

Export Potential and Competitiveness of Thai Beef and Processed Beef to Muslim-Majority Markets in ASEAN

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Abstract

This research article examines halal standards for cattle slaughter and processing in ASEAN countries, focusing on Malaysia, Indonesia, and Brunei, and compares Thailand's competitiveness in exporting beef and beef products to these nations. Halal certification for imports is regulated by government bodies: JAKIM in Malaysia, BPJPH in Indonesia, and Brunei's Department of Syariah Affairs. Malaysia's halal certification process includes stringent inspections, and Indonesia's UU JPH law mandates that all products, including imports, must be halal-certified by 2024.

Thailand demonstrates strong competitiveness in beef exports to Malaysia and Brunei, with RCA values of 1.560 and 5.378, indicating alignment with halal standards. In contrast, competitiveness in Indonesia is low (RCA 0.036), due to stricter halal certification and trade barriers. This highlights the need for Thailand to strengthen its halal certification system, address regulatory

challenges, and adapt to diverse ASEAN trade requirements to expand its market presence.

Keywords: ASEAN; Halal; Revealed Comparative Advantage (RCA); Muslim; Beef and Processed Beef

1. Introduction

The central region of Thailand boasts a significant number of cattle slaughterhouses and meat processing plants. This is due to the region's favorable conditions for livestock rearing, including ample grazing land and a rich supply of animal feed. The majority of production and sales take place within the producing provinces and surrounding areas. This production model, which relies on daily orders, is not cost-effective in terms of labor and expenses. It represents a day-to-day livelihood rather than a sustainable business model. Under these circumstances, business owners may struggle to envision a future in this industry, potentially leading to their closure. Therefore, market expansion is crucial for these businesses. Domestic demand remains low due to the economic downturn following the COVID-19 pandemic. As a result, researchers have identified neighboring ASEAN countries as potential markets for expansion. A study of consumer behavior in ASEAN countries revealed that 43.23% of the population adheres to Islam, which prohibits pork consumption and alcohol-based beverages. (The Halal Times, 2025)

These consumers are particularly conscientious in selecting halal-certified food products that align with Islamic principles. Further examination of the three ASEAN countries with the largest Muslim populations – Malaysia, Indonesia, and Brunei – indicated that 71.8% of their combined population adheres to Islam. Key strategic points before successfully entering the market

on the road to ASEAN Economic Community (AEC) cooperation: In addition to creating various opportunities for member countries, Thailand also has many opportunities for trade, investment, and labor mobility. This includes the export of food products to Muslim-majority member countries such as Malaysia, Indonesia, and Brunei. (Cornell University Library, 2017)

Therefore, the development of entrepreneurs at both the slaughterhouse and beef processing levels to understand export standards regarding Halal standards is a preliminary key factor that will enable them to enter the export market to Muslim countries. In addition, learning from the knowledge and experience of existing exporters, together with an analysis of Thailand's competitiveness with other countries, will be an important approach to developing entrepreneurs to promote exports of beef and processed beef to Muslim countries in ASEAN

2. Research Objectives

1. To examine the Halal standards for cattle slaughter and processing for export to the Muslim-majority countries of Malaysia, Indonesia, and Brunei within ASEAN.

2. To analyze Thailand's competitiveness in comparison to other countries in exporting cattle and processed beef to the Muslim-majority countries of Malaysia, Indonesia, and Brunei within ASEAN.

Conceptual Framework

The study examines Halal standards for cattle slaughter and processing in Indonesia, Brunei Darussalam, Malaysia, and Thailand, focusing on Islamic principles, Halal-Haram distinctions, Halal business practices, and ethical regulations.

A qualitative approach is used, analyzing documents from both domestic and international sources. Additionally, the Revealed Comparative Advantage (RCA) index is employed to assess the competitive advantage of these countries in beef and processed beef exports. The RCA analysis compares export shares between countries and global averages, determining if a country has a comparative advantage ($RCA > 1$), no advantage or disadvantage ($RCA = 1$), or a disadvantage ($RCA < 1$). This method helps identify products in which each country should specialize, providing insights into trade patterns and international competitiveness. According to the conceptual framework illustrated in Figure 1.

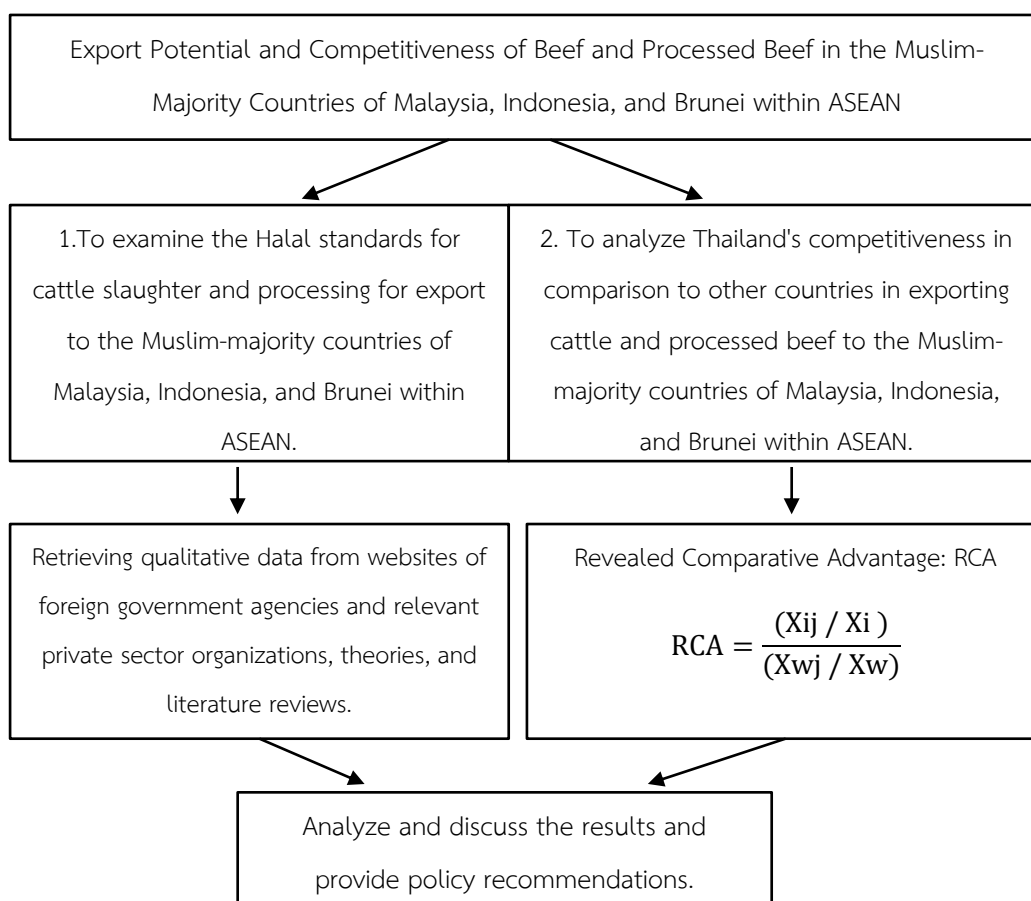


Figure 1 Conceptual Framework

Literature Review

1. Halal Standards and Export Halal Standards Translation

Concepts of Islamic Principles: Islam is a major monotheistic religion centered on the belief in one God, Allah, with Prophet Muhammad as the final messenger. Unlike many religions, Islam has no priesthood; imams serve only as prayer leaders rather than intermediaries. All Muslims follow the same religious obligations and even figures such as imams or the Grand Mufti are regarded as community leaders, not clergy.

The meaning of Islam: In Islam, the concept of “peace” (Salam) is central to faith and has been emphasized since the religion’s inception. Islam teaches that true peace, both in this world and the hereafter, is achieved by living in full submission to the will of Allah as revealed through the Prophet Muhammad (peace be upon him). This encompasses adherence to Sharia, which governs all aspects of life, from personal worship to social justice.

The Main Pillars of Islam: Islam has two main components: beliefs and practices.

“Beliefs” The six main beliefs of Islam are: Islam is founded on six core beliefs. These include belief in one God (Allah), in angels as His messengers, in the revealed scriptures such as the Torah, Psalms, Gospel, and the Quran, and in all prophets from Adam to Muhammad. Muslims also believe in the Day of Judgment and the afterlife, encompassing Heaven and Hell, as well as in divine decree, affirming that all events occur according to Allah’s plan.

“Practices” The five main practices of Islam are: Shahadah (declaration of faith): The five pillars of Islam form the foundation of Muslim life. They include the Shahadah (declaration of faith in Allah and Muhammad as His messenger), Salah (prayer five times daily facing Mecca), Zakat (almsgiving

to support the poor), Sawm (fasting during Ramadan), and Hajj (pilgrimage to Mecca at least once in a lifetime if able). Together, these practices provide the framework for living in accordance with Islamic teachings.

Islamic Ethics: Islamic ethics, also known as Muslim ethics, refers to the moral code of conduct expected of Muslims. It encompasses a set of principles and guidelines that govern a Muslim's behavior in all aspects of life, including thoughts, words, and actions. Adhering to Islamic ethics is believed to lead to happiness and fulfillment in both this world and the hereafter.

Islamic ethics, also known as Akhlaq Islamiyah or Islamic morality, encompass a set of fundamental principles that guide Muslims towards righteous conduct and a virtuous life. These principles are derived from the Quran, the Hadith (sayings and actions of Prophet Muhammad), and the teachings of Islamic scholars.

Ihsan, often translated as “excellence” or “perfection of character,” represents the highest ideal of Islamic ethics. It reflects a profound sense of servitude to Allah, grounded in constant awareness of His presence and complete devotion to His will. The Quran affirms, “Indeed, Allah is with those who fear Him and those who do good deeds (the Muhsinun)” (Quran 16:128). Prophet Muhammad further defined Ihsan as “to worship Allah as if you see Him; even if you do not see Him, He sees you” (Sahih Bukhari) (The Central Islamic Council of Thailand, 2023).

2. Basic Concepts of Halal and Halal Food

Halal (حلال) is an Arabic word that means "permissible" or "lawful" in Islam. In the context of food, halal refers to food that is considered acceptable for consumption according to Islamic law. Halal food guidelines are based on the teachings of the Quran and the Hadith, which are the primary sources of Islamic law.

Principles of Halal Food: Halal food allows the consumption of certain animals, such as cows, sheep, goats, chickens, and many fish and shellfish, while prohibiting pork, carrion, and animals that die naturally. Slaughtering must be conducted by a Muslim in a prescribed manner that minimizes suffering and ensures complete blood drainage. Blood, alcohol, and pork derivatives are strictly forbidden, while ingredients like gelatin and enzymes require halal verification. To ensure compliance, halal food must also be safeguarded from cross-contamination through separate storage, preparation, and cooking facilities.

Halal food is essential for Muslims as both a religious obligation and an expression of faith, while it is also increasingly valued by non-Muslims for its focus on animal welfare and ethical production. To ensure compliance, many countries have established certification bodies that audit production processes according to Islamic principles. The global halal food industry is expanding rapidly, driven by the rising Muslim population and growing demand for ethical and sustainable products. With its large Muslim community and strong agricultural base, Thailand is well positioned to become a major player in this global market (The Central Islamic Council of Thailand, 2023).

3. Revealed Comparative Advantage: RCA

Each country has different economic conditions in terms of natural resources, capital, and labor. This leads to different production costs and product quality across countries. It is difficult for a single country to produce all goods efficiently. Therefore, countries should focus on producing goods based on their comparative advantages.

The tool used to measure comparative advantage is called the Revealed Comparative Advantage (RCA) index. Under the assumption that

comparative advantage determines international trade patterns, the RCA index compares the share of a country's exports of a particular product to the share of that product's exports in total world exports. It is a bilateral adaptation of the traditional RCA, commonly called the Bilateral RCA Index or the Revealed Comparative Advantage with respect to a partner country (Balassa, 1989). The formula for calculating the RCA index is as follows:

$$RCA = \frac{(X_{ij} / X_i)}{(X_{wj} / X_w)}$$

Where: RCA is the index of comparative advantage of product j of country i in country w.

X_{ij} is the value of exports of product j of country i to country w.

X_i is the value of total exports of country i to country w.

X_{wj} is the import value of product j of country w.

j is the type of product exported

i is the country that exports each type of product.

w is the importing country of each type of product.

4. Related Research Papers

Critically examined the usefulness of RCA (Revealed Comparative Advantage) measures, noting that while some commonly used indexes may not fully align with theoretical notions of comparative advantage, they remain valuable for specific tasks. These include uncovering a country's fundamental trade patterns, evaluating the effects of trade barriers across product categories, and identifying countries that compete closely within a given market. This perspective demonstrates how RCA serves as a practical tool for bridging economic theory and applied trade analysis. (French, 2017)

Expanding on its empirical application, competitive trade within the European Union cluster economies between 2009 and 2018 was analyzed using Balassa's RCA index, with findings showing that countries with RCA values greater than one tend to thrive economically compared to lower-performing competitors. The study also confirmed that the European economy is structurally driven by mechanized trade rather than agriculture, thereby underscoring the policy relevance of RCA in revealing structural strengths and weaknesses in regional economies. (Adigwe, 2022)

In the Asian context, the comparative advantage of the Thai silk industry from 2004 to 2013 across major export markets-namely the World, America, and ASEAN-was examined using RCA. The results revealed that Thailand maintained a strong competitive advantage in the ASEAN market, while the Philippines and Indonesia exhibited greater advantage in the American market. Notably, Vietnam demonstrated a broad-based advantage with RCA values exceeding one across all three markets. This study illustrates the applicability of RCA in examining agricultural and agro-industrial products, offering insights that can guide both producers and policymakers in shaping

strategies for regional and global competitiveness. (Choknanthakit and Thipbharos, 2016)

Taken together, these studies reaffirm that RCA is not only beneficial for understanding comparative advantage from both theoretical and empirical perspectives but also serves as a valuable instrument for agricultural trade analysis and policymaking. Its ability to identify product-level competitiveness makes it particularly relevant for guiding trade policy, export promotion strategies, and economic integration efforts within both regional and global contexts.

3. Research Methodology

1. This study examines Halal standards for cattle slaughter and processing for export in Indonesia, Brunei Darussalam, Malaysia, and Thailand. The research encompasses various aspects of Halal knowledge, including Islamic principles, Halal-Haram distinctions, Halal business practices, regulations, ethics, and specifications. The study employs a qualitative approach, analyzing a comprehensive collection of documents from both domestic and international sources.

2. Revealed Comparative Advantage (RCA) Index: Under the assumption that comparative advantage determines international trade patterns, the RCA index compares a country's share of exports of a particular good to its total exports to the world's share of exports of that good.

The researcher will conduct a revealed comparative advantage (RCA) analysis. The scope of the study includes Indonesia, Brunei Darussalam, Malaysia, and Thailand. The researcher will examine the RCA values for beef and processed beef by analyzing export and import data. The RCA concept is

based on the principle that a country should export a product in a proportion greater than the world average export proportion if it can produce that product at a lower cost than other countries. The calculated RCA values will be compared to the world average of 1. Therefore, the criteria for considering RCA are as follows:

RCA > 1: The country has a comparative advantage in producing and exporting the product.

RCA = 1: The country has no comparative advantage or disadvantage in producing and exporting the product.

RCA < 1: The country has a comparative disadvantage in producing and exporting the product.

The RCA index is a valuable tool for identifying products in which a country should specialize its production and exports. However, it is a static measure that does not consider changes in technology, trade policies, or other factors that could affect a country's comparative advantage.

4. Research Findings

1. To examine the Halal standards for cattle slaughter and processing for export to the Muslim-majority countries of Malaysia, Indonesia, and Brunei within ASEAN.

1.1 Malaysia: The importation of halal products into Malaysia must comply with the regulations related to halal certification, which are primarily governed by JAKIM (Jabatan Kemajuan Islam Malaysia) and relevant authorities involved in the importation process.

Laws and Regulations:

1.1.1 Halal Certification for Imported Goods: Halal products imported into Malaysia must be certified halal by JAKIM or an agency accredited by JAKIM. Imported goods must have a halal certificate or a certificate from a halal authority in the country of origin recognized by JAKIM.

1.1.2 Halal Product Inspection: Imported goods will undergo inspection by relevant authorities to ensure that they are free from contamination by non-halal substances (e.g., pork or alcohol) and that the production process adheres to the required standards.

1.1.3 Enforcement of Laws: If it is found that a trader or manufacturer cannot present valid halal certification or sells non-halal products, they will be fined or prosecuted according to the law.

Note: JAKIM (Jabatan Kemajuan Islam Malaysia) - Malaysia

JAKIM (Department of Islamic Development Malaysia) is a government agency in Malaysia responsible for the development of Islam and the regulation of halal standards in the country. It is also tasked with providing halal

certification for various products, particularly in the food, beverage, and related sectors.

Key Responsibilities of JAKIM:

1. Halal Certification of Products: JAKIM issues halal certificates for products and production processes in Malaysia, ensuring that these products align with halal principles.

2. Setting Halal Standards: JAKIM establishes halal standards for domestic products, using MS 1500 as the standard for halal food production.

3. Inspection of Production: JAKIM conducts inspections of establishments, such as food production factories, to ensure that they comply with halal principles in their production processes.

4. Promoting Knowledge: JAKIM is also responsible for educating the public about halal principles and monitoring products in the market.

1.2 Indonesia: The importation of halal products in Indonesia is regulated by BPJPH (Badan Penyelenggara Jaminan Produk Halal), an agency responsible for managing the halal certification of various products in the country.

Laws and Regulations:

1.2.1 Halal Certification by BPJPH: Products imported into Indonesia must be certified halal by BPJPH. If the product is not certified halal by an accredited halal authority in the country of origin, it must undergo certification by BPJPH in Indonesia.

1.2.2 UU JPH (Halal Product Certification Act): This law mandates that all products sold in Indonesia, including imported goods, must obtain halal certification by 2024.

1.2.3 Import Inspection: Imported goods must have a halal certificate from the country of origin or be certified by BPJPH to ensure compliance with standards.

1.2.4 Enforcement of Laws: Products that falsely claim to be halal or are not certified according to the law will face penalties as stipulated by regulations.

Note: BPJPH (Badan Penyelenggara Jaminan Produk Halal) - Indonesia

BPJPH (Halal Product Assurance Agency) is a government agency in Indonesia responsible for managing the halal certification of all products in the country. BPJPH operates under the Ministry of Religious Affairs of Indonesia and is tasked with overseeing halal standards in accordance with the Halal Product Certification Law.

Key Responsibilities of BPJPH:

1. Halal Certification: BPJPH is responsible for issuing halal certificates for products in Indonesia, including those imported from abroad.

2. Management of the Certification System: BPJPH manages the process of halal certification applications, including setting up the procedures for inspection and certification of halal products.

3. Development of Halal Standards: BPJPH collaborates with MUI (Majelis Ulama Indonesia) to establish the halal standards that must be followed in product manufacturing.

4. Compliance Monitoring: BPJPH ensures that imported and domestically produced products meet halal criteria by conducting regular inspections to verify compliance.

1.3 Brunei: The importation of halal products in Brunei is regulated by the Department of Syariah Affairs (Jabatan Hal Ehwal Syariah), which is responsible for inspecting and certifying halal products.

Laws and Regulations:

1.3.1 Halal Certification from Relevant Authorities: Products imported into Brunei must be certified halal by Jabatan Hal Ehwal Syariah or an agency accredited by the Brunei government to ensure that the product aligns with Islamic principles.

1.3.2 Halal Product Inspection: Imported products must undergo inspection, including a review of ingredients and the production process, to ensure that they are free from contamination by non-halal substances.

1.3.3 Halal Certification Label: Products that pass the inspection will be issued a halal certificate by the relevant authority, and the halal label or symbol must be displayed on the product so that consumers can verify its halal status.

1.3.4 Enforcement of Laws: If a product falsely claims to be halal or violates regulations, it will be subject to fines or legal action according to the law.

Note: Jabatan Hal Ehwal Syariah - Brunei Darussalam

Jabatan Hal Ehwal Syariah (Department of Syariah Affairs) is a government agency in Brunei responsible for overseeing and regulating Islamic practices within the country, including the certification of halal products and ensuring that various goods comply with Islamic principles.

Main Objectives of Jabatan Hal Ehwal Syariah

1. Halal Certification: Jabatan Hal Ehwal Syariah is tasked with certifying halal products in Brunei, including inspecting imported goods to ensure they meet halal standards.

2. Establishing Halal Standards: This department sets the standards and regulations concerning halal products sold in Brunei.

3. Regulating Halal Goods: Jabatan Hal Ehwal Syariah monitors the production processes of goods within Brunei, as well as imported products, to ensure they are free from contamination by non-halal substances.

4. Promoting and Disseminating Knowledge: The agency also organizes training and educational programs to raise awareness about halal principles among the Bruneian public.

1.4 Summary of Halal Import Regulations and Standards

Comparison

1.4.1 Malaysia: Imported halal products must be certified by JAKIM, and a thorough inspection is conducted to ensure that the products are free from contamination by non-halal substances.

1.4.2 Indonesia: Imported products must have halal certification from BPJPH or be certified by the halal authorities in the exporting country. If no halal certificate is provided, BPJPH must carry out an inspection.

1.4.3 Brunei: Imported halal goods must be certified by Jabatan Hal Ehwal Syariah and undergo inspection to ensure they comply with Islamic principles.

In all of these countries, the importation of halal products requires certification from the relevant authority, along with inspections to ensure the products are safe and in line with Islamic regulations.

Table 1 Laws and Regulations on Halal Certification

Country	Key Laws and Regulations	Enforcement
Thailand	<ul style="list-style-type: none">- No mandatory halal certification for all products (optional system).- Certification is conducted by CICOT and the Provincial Islamic Committees.	Voluntary system. Businesses may choose whether to apply for halal certification.
Indonesia	<ul style="list-style-type: none">- Law No. 33/2014 mandates that all food and beverage products must obtain halal certification by 2024.	Mandatory for all food and beverage products sold domestically.

	- BPJPH is the agency responsible for managing the certification system.	
Malaysia	- Halal Trade Act and MS 1500:2019 Standard. - JAKIM is responsible for issuing halal certification and emphasizes quality inspection.	Voluntary for domestic products but internationally recognized as a high standard.
Brunei	- Halal Certificate and Halal Label Order 2005. - Mandatory for all products wishing to bear a halal label.	Mandatory for all product categories sold under the halal label.

Source: Author's Analyze

2. To analyze Thailand's competitiveness in comparison to other countries in exporting cattle and processed beef to the Muslim-majority countries of Malaysia, Indonesia, and Brunei within ASEAN.

The Revealed Comparative Advantage (RCA) analysis shows that Malaysia and Brunei Darussalam have RCA values of 1.560 and 5.378, respectively. This indicates that $RCA > 1$, meaning that Thailand holds a comparative advantage in exporting Beef and Beef Products to the Malaysian and Brunei Darussalam markets. In contrast, Indonesia has an RCA value of 0.036, indicating $RCA < 1$, which means that Thailand does not have a comparative advantage in exporting Beef and Beef Products to the Indonesian market, as shown in Table 2

Table 2 Import and Export Value and Revealed Comparative Advantage (RCA), 2023

Import and Export Value	Country (million USD)		
	Malaysia	Brunei Darussalam	Indonesia
Export Value of Beef and Beef Products from Thailand ¹	384.800	0.343	14.610
The total export value of Thailand ¹	76,987	1,106	80,894
The value of imports of beef and beef products ²	900	0.439	1,100
The value of total imports of the country ³	280,992	7,612	22,1890
RCA of Thailand ⁴	1.560	5.378	0.036

Source: ¹Pasusart New, 2023

²Livestock and Poultry, World Markets and Trade, 2023

³Ministry of Agriculture and Cooperatives, 2024

⁴Author's Calculation

5. Discussion of Research Findings

The Revealed Comparative Advantage (RCA) analysis indicates that Thailand holds a strong competitive edge in exporting beef and beef products to Malaysia and Brunei Darussalam, with RCA values of 1.560 and 5.378 respectively. This advantage stems from Thailand's strong halal certification standards, high-quality products, and competitive pricing. In contrast, Thailand faces significant challenges in Indonesia, where the RCA is only 0.036, largely

due to stricter halal certification requirements and trade barriers. These findings align with previous studies showing Thailand's strong performance in some ASEAN markets but difficulties in more regulated markets like Indonesia. Thailand is well-positioned in Malaysia and Brunei but must reassess its strategy for Indonesia by improving halal certification processes, addressing trade barriers, and adapting export approaches. Such measures will help Thailand better navigate the diverse regulatory frameworks across ASEAN and enhance its competitiveness in the region.

6. Recommendation

To enhance Thailand's beef export competitiveness in Malaysia, Indonesia, and Brunei, three strategies are key. First, strengthen halal certification by partnering with credible bodies, especially to meet Indonesia's strict standards. Second, adapt to each country's regulations, improving certification efficiency and overcoming trade barriers under laws like Indonesia's UU JPH. Third, invest in market research to capture consumer preferences and differentiate products through quality, price, and halal assurance. Leveraging cost-effectiveness, consistency, and compliance will build trust and expand market share. Together, these strategies will reinforce Thailand's position and policy direction in Muslim-majority ASEAN markets.

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