

# A competitive business model for export-oriented salted egg micro, small, and medium enterprises in the Japanese market

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**Abstract.** Mahbubi A, Fatoni A, Abimanyu NM. 2025. *A competitive business model for export-oriented salted egg micro, small, and medium enterprises in the Japanese market.* Asian J Agric 9: 288-297. Japan offers a promising opportunity for Indonesian salted egg Micro, Small, and Medium Enterprises (MSMEs), given that the price of eggs in Japan is more than double that in the domestic market, and the country ranks as the second-largest consumer of eggs globally. This study seeks to formulate a competitive business model for salted egg MSMEs in the Japanese market. This study employs an exploratory approach, involves 60 participants, and incorporates analyses of comparative and competitive advantages, empathy maps, and business model canvas. This study identifies end users and retailers as primary consumer segments. The value proposition featured eggs with an average weight of 70 g, medium salt content, a slightly paler eggshell, and a vibrant egg yolk. Key activities included 11 operations, particularly on improving the monitoring system. Essential resources comprise cages, salt that meets the Indonesian National Standard (SNI) 01-3556-2000 standards, clean water sources, and processing facilities. The key partners include farmers, testing institutions, and Japanese MSMEs. Channels use direct and indirect exporting. The proposed model is of utmost importance, as it underscores the need importance for fostering collaborative partnerships between supply chain actors. The cost structure delineates the expenses related to cultivation, processing, and delivery. The revenue model is structured around profit-sharing agreements.

**Keywords:** Business model, comparative advantage, competitive advantage, poultry, salted egg

**Abbreviations:** MSMEs: Micro, Small, and Medium Enterprises

## INTRODUCTION

Indonesian poultry products have not rapidly developed in the international market. One of the main obstacles, Indonesia is not considered free from the negative effects of avian influenza outbreaks. Consequently, many countries have imposed restrictions on importing poultry meat and fresh eggs from Indonesia. However, Indonesia has successfully exported processed poultry products with various requirements, including traceability of poultry origin. Processed poultry products from Indonesia have been successfully exported, including chicken nuggets of the following brands: Fiesta fried chicken, Fiesta spicy wings, Fiesta spicy chick, Fiesta delistripe, Fiesta karage, and Fiesta schnitzel. Additional brands include Sunny gold chicken nuggets tempura, Sunny gold-spicy karage, and Sunny gold-karage black peppers. Moreover, salted eggs from *Anas platyrhynchos* f. *domesticus*, which are processed from Indonesian egg products, have successfully entered the ASEAN market.

Currently, a limited number of salted egg Micro, Small, and Medium Enterprises (MSMEs) have achieved international market penetration or export status for salted eggs in the global market. Only one MSME consistently exported salted eggs to Singapore. The international market for salted eggs, particularly the Japanese market, remains

untapped, with prices that are more favorable than those in the domestic market. The price of salted eggs in Japan is JPY 500 (IDR. 47,500) per pack of six eggs, significantly exceeding the average price of salted eggs in Indonesia of 200 yen (IDR. 21,000) per pack of six eggs. The 2023 International Egg Commission survey also reported that Japan ranks second after Mexico in egg consumption, with each individual consuming 339 eggs annually in 2022 (The Mainichi 2023). In addition, 30% of the foreign workers in Japan originate from China and Indonesia, which generally favor salted eggs. Salted eggs in Japan are predominantly imported from China.

These circumstances are crucial to promote the entry of salted egg MSMEs into the Japanese market. Serrano et al. (2018) and Nurfarida et al. (2022) stated that internationalization is essential for MSMEs to ensure their survival through increased revenue and to maintain the long-term viability of agricultural MSMEs, including those in the salted egg industry. The expansion of export-oriented MSMEs in this sector could generate positive societal effects by creating new job opportunities in the livestock industry. They may also contribute to environmental sustainability by enforcing strict hygiene standards for export products and thereby reducing pollution.

The OECD (2018) identified limited resources, particularly in finance and detailed information on foreign

markets, as one of the primary obstacles for export MSMEs. Child et al. (2022) posited that MSMEs intending to enter the international market must consider the characteristics of the company itself, domestic economic conditions, and the economic landscape of the export destination country. Bertrand et al. (2022) identified internal factors such as insufficient resources and assets, the absence of strategic partnerships, and the lack of research and development as primary obstacles for MSMEs in emerging countries seeking to engage in export activities. MSMEs also need to comprehend regulations in international business, especially the various rules in export-destination countries.

MSMEs must design salted egg export business models to be competitive in the global market. According to An et al. (2022), modeling assists MSMEs in creating value. Moradi et al. (2021) stated that designing a business model becomes a crucial driver of innovation within MSMEs. Fitriyani (2020) further explained that business model design translates strategy into a blueprint. Subsequently, the business model must be financed through external or internal funding and must ultimately be implemented in an actual business venture. Therefore, this study aimed to develop globally competitive salted egg MSMEs, particularly those in Japan.

Islam et al. (2023) reported that the main focus of internationalization research is on large companies from developed countries, while research on the internationalization of MSMEs from developing countries is still relatively under-explored, even though MSMEs provide many jobs. They also revealed that MSMEs contribute to more than half of industrial employment. Chaldun et al. (2022) reported that sustainable business

model design in relation to MSMEs' internationalization has not been widely explored. Specifically, Child et al. (2022) reported that the choice of partners and destination countries for MSMEs' exports has not been widely studied.

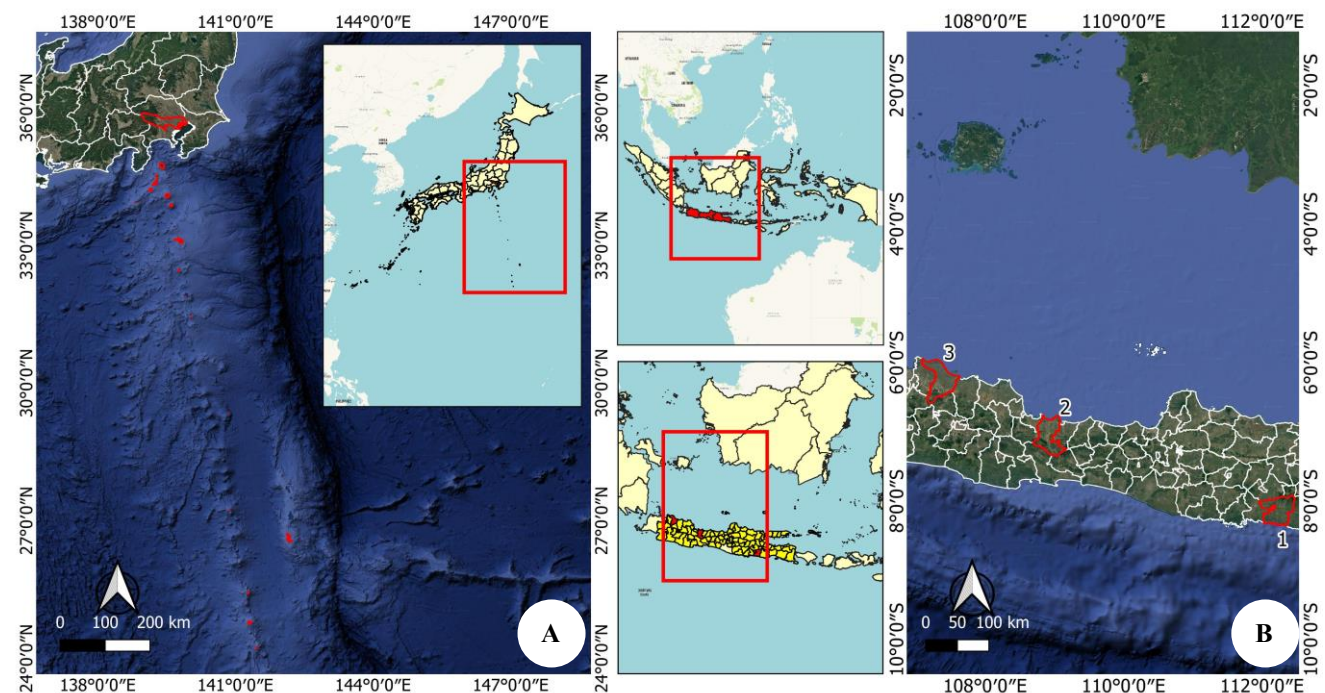
## MATERIALS AND METHODS

### Study area

This study used a mixed method. A quantitative method was used to assess comparative and competitive advantage, while a qualitative approach was used to explore customer insight and create a competitive business model. The data of this study used primary and secondary data. Primary data were obtained from salted egg consumers in Tokyo, Japan (Figure 1.A) and salted egg MSMEs in Blitar, Brebes, and Karawang, Indonesia (Figure 1.B). Secondary data were obtained from the United Nations Commodity Trade Statistics Database (UNCOMTRADE) and the Ministry of Trade of the Republic of Indonesia.

### Data collection

This study interviewed 60 participants, consisting of 40 salted egg consumers in Tokyo, Japan (coded C1 to C40) and 20 salted egg MSMEs, including 13 in Brebes, Central Java, 4 in Blitar, East Java, and 3 in Karawang, West Java (coded M1 to M20). The research participants were selected based on certain criteria, such as consumers in Japan, both native residents and immigrants who have purchased salted eggs more than once, and salted egg MSMEs who have marketed their products to other regions or have a Veterinary Control Number (NKV) certificate.



**Figure 1.** A. Location of salted egg consumer survey in Tokyo, Japan, B. Location of salted egg MSMEs Survey in 1. Blitar, 2. Brebes, and 3. Karawang, Indonesia

Questions for consumers refer to aspects of customer insight from the X-Plane, including seeing, hearing, thinking and feeling, saying and doing, getting, and sensing. The findings at this stage were presented on an empathy map. Moreover, questions for MSMEs adopt aspects of the business model from Osterwalder and Pigneur (2010), including value propositions, core activities, core resources, core partners, customer relationships, customer segments, channels, cost structures, and revenue streams. The findings at this stage were presented in a business model canvas by integrating with various aspects of value innovation from Kim and Mauborgne (2005).

### Data analysis

Data analysis employs various analytical methods: (i) Revealed Comparative Advantage (RCA) for comparative advantage, (ii) Export Product Dynamic (EPD) and Trade Specialization Index (TSI) for competitive advantage, (iii) empathy maps, business model canvas, and value innovation framework.

#### Revealed Comparative Advantage (RCA)

RCA compares a country's salted eggs market share to the global salted eggs market share. The underlying rationale for this method is that a country's export performance is predominantly determined by its relative competitiveness with similar products manufactured in other countries, assuming that other factors influencing export growth remain constant. Calculations using the RCA method were performed using the following formula:

$$C = (X_{ij} / X_j) / (X_{iw} / X_w)$$

Where:

C : RCA value

X<sub>ij</sub> : Export value of salted egg commodities from country j to the international market

X<sub>j</sub> : Total export value of all commodities from country j to the international market

X<sub>iw</sub> : Export value of salted egg commodities from all countries to the international market

X<sub>w</sub> : Total export value of all commodities from all countries to the international market

i : Salted egg commodities

j : Salted egg exporting countries to the international market

w : All countries or the world

When the Revealed Comparative Advantage (RCA) value exceeds one (RCA>1), a country possesses a comparative advantage above the world average, indicating strong competitiveness for the commodity in question. Conversely, if the RCA value is less than one (RCA<1), a country exhibits a comparative advantage below the world average, suggesting weak competitiveness for the commodity. RCA value is directly proportional to the level of competitiveness or advantage a country holds for a specific commodity.

#### Export Product Dynamic (EPD) and Trade Specialization Index (TSI)

The EPD is an analytical methodology employed to evaluate and identify products or commodities that possess the highest competitive advantage and exhibit rapid growth within a country's export trade flow. Market position can be ascertained by utilizing the total export share (X) and the export commodity share (Y). By applying the EPD analysis method, it is possible to determine whether a country's commodity exports to the destination country are dynamic. There are four categories: rising stars, falling stars, lost opportunities, and retreats. The systematic approach to calculating a country's export market share and product market share is as follows.

**X-axis:** Growth in export market share

$$\frac{\sum_{t-1}^t \left(\frac{X_{ij}}{W_{ij}}\right)_t \times 100\% - \sum_{t-1}^t \left(\frac{X_{ij}}{W_{ij}}\right)_{t-1} \times 100\%}{T}$$

**Y-axis:** Growth in product market share

$$\frac{\sum_{t-1}^t \left(\frac{X_t}{W_t}\right)_t \times 100\% - \sum_{t-1}^t \left(\frac{X_t}{W_t}\right)_{t-1} \times 100\%}{T}$$

Where:

X<sub>ij</sub> : Value of Indonesian salted egg exports to export destination countries

X<sub>t</sub> : Total value of exports of all Indonesian commodities to export destination countries

W<sub>ij</sub> : Value of salted egg exports from all countries to export destination countries

W<sub>t</sub> : Total value of exports of all commodities from all countries to export destination countries

T : Number of years analyzed

t-1 : Previous year

I : Salted egg commodities

J : Indonesia and/or all countries

Furthermore, the TSI analysis aims to assess Indonesia as an exporter or importer of salted eggs. The TSI formulation is as follows:

$$TSI = (X_{ia} - M_{ia}) / (X_{ia} + M_{ia})$$

Where:

X<sub>ia</sub> : Value of Indonesia's salted egg exports

M<sub>ia</sub> : Value of salted egg imports in Indonesia

#### Empathy Map, Business Model Canvas (BMC), and Value Innovation

An empathy map is a tool developed by X-PLANE to explore customer utility. This map shows the consumer experience, which is the basis of a company's value creation. The BMC is a tool designed to construct and explore a business concept that can create, deliver, and capture value. The BMC comprises a single page with nine boxes or blocks, which are used to analyze how a company conceptualizes revenue generation.

Value innovation is the simultaneous pursuit of differentiation and low cost, generating significant value increases for both customers and the company. Given that customer value is derived from the utility of an offering minus its price and company value is derived from the price of an offering minus its cost, value innovation is achieved only when the entire system of utility, price, and cost is aligned. This framework connects the empathy map and BMC element.

For this analysis, we adopted Miles et al.'s (2019) qualitative approach, which encompasses data condensation, presentation, and conclusions. Validity tests employ triangulation, and reliability tests use kappa statistics. Coding using the NVIVO Software yielded a kappa coefficient of 0.86, indicating excellent agreement.

## RESULTS AND DISCUSSION

### Competitive and comparative advantage of Indonesian salted eggs in the international market

In 2023, the World Trade Organization (WTO) identified Indonesia, along with four other ASEAN nations, as one of the top 30 exporters of goods globally. This classification aligns with the findings of Hoang (2020), who highlighted Vietnam, Thailand, Malaysia, and Indonesia as prominent suppliers of agricultural commodities in the global market. According to Hardi et al. (2021), nearly all Indonesian provinces exhibit strength in non-oil and gas exports, with 16 of the 34 provinces consistently showing these advantages throughout the year. Half of these provinces possess a comparative advantage index in double digits, significantly contributing to the national non-oil and gas export sector. Purwono et al. (2022) emphasized the critical role of competitive and comparative advantages in shaping international market competition in Indonesian animal and vegetable products.

Furthermore, Indonesia holds a robust position in the global salted egg market. The trade specialization index in Table 1 indicates that since 2017, Indonesia has not only fulfilled domestic requirements but has also become a notable exporter of salted eggs. Brebes, the center of salted egg production in Indonesia, produces approximately 142 million salted eggs annually, valued at 12 million USD (Humam et al. 2018). Brebes-salted eggs have achieved national recognition, with brands such as Randy Jaya, HTM Jaya, Pandhawa, and Romlah gaining prominence. Sumekar et al. (2021) attribute the competitive advantage of Indonesian salted eggs, particularly those from Brebes, to the diverse range of products and their superior quality.

The Export Product Dynamic (EPD) depicted in Figure 2 illustrates that Indonesia's salted egg market position in the export destination country is categorized as a "falling star." This classification suggests that while the market share of Indonesian salted eggs is on the rise, products lack dynamism in the international market. The "falling star" status of salted eggs parallels the position of other Indonesian agricultural commodities in the global market, such as nutmeg in the Japanese and German markets (Purba et al. 2021), coffee beans in the Japanese and

Belgian markets (Hotman and Malau 2022), and shrimp in the Japanese market (Wati and Aini 2022). Notably, the "falling star" position is preferable to the "retreat" and "lost opportunity" positions (Mardiah and Widyastutik 2020).

Indonesian salted eggs exhibited a limited comparative advantage, as evidenced by the Average Revealed Comparative Advantage (RCA) value of 0.006 from 2012 to 2023 (Table 1). The highest RCA value was recorded in 2021, at 0.035, whereas the lowest RCA values, each at 0.000, were observed in 2013, 2016, 2017, 2022, and 2023. The marked decline in RCA values during these years suggests minimal or no export of salted eggs by Indonesia. This observation aligns with the findings of Abdullah and Rosjadi (2021), who reported a weak comparative advantage for Indonesian animal products in the international market. Sharma et al. (2023) noted that the competitiveness of Indonesian meat is low, with an RCA value of 0.490. Previously, Sutawi et al. (2019) reported a weak comparative advantage for Indonesian beef in the ASEAN market, with an RCA value of 0.000.

### Japanese customer insights into salted eggs

Customer insights are instrumental in guiding businesses towards informed decision-making, the development of offerings, and effective engagement with target audiences. In the realm of the agribusiness sector, a thorough analysis of customer motivations, preferences, and challenges is the cornerstone of strategic decisions that align with market demand. These insights function as safeguards that minimize the risks associated with investments in product development or market expansion. Customer insights also contribute to revenue growth by directing resources into areas of significant customer interest, thereby allowing businesses to surpass competitors in term of revenue and profit (Chi et al. 2024). In addition, customer insights are pivotal for bridging the gap between customer expectations and business offerings. While businesses strive to meet or exceed customer expectations, there is often a disparity between customer desires and delivered services. Customer insights are essential to address this gap by ensuring that the customer's voice is recognized and acted upon. Kumar et al. (2023) emphasized that enhancing the customer experience can strengthen sustainable competitiveness.

**Table 1.** RCA and TSI values of salted eggs

| Year    | RCA   | TSI   |
|---------|-------|-------|
| 2012    | 0.013 | -1    |
| 2013    | 0.000 | -1    |
| 2014    | 0.001 | -1    |
| 2015    | 0.006 | -0.94 |
| 2016    | 0.000 | -1    |
| 2017    | 0.000 | 1     |
| 2018    | 0.003 | 0.90  |
| 2019    | 0.005 | 1     |
| 2020    | 0.002 | 0.96  |
| 2021    | 0.035 | 1     |
| 2022    | 0.000 | 1     |
| 2023    | 0.000 | 1     |
| Average | 0.006 | 0.192 |



Figure 2. EPD of salted egg

The empathy map depicted in Figure 3 provides insights into Japanese consumers' perceptions of salted eggs. Salted eggs are typically associated with duck eggs, even though salted chicken eggs are commercially available. According to Suretno et al. (2021), salted duck eggs are larger than their chicken counterparts and possess wider pores, which facilitate the penetration of salt throughout the egg. In Japan, consumers recognize that salted eggs are derived from ducks and chicken eggs. Japanese consumers commonly purchase salted eggs in Gyomuo supermarkets, Asian minimarkets, and Indonesian stores, such as Sariraya. Salted duck eggs in the Japanese market are characterized by a paler shell color and vibrant yolks and are priced at 430 yen per pack of six eggs in Indonesian stores, whereas other stores offer them at 500 yen in plastic box packaging.

*"I saw salted chicken and duck eggs sold in supermarkets, with predominantly salted duck eggs. This salted egg had a paler shell and a bright yolk. The packaging used plastic boxes or carton boxes containing six salted eggs with a price of 500 yen per box."* (Interview with C2, C3, C6, C9, C14, C17, C23, C29, C31, C35, and C39)

Indonesian workers or students in Japan have known about salted chicken eggs, besides salted duck eggs. They perceived it from an Indonesian migrant community residing in Japan through face-to-face interactions and digital platforms. Urbinati et al. (2020) stated that virtual communities function as conduits for information exchange among members. Sharabati et al. (2022) observed that consumers exhibit the capacity for swift and efficient engagement with information shared through WhatsApp, Instagram, and Facebook groups.

*"I heard from offline and online communities that salted chicken eggs are available for purchase in minimarkets, alongside the more commonly known salted duck eggs."*

(Interview with C1, C5, C7, C8, C13, C15, C22, C28, C30, C34, and C38)

Indonesian consumers residing in Japan have long believed that salted eggs available in the market originate from Indonesia. However, they recently discovered that these eggs originated predominantly in China and Taiwan. According to Tang et al. (2021), salted duck eggs have been a traditional food product in China and Southeast Asia for extended periods. Consumers also think and feel that both salted chicken and duck eggs possess a similar taste profile, making them practical and convenient for consumption.

*"I think the salted eggs in the minimarket were from Indonesia, but this turned out to be based on labels from China and Taiwan. In my opinion, salted chicken and duck eggs have the same taste."* (Interview with C10, C11, C16, C18, C19, C21, C24, and C25)

Japanese consumers state that salted eggs are more expensive than fresh eggs. However, they are considered less risky because they remain edible and retain their quality even if they are damaged. Purchases of salted eggs are typically infrequent and are often intended for use as provisions at workplaces or educational institutions, with the intention of consuming them the following day. This behavior is corroborated by the findings of Nwadi and Okonkwo (2021), who identified eggs as a staple addition to daily dietary practices.

*"Salted eggs are more expensive than fresh eggs; however, they are not too risky if they break. I usually buy them on weekends, along with shopping for other products that are used on weekdays as complementary food supplies at work or college."* (Interview with C4, C12, C16, C20, C27, C30, C37, and C40)

Salted eggs serve as an alternative to traditional egg consumption and offer a substitute for fresh eggs with processed options. Salted eggs are particularly valued for

their high nutritional content, which is attributed to an optimal composition of essential amino acids and a substantial fatty acid profile that includes a high percentage of polyunsaturated fatty acids and a favorable omega-6 to omega-3 ratio (Al-Obaidi and Al-Shadeedi 2016). In addition, salted eggs are classified as ready-to-eat products because of their immediate consumability; Mopera et al. (2021) categorized salted egg as a food product that is easy to consume.

"Salted eggs are ready to be consumed as an alternative to egg consumption when working or studying." (Interview with C25, C26, C32, C33, C36, and C38)

Consumers encounter difficulties in procuring salted eggs because of their restricted availability, as these products are predominantly found in Asian supermarkets or outlets specializing in imported goods, which are often located at considerable distances from consumers' residences. In addition, the supply of salted eggs is inconsistent, prompting consumers to purchase them weekly for occasional use and as reserves. Liu et al. (2020) demonstrated that the proximity between a consumer's home and the store offering the product significantly influences purchasing decisions. To address the challenge of limited access to salted eggs, retail stores and supermarkets should establish online platforms. Le et al. (2022) emphasized that online services can diminish the

need for consumers to travel for shopping, thereby offering a viable solution to the issue of product availability.

"Salted eggs are typically available only in Asian markets and specialty stores that offer imported goods and are located at a considerable distance from my residence. Consequently, these items are often purchased in bulk during weekend shopping trips, although they may occasionally be out of stock." (Interview with C1, C4, C12, C16, C18, C20, C26, C27, C30, C31, C39, and C40))

**Designing a competitive salted eggs MSME business model in the Japanese market**

A business model delineates the product or service that a business intends to offer, the specified target market, and the projected costs. Business models are crucial to nascent and established enterprises. Established businesses must revise their business models periodically to anticipate future trends and challenges. Ritter and Pederson (2020) illustrate the transformation of contemporary and prospective business models through the digitization of business models. The design or redesign of the business model for egg export MSMEs in the international market incorporates nine elements of the business model canvas, as shown in Figure 4.

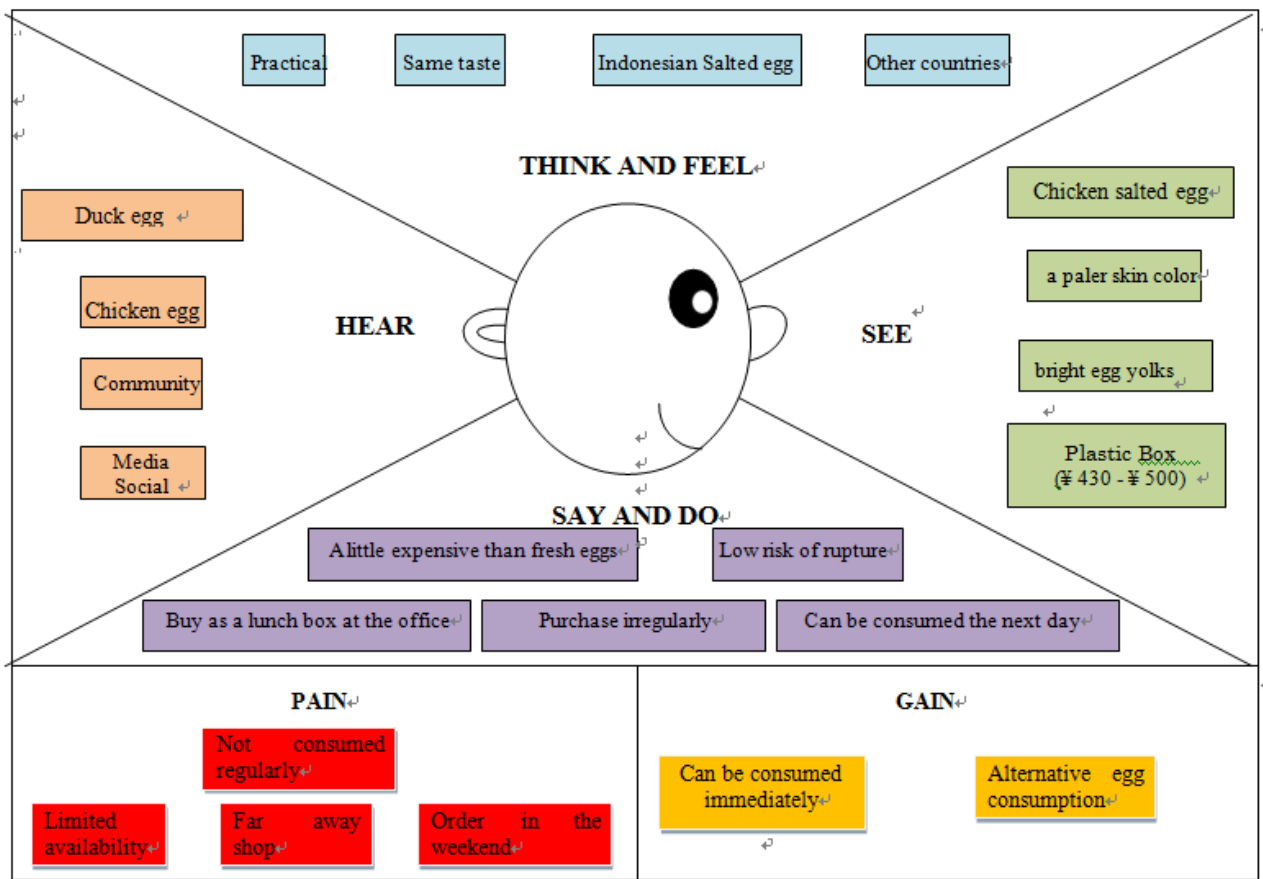
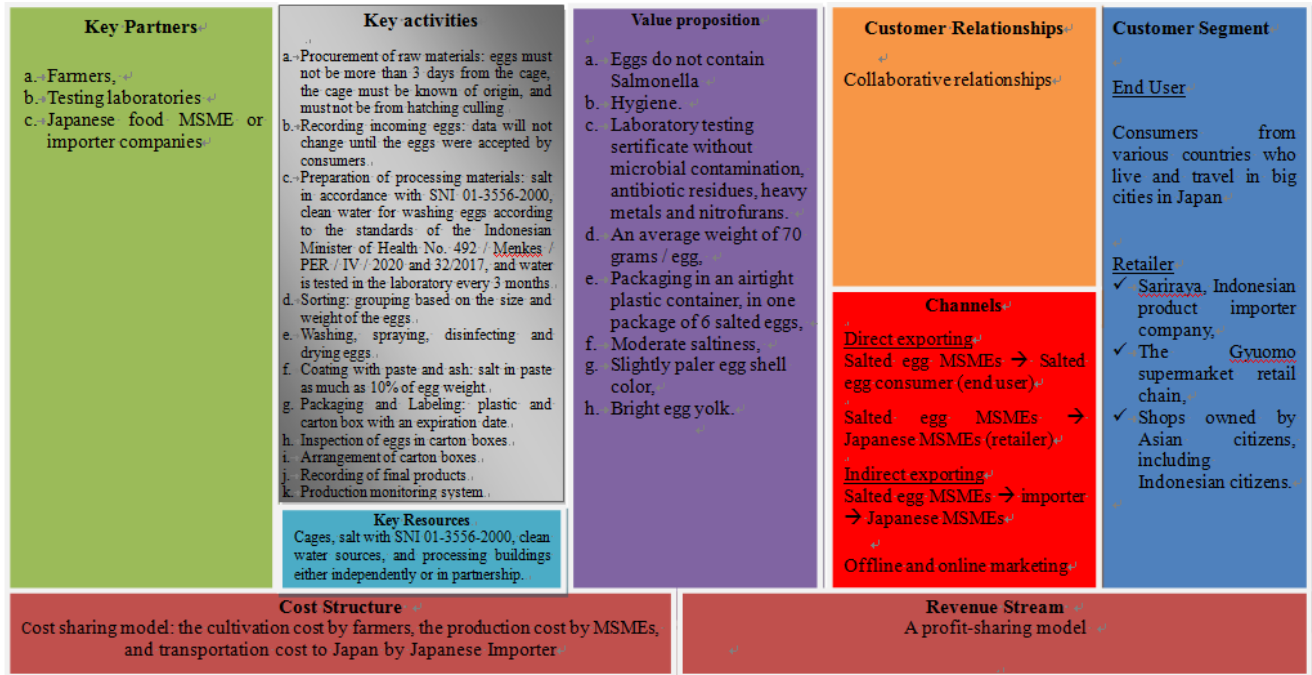


Figure 3. Empathy maps of salted egg customers



**Figure 4.** A competitive MSME business model of salted eggs in the Japanese market

Market segmentation is a critical strategy for business entities, particularly MSMEs, to penetrate or expand their presence in international markets. According to Xu et al. (2019), the initial step for businesses to enter the global market involves the development of a comprehensive segmentation strategy. In Japan, the primary consumers of salted eggs are individuals from diverse international backgrounds residing in or visiting major urban centers such as Tokyo and Osaka. In contrast, the local Japanese population generally prefers *onsen tamago*, a traditional dish containing half-boiled eggs. Retail market segments include the Indonesian product importer Sariraya, the Gyuomo supermarket chain, and stores operated by Asian communities, including the Indonesian society.

For MSMEs that export salted eggs, it is essential to address both regulatory compliance and consumer preferences. These compliances drive the quality performance of MSME products. Revindo et al. (2020) reported that Indonesian exporting MSMEs contributed to the high performance of product quality. Moreover, understanding consumer preferences is vital for producers to craft effective marketing strategies that resonate with consumers and evaluate whether product attributes meet consumer expectations (Shafira et al. 2021). The Japanese market requires MSMEs to provide eggs that do not contain Salmonella, adhere to stringent hygiene and sanitation protocols, and undergo laboratory testing to ensure eggs are free of microbes, antibiotic residues, and heavy metals. Matsumoto (2022) reported that over 700 food products are recalled in Japan each year, mostly due to contamination by microorganisms in violation of the Food Sanitation Act. Other causes include failure to list expiration or best-before dates, and incorrect or unlisted allergens in violation of the Japanese Food Labeling Act.

Therefore, MSMEs offer a value proposition with an average egg weight of 70 g, packaging each egg in an airtight plastic container with six eggs per package, moderate saltiness, a slightly paler eggshell, and a vibrant egg yolk.

Key activities within a process are essential for the creation and delivery of a value proposition. Process innovation is a driving force for both gradual and transformative product innovation (Lee et al. 2019). Several key activities in the process of creating value for salted egg products are as follows:

- a. Procurement of raw materials: Eggs must not be more than 3 days from the cage, the cage must be known of origin, and must not be from hatching culling.
- b. Recording of incoming eggs: the data remained consistent until the consumers accepted eggs.
- c. Preparation of processing materials: salt must meet the Indonesian National Standards (SNI) 01-3556-2000, and clean water for washing eggs must comply with the standards set by Indonesian Minister of Health No. 492/Menkes/PER/IV/2020 and 32/2017, with water quality tested in the laboratory every three months.
- d. Eggs were sorted based on their size and weight.
- e. Washing, spraying, disinfecting, and drying eggs.
- f. Coating with paste and ash: salt in the paste should account for 10% of egg weight.
- g. Packaging and labeling: plastic and carton box with an expiration date
- h. Inspection of eggs in carton boxes.
- i. Arrangement of carton boxes.
- j. Recording of final products.
- k. Production monitoring system: This encompasses ensuring water safety, maintaining environmental cleanliness, preventing contamination, maintaining

sanitation facilities, preventing pollution, labeling toxic materials, ensuring employee health, and controlling pests.

The execution of these essential activities necessitates the support of key resources, including human resources, intellectual assets (e.g., brands, copyrights, patents, and customer databases), physical resources (e.g., buildings, vehicles, and equipment), financial resources, and information systems. Intellectual resources are particularly crucial for the success of MSMEs; however, they often receive insufficient attention (Ying et al. 2019). For MSMEs involved in the export of salted eggs, key resources include facilities such as cages, salt that complies with SNI 01-3556-2000, clean water sources, and processing buildings, whether operated independently or in collaboration.

Partnerships are integral to a business's success. According to Delfitriani (2019), key partners are pivotal actors in every product supply chain, ensuring that products reach consumers. Salted egg-exporting MSMEs must establish partnerships with stakeholders, including farmers, testing laboratories, Japanese food MSMEs, and international importers. Farmers provide the primary raw material (eggs). Testing laboratories assess the quality of salted egg products, whereas international MSME partners serve as distributors in the target markets.

Channels can use two ways, direct and indirect exporting through importers. Kiessling et al. (2024) found that MSMEs with direct export channels tend to internationalize more quickly than MSMEs with indirect export channels. The effectiveness of the channel is influenced by the relationship dynamics among partners or actors throughout the supply chain, from upstream to downstream, culminating in the end consumer. In addition, the effectiveness of these channels in delivering optimal services and products is contingent on the efficient utilization of resources. Companies that leverage digital technology have a greater potential to enhance digital exports (Elia et al. 2021). Digital marketing strategies can use diaspora networks for direct export. Digital marketing strategies leverage diaspora as promotional agencies, influencers, or business partners to increase the visibility of products or services in international markets and build online communities. According to Steel (2021), MSMEs can establish international business partnerships through online advertising in diasporic online groups. Diaspora Facebook groups have formed transnational online communities connected to the homeland (Mpofu et al. 2022). Salted-egg exporting MSMEs may adopt a strategy from Lashgari et al. (2018). They have introduced adoption strategies of social media in B2B, including selection, adoption, and integration processes. In the selection process, MSMEs identify the target group to determine the social media platforms and the content that will be shared on these platforms. In the media adoption process, MSMEs determine moderators to facilitate interaction with target groups, public accessibility of information, and use of online communities. Finally, in the integration phase, SMEs integrate online channels into other offline promotional channels, such as exhibitions or trade shows.

Effective partnership relationships within the supply chain are contingent upon each participant acting as a customer who must be adequately served to ensure the satisfaction of the end consumer. Various forms of these relationships include collaboration, cooperation, and coordination. According to Castañer and Oliveira (2020), collaboration involves voluntarily assisting partners in achieving their shared objectives. Coordination pertains to the establishment of common goals (IOR), whereas cooperation involves the execution of these goals. The salted egg MSME fosters collaborative relationships to achieve its mutual objectives.

Furthermore, the cost structure employed is based on a cost-sharing model, wherein cultivation costs are borne by farmers, production costs by MSMEs, and transportation costs to Japan by the Japanese importer. Xiao et al. (2020) demonstrated that cost sharing is advantageous for enhancing sustainable investment and can lead to increased profits. Chakraborty et al. (2019) stated that sharing contract costs results in higher levels of quality improvement and increased profits within the supply chain.

Finally, the revenue flow pattern adopts a value chain with a profit-sharing approach. As noted by Hidayat and Purbayati (2023), profit-sharing involves calculating the profit distribution based on the net result of total income after deducting the costs or expenses incurred to generate that income. Profit-sharing aligns with the costs incurred. Business actors incur the highest cost and receive the highest profit compared to other parties.

This business model study has managerial implications for salted egg exporting MSMEs. The business model will transform rapidly if it receives policy support from the government. According to Wasserbaur et al. (2022), policymakers play a role in supporting business models to be more competitive. This study provides policy recommendations, including the government holding MSMEs training for hygiene and halal certification, facilitating business partnerships between Indonesian and Japanese MSMEs to strengthen collaborative relationships between them, and providing incentives for exporting MSMEs.

In conclusion, the market segment MSMEs can target to export salted eggs to Japan includes international consumers residing in or visiting Japan. The value proposition for these MSMEs should focus on several key aspects: (i) egg-free Salmonella, (ii) hygiene, (iii) free from microbial contamination, antibiotic residues, and heavy metals, (iv) an average egg weight of 70 g, (v) packaging each egg in an airtight plastic container, with six salted eggs per package, (vi) offering a moderately salty taste, (vii) presenting a slightly paler eggshell color, and (viii) ensuring a bright egg yolk. The process of creating value for salted egg products involves 11 key activities, ranging from procurement of raw materials to monitoring. The essential resources for MSMEs to export salted eggs include cages, salt with SNI 01-3556-2000, clean water sources, and processing facilities, which may be operated independently or through partnerships. Salted egg export MSMEs must establish partnerships among actors. The channels for salted egg products are direct and indirect

exporting. Direct export challenges require designing business model partnerships between Indonesian and Japanese food MSMEs. Therefore, collaborative relationships among actors are crucial. The cost structure is based on a cost-sharing model, whereas the income flow pattern follows a value chain with a profit-sharing model. This business model design serves as a prototype for egg MSMEs, aiming to export internationally, with a particular focus on the Japanese market. Consequently, this prototype requires validation through Participatory Action Research (PAR). Future studies may develop comparative studies with non-exporting MSMEs or exporting MSMEs in other international markets.

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