlighting the distinctive flavor of authentic Indonesian cocoa and educating consumers through participation in international exhibitions and trade fairs. Experience has shown that direct participation in such events is critical for building buyer relationships and demonstrating product quality. However, the high costs of participation pose a significant resource constraint for SMEs. Additionally, adopting flexible business models such as contract manufacturing (maklon) and private labeling has proven effective for penetrating niche markets that value quality and product authenticity without compromising brand identity.

3.3.5 Government Policy and Institutional Support

Government policies have sought to promote the export of processed chocolate products, including the imposition of export duties on cocoa beans to prioritize downstream products, fiscal incentives under Government Regulation No. 22 of 2024, and the ASEAN–China Free Trade Agreement, which grants a zero-percent tariff for cocoa powder exports to China. Nevertheless, the implementation of these policies has not been sufficient to address the specific needs of SMEs, particularly regarding the reduction of logistics costs and the provision of adequate market access. Although numerous training programs and outreach activities have been conducted by various ministries, these efforts remain poorly coordinated, resulting in overlap and limited practical impact. The FTA Center offers technical consultation services, assists with certification processes, and facilitates the smooth handling of export documentation. However, in addressing logistical and infrastructure-related issues, cross-sector collaboration is necessary to alleviate the heavy cost burden. Such assistance is vital in enabling SMEs to understand and efficiently meet export requirements.

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3.3.6 Protectionism and Market Access Barriers for Indonesian Product

Export destinations such as Japan, Europe, and China maintain strong market protection through stringent food safety standards. Japan requires specialized certifications such as those from the Japan Food Research Laboratories (JFRL), while European regulations are highly rigorous regarding product safety and quality, including measures to protect their domestic chocolate industries. These conditions make it difficult for Indonesian artisan products to penetrate such markets. China imposes extremely strict registration and standard requirements, along with protective measures for domestic products through tariffs and regulations, further complicating the entry of Indonesian cocoa-based products. Malaysia also tends to prioritize domestic products and dominant brands such as Milo, making market penetration challenging for Indonesian artisan products, which are relatively higher in price.

4. Conclusion

Based on the findings regarding the comparative and competitive advantages of Indonesian cocoa beverage powder exports (HS 180610) to Malaysia and China from 2020 to 2024, several conclusions can be drawn. The comparative advantage of Indonesia's exports to Malaysia has fluctuated but generally maintained a competitive edge, with a Revealed Comparative Advantage (RCA) value above 1 throughout the period. However, Indonesia's relative competitive position has declined when compared to competitors such as Australia. In the Chinese market, Indonesia initially held a high comparative advantage (RCA > 10), but in recent years, this advantage has sharply declined, reaching an RCA value of only 0.10 in 2024 indicating a substantial loss of comparative advantage. The competitive advantage analysis (Export Product Dynamics, EPD) reveals that in Malaysia, Indonesia's cocoa beverage powder products were mostly positioned in the Lost Opportunity quadrant, characterized by positive business strength but negative market share growth. This indicates that while export values improved, market share expansion failed to materialize. In China, the EPD results show a negative trajectory from Lost Opportunity to Retreat, and eventually to Falling Star, signaling a significant decline in both competitiveness and market share between 2020 and 2024. Export volumes and values to Malaysia and China have fluctuated sharply over the past five years. Exports to Malaysia have consistently declined in volume, while the average export value per kilogram increased, indicating a shift toward higher-value products. In China, export volumes have dropped drastically, and although the average value per kilogram increased moderately, the total export value fell sharply. Overall, the proportion of cocoa beverage powder exports relative to Indonesia's total cocoa production remains small and declined sharply in 2024, suggesting that downstream processing and value addition in cocoa-based products remain underdeveloped. Key challenges faced by SMEs such as Cokelatin Signature Indonesia include complex regulations and product certification requirements in destination markets, particularly in China and Malaysia; high logistics costs, especially for small production volumes or sample shipments; and intense competition from large-scale chocolate manufacturers with extensive distribution networks, which makes it difficult for artisan products to penetrate markets, particularly in Malaysia. Government and institutional support remain limited in terms of logistical subsidies and streamlined licensing processes. Additionally, consumer perceptions and preferences in Malaysia, which favor sweet, mass-produced chocolate products, present a major educational challenge for promoting authentic Indonesian artisan products.

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