Research Article

# Preferences for Japanese Baby Powdered Milk in Vietnam

# Linh Dieu Dinh<sup>1\*</sup>, Brice Tseen Fu Lee<sup>1</sup>

- <sup>1</sup> Department of International Development, London School of Economics and Political Science. London, United Kingdom.
- <sup>2</sup> School of International Relations and Public Affairs, Fudan University. Shanghai, China.

Article History Received: 30.04.2024

**Revised:** 29.05.2024

**Accepted:** 21.06.2024

\*Corresponding Author: Linh Dieu Dinh Email: l.d.dinh@lse.ac.uk

This is an open access article, licensed under: CC-BY-SA



**Abstract:** In recent years, the Vietnamese market has seen a significant influx of Japanese baby powdered milk. Understanding the position of Japanese baby powdered milk compared to domestic and other imported brands is crucial. This study explores key product attributes perceived by Vietnamese consumers and examines how the Japanese brand origin influences purchase intentions. While consumer behavior studies are common, research focusing on Japanese baby powdered milk in Vietnam is limited. This research reviews past findings and formulates hypotheses on factors leading to the purchase of Japanese powdered milk. Key attributes like brand origin, nutrition labels, safety certificates, and price are analyzed in scenarios reflecting real-life choices by Vietnamese parents. Data from 109 social media responses were analyzed using Choice Experiment and Structural Equation Modeling to reveal relationships between Japanese brand origin and purchase intention. The results show a preference for Japanese powdered milk over domestic and other imported brands, highlighting the critical role of nutrition labels and safety certificates. This study suggests Japanese companies should leverage their brand origin in marketing strategies in Vietnam.

**Keywords:** Brand Origin, Consumer Behavior, Nutrition Labels, Product Attributes, Purchase Intention.



### 1. Introduction

Japanese baby powdered milk has a rather short history in the Vietnamese market. Comparing to powdered milk brands originated from the West such as Abbott, Mead Johnson, Dutch Lady, and Nestle, which had developed an enormous consumer base and dominated the Vietnamese powdered milk market since the 1990s [1], Japanese powdered milk only made their official debut in Vietnam less than 15 years ago. Starting with Wakodo, which is owned by Asahi Group Foods, in 2007, the brand appointed Hoang Duong Pharma, a Vietnamese distribution company based in Hanoi as their exclusive distributor. Very recently in September 2019, Hoang Duong Pharma was also entrusted by Megmilk Snow Brand to bring their products to the Vietnamese consumers. Following Hoang Duong Pharma, Le May became the exclusive import and distributor for Morinaga in 2010.

Despite the short history, without doubt, Japanese powdered milk is gaining noticeable popularity in Vietnam. According to data from General Department of Vietnam Customs, for the first four months of 2019, import value for Japanese milk and dairy products increased by 59.26% compared to the same period in 2018 [2]. The logic behind the appreciation of Japanese baby powdered milk varies from the cultural influences of Japanese lifestyle, prestigious products, excellent quality, pleasant milk flavour for infants, fast solubility, balanced nutrients for baby growth, absorption support function, easy-to-use [3] [4]. Given the ease of access and the positive attitude, Japanese baby powdered milk is becoming an ideal choice for Vietnamese parents.

There is no denying that Vietnam is a very promising market for Japanese baby powdered milk. Firstly, on statistic and economic grounds, powdered milk makes up 45% of the total dairy market [5], and, together with liquid milk, is the most sold dairy products in Vietnam [6]. The powdered milk market has been on a steady rise since 2010. In particular, the annual growth rate of the sales of powdered milk was calculated to be 19.4% in the 2010-2018 period [7]. Thanks to the Vietnamese largely young population and a growing sector of middle-class urbanities, the demand for milk in general and powdered milk in specific is increasing remarkably [8]. However, the powdered milk market is still heavily reliant on import since it is estimated that in 2009, domestic milk production could only cater for 20 – 30% of total milk consumption [5]. These statistics indicate that powdered milk is regarded as a prosperous and auspicious sector, and there are still rooms for powdered milk imported from Japan in Vietnam.

Secondly, according to CPTPP, short for Comprehensive and Progressive Agreement for Trans-Pacific Partnership which officially came into effect in Vietnam in January 2019, powdered milk imported from Japan would enjoy a reduced tariff. The reduction is dependent on the types of products and on their international trade market codes. The tariff of some products can even descend to zero within a seven-year span. It seems that CPTPP has successfully facilitated trading between Vietnam and Japan since as prementioned, after CPTPP entered into force, the imported value ascended strikingly [2]. This, by all means, brings tremendous opportunities. As for the producers' side, more Japanese powdered milk companies have incentives to introduce their products in Vietnam, hence expanding their market reach. Regarding the consumers' side, Japanese powdered milk is expected to be cheaper in the Vietnamese market, hence curtailing the price barrier for interested parents.

Lastly, Vietnamese consumers' attitude towards Japanese products, in general, has been largely positive. The first thing that springs to Vietnamese consumers' minds when being asked about Japan is definitely the "unmatched" quality. It can even be said that Japan has succeeded in implanting the immutable impression of "every Japanese product is good" in Vietnam [9]. According to a survey conducted by Q&Me, one of the leading market research companies in Vietnam, in 2017, Japanese companies were often associated with "good quality" [10]. Additionally, 85% out of 500 respondents asked linked Japanese products with high quality [10]. Apparently, thanks to the positive perceived images, Japanese products are endorsed with immense popularity in Vietnam. Takimoto Koji, the head of Japan External Trade Organization (JETRO) in Ho Chi Minh City, Vietnam, sensed the strong desire of Vietnamese consumers for Japanese products [11]. It is no exaggeration to claim that Japanese products are a favourite of Vietnamese people considering big urban areas featuring various Japanese big retailers and restaurants such as AEON, Ministop, Family Mart, 711, Tokyo Deli, Gyu Kaku, Takashiyama, to name but a few. However, Q&Me report added that Japanese products were considered expensive by more than the average, 64% in particular, this is obviously a common opinion as the price of Japanese products cost 20 - 30% higher than domestic products do [12]. Nevertheless, it would not be much of a worry since the increasing incomes of the young population, which accounts for 60% of its population, are projected to boost spending. Especially for powdered

milk, Vietnamese consumers have always been willing to pay a premium price to ensure excellent nutrition quality [6]. In a nutshell, the praise for the high quality of Japanese products suggests the likelihood that Japanese powdered milk is eminently welcomed. Despite the high price, Vietnamese, to a high degree, are willing to and capable of affording Japanese powdered milk. This study aims to investigate important product attributes considered by Vietnamese parents, one of which is Japanese brand origin. Moreover, the research tests the possibility that Japanese brand origin influences baby powdered milk purchase intention, and how the potential connections are set up.

#### 2. Literature Review

#### 2.1. Product Attributes

Product attributes play key roles in consumers' purchase decision. Product attributes are characteristics of products, which can be divided into extrinsic and intrinsic attributes. Intrinsic attributes are related to physical aspects of a product, for example, colour, flavour, form, or appearance. Meanwhile, extrinsic attributes are not related to the physical properties of a product, and some telling examples are country of origin, brand name, stamps of quality, price, store, and others. The decision of buying powdered milk is also heavily persuaded by product attributes. Previous studies about milk consumption behaviour revealed that essential product attributes were price, accessibility, allergen-free [13], health claims such as nutrient content and claimed functions [14], packaging and brand images [15]. In Vietnam in particular, brand, country of origin, nutrition, and the safety of the products were the determinant factors for Vietnamese parents [16].

#### 2.2. Brand Origin

Brand origin is defined as the home country of the brand, where the headquarter of the brand usually resides in. In essence, there are fundamental differences between brand origin and product origin. Product origin is where the product is actually made [17]. The focus of this study is brand origin and it is of critical importance not to be confuse with product origin.

- Hypothesis 1 (H1): Japanese Brand Origin has a positive impact on Information Search Intention.
- Hypothesis 2 (H2): Japanese Band Origin has a positive impact on Brand Attitude.
- Hypothesis 3 (H3): Japanese Brand Origin has a positive impact on Perceived Product Quality.

#### 2.3. Purchase Intention

Purchase intention can be understood as the motivation of consumer to attempt to buy a particular product. The purchase intention is "a situation in which consumer is propelled to purchase a product according to certain conditions" [18]. Defined purchase intention as the consumers' willingness to buy the brand, increase, and continue its usage [19]. The ideology of purchase intention can be applied in a wide range of product categories and regions.

### 2.4. Information Search Intention

Information Search Intention is comprehended as the intention to gather information about a particular brand or product, especially before consumption. Five stages of consumers' purchase decision process are widely referred to in marketing [20]. To put another way, information search can affect consumers' purchase intention and it is marketers' duty to stimulate the buyers' willingness to look up information in order to enhance purchase intention [21]. In the 21st century, research has especially focused on online information search intention as a mediator for (online) purchase intention. The employed intercepted survey to gather data and factor analysis to examine Indian consumers' online shopping motivation, information search, and shopping intention [22]. The conclusion was that online information search was a significant predictor for online shopping intention in India.

• Hypothesis 4 (H4): Information Search Intention has a positive impact on Purchase Intention

### 2.5. Brand Attitude

Brand attitude is defined as the overall evaluation of a brand and reflects consumers' response toward that brand [23]. Studies have suggested that brand attitude contributes to consumers purchase decision [23]. A positive attitude toward a particular brand will allow consumers to make a purchase from that brand, otherwise, a negative attitude will exert an adverse effect [24]. Sigit conducted a survey in Yogyakarta City from January to May 2017 regarding Soap Mandi Citra, a bath soap brand in Indonesia (2018). Using Confirmatory Factor Analysis, Sigit discovered that brand attitude had both a

direct effect and an indirect effect, which was mediated by brand awareness, on buying interest. Therefore, the hypothesis can be proposed as follow:

• Hypothesis 5 (H5): Brand Attitude has a positive impact on Purchase Intention.

## 2.6. Perceived Product Quality

The defines perceived product quality as the overall quality anticipated by consumers, which determines whether they prefer a product or service to its alternatives [25]. The evaluation can be based on intrinsic and extrinsic cues. Since the judgement about the overall excellence or superiority of a product differs from one person to another, the qualitative evaluation of a product also diversifies. The influence of perceived product quality on purchase intention has been widely tested among a variety of product/service sectors. Their finding also emphasizes the importance of qualities on decision to purchase regardless of domestic or foreign origins.

Hypothesis 6 (H6): Perceived Product Quality has a positive impact on Purchase Intention.

### 3. Methodology

The survey was divided in four parts.

- Part 1 included a choice experiment where survey respondents were asked to choose only one
  alternative that they were most likely to purchase after contemplating a list of product
  attributes.
- Part 2 investigated milk consumption including the location(s) and personal reference source(s) when it came to purchasing powdered milk, as well as whether the customers had bought/used Japanese products and their evaluation on price and satisfaction level. A five-point Likert Scale from (1) Disagree to (5) Agree was employed
- Part 3 to explore consumer attitude towards powdered milk whose brands are from Japan and their purchase intention.
- Finally, part 4 covered correspondents' socio-demographic information. There were 37 questions in total. The survey had been translated to Vietnamese before distribution. The questionnaires were distributed via social media from June 1, 2020 to June 6, 2020. Respondents must be both Vietnamese and have a child or children who are from zero to ten years old. 109 responses were gathered.

### 4. Finding and Discussion

# 4.1. Socio-Demographic Characteristics

Socio-demographic characteristics of survey respondents were presented in Table 1.

Table 1. Socio-demographic Characteristic of Respondents (n = 109)

|                   | Factors                                    | Number of correspondents | Percentages |
|-------------------|--|--------------------------|-------------|
|                   | Female                                     | 94                       | 86.2 %      |
| Gender            | Male                                       | 14                       | 12.8 %      |
|                   | Other                                      | 0                        | 0 %         |
|                   | Prefer not to disclose                     | 1                        | 0.9 %       |
|                   | Under 22                                   | 5                        | 4.6 %       |
| Age               | 22 - 25                                    | 14                       | 12.8 %      |
|                   | 26 - 30                                    | 14                       | 12.8 %      |
|                   | 31 - 35                                    | 19                       | 17.4 %      |
|                   | Above 35                                   | 57                       | 52.3 %      |
|                   | Attended high school but haven't finished  | 1                        | 0.9 %       |
| Educational level | High School Diploma                        | 0                        | 0 %         |
|                   | Attended college but have not finished     | 13                       | 11.9 %      |
|                   | Vocational/Technical degree or certificate | 1                        | 0.9 %       |
|                   | Associates Degree                          | 0                        | 0 %         |
|                   | Bachelor's Degree                          | 44                       | 40.4 %      |
|                   | Master's Degree                            | 44                       | 40.4 %      |
|                   | Doctorate Degree                           | 6                        | 5.5 %       |

|                          | Factors                                  | Number of correspondents | Percentages |
|--------------------------|--|--------------------------|-------------|
| Living area              | City/Urban area                          | 105                      | 96.3 %      |
|                          | Suburban area                            | 3                        | 2.8 %       |
|                          | Rural areas                              | 1                        | 0.9 %       |
|                          | Unemployed                               | 0                        | 0 %         |
|                          | Employed – part time                     | 11                       | 10.1 %      |
| <b>Employment</b> status | Employed – full time                     | 80                       | 73.4 %      |
|                          | Homemaker                                | 4                        | 3.7 %       |
|                          | Student                                  | 10                       | 9.2 %       |
|                          | Retired                                  | 4                        | 3.7 %       |
|                          | Disable                                  | 0                        | 0 %         |
|                          | Less than 10.000.000 VND                 | 11                       | 10.1 %      |
| TT 1 11                  | $10.000.000 \sim 20.000.000 \text{ VND}$ | 42                       | 38.5 %      |
| Household                | $20.000.000 \sim 40.000.000 \text{ VND}$ | 39                       | 35.8 %      |
| income                   | $40.000.000 \sim 80.000.000 \text{ VND}$ | 10                       | 9.2 %       |
|                          | More than 80.000.000 VND                 | 7                        | 6.4 %       |

## 4.2. Powdered Milk Consumption: Descriptive Statistics

Respondents were asked to report the location(s) they usually referred to when purchasing powdered milk for their child/children. From Figure 1 locations to purchase baby powdered milk.

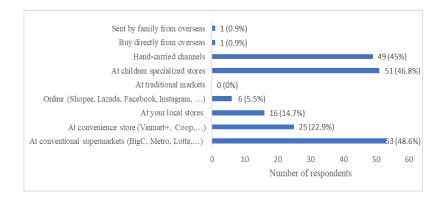


Figure 1. Locations to Purchase Baby Powdered Milk

Where or whom consumers referred to for information regarding baby powdered milk was also a study interest. As detailed in Figure 2 reference sources for information regarding baby powdered milk.

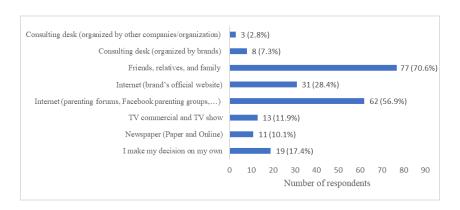


Figure 2. Reference Sources for Information Regarding Baby Powdered Milk

## 4.3. Choice Experiment

#### • Theoretical Framework

A choice experiment describes decision makers' choice among alternatives. It is also known as discrete choice experiments, stated (discrete) choice methods, attribute-based stated preferences methods, or choice-based conjoint analyses. Choice experiments adopt the ideas of random utility theory that a decision maker will choose the alternative that maximizes his/her utility. The utility that decision maker i observes from alternative j is  $U_{ij}$ , j = 1, 2, ..., J. Since utility cannot be observed by the researchers, it is indirectly derived from a deterministic component  $V_{ij}$  and a random error term  $\varepsilon_{ij}$ .

$$U_{ij} = V_{ij} + \varepsilon_{ij} \tag{1}$$

 $V_{ij}$  is assessed by a function of observable attributes

$$V_{ij} = \beta_i Z_j \tag{2}$$

where  $\beta_i$  is a preference parameter vector and  $Z_j$  is an attribute vector of alternative j. Choice experiments are especially useful in to elicit preference in hypothetical situations.

#### • Experiment Design

Respondents were asked to choose one and only one alternative from a set of three alternatives. Each alternative encompassed a combination of four product attributes: brand origin, price, nutrition standard label, and safety certificate. Table 2 lists the attributes and levels of each attribute considered in this study. The questions for this choice experiment were generated using R combined with support. CEs package while following the instruction [26] [27] [28]. Independent variables that were incorporated in the study were shown in Table 3.

Table 2. Attributes and Levels Considered in The Choice Experiment

| Attribute                   | Description  | Level                            |
|-----------------------------|--|----------------------------------|
| Brand origin                | The country of the brand of the product and where the headquarter of the brand resides in, not where the product is manufactured in.  For example: A Uniqlo T-shirt can be made in Vietnam, however, Uniqlo is a Japanese brand, hence the brand origin is Japan.  | Japan<br>Vietnam<br>USA<br>Korea |
| Price                       | Price per 100 g (VND)  | 34000<br>48000<br>62000<br>77000 |
| Nutrition<br>standard label | The standards for nutrients that a product follows and can be mentioned in product information. Some key nutrient requirements stated by FAO and WHO are Protein (minimum 1.8g/100 kcal), Vitamin D (minimum 1µg/100 kcal), Calcium (minimum 50mg/100 kcal).   | Labelled<br>Unlabelled           |
| Safety<br>certificate       | Safety certificate: The certificates granted by a third party to guarantee the safety of the product and can be mentioned product information. Some criteria stated by FAO are that the melamine content must be lower than lmg/kg powdered milk, the milking and processing process must be placed in a disinfected environment | Certificated<br>Uncertificated   |

Table 3. Description of Variables in Choice Experiment

| Variable     | Description  |
|--------------|--|
| ASC          | Alternative specific constant                                      |
| Vietnam      | If the brand origin is Vietnam, 1; otherwise, 0                    |
| USA          | If the brand origin is USA, 1; otherwise, 0                        |
| Korea        | If the brand origin is Korea, 1; otherwise, 0                      |
| Labelled     | If the product is labelled with a nutrition standard, 1;           |
|              | otherwise, 0   |
| Certificated | If the product is granted with a safety certificate, 1; otherwise, |
|              | 0  |
| Price        | Price per 100g   |

Next, the effect of respondents' individual characteristics on their evaluation of each product attribute variable was also explored. This part of the study is technically called cross term analysis. All six pre-mentioned attributes of survey respondents (gender, age, income, employment status, educational level, and living area) were under study. Table 4 variable description for respondents' characteristics.

Table 4. Variable Description for Respondents' Characteristics

| Variable            | Value | Description  |
|---------------------|-------|--|
| Gender_H            | 1     | Female   |
|                     | 0     | Male   |
|                     |       | Prefer not to disclose                               |
| Age_H               | 1     | Under 22   |
|                     |       | 22 - 25  |
|                     |       | 26 - 30  |
|                     |       | 31 - 35  |
|                     | 0     | Above 35   |
| Education_H         | 1     | Master's Degree                                      |
|                     |       | Doctorate Degree                                     |
|                     | 0     | Attended high school but have not finished           |
|                     |       | Attended college but have not finished               |
|                     |       | Vocational/Technical degree or certificate           |
|                     |       | Bachelor's Degree                                    |
| Employment_status_H | 1     | Employed – full time                                 |
|                     | 0     | Employed – part time                                 |
|                     |       | Homemaker  |
|                     |       | Student  |
|                     |       | Retired  |
| Living_area_H       | 1     | City/Urban area                                      |
|                     | 0     | Suburban area  |
|                     |       | Rural areas  |
| Income_H            | 1     | $20.000.000 \sim 40.000.000 \text{ VND}$             |
|                     |       | $40.000.000 \sim 80.000.000 \text{ VND}$             |
|                     |       | More than 80.000.000 VND                             |
|                     | 0     | Less than 10.000.000 VND                             |
|                     |       | $10.000.000 \sim 20.000.000 \text{ VND}$             |
| _                   |       | More than 80.000.000 VND<br>Less than 10.000.000 VND |

Note: Factors from Table 1 that had no correspondents were dismissed.

# 4.4. Structural Equation Modelling

## • Theoretical Framework

Structural equation modelling is a modelling framework that integrates a number of different multivariate techniques to examine structural relationships. It includes a combination of measurement

theory, factor analysis, path analysis, regression, and simultaneous equations. Other names of structural equation modelling are covariance structure analysis, analysis of moment structures, analysis of linear structural relationships (LISREL), and causal modelling. Figure 3 visualizes an example of structural equation modelling using LISREL notation. The description of symbols which appear in Figure 3 is listed in Table 5.

Measurement model is described as:

$$_{i}=A_{\nu}\eta_{i}+arepsilon_{i}$$
 (3)

$$\mathbf{x}_i = \Lambda_x \xi_i + \delta_i \tag{4}$$

while structural model is

$$\eta_i = B\eta_i + \Gamma \zeta_i + \zeta_i \tag{5}$$

(i = 1, 2..., n). Structural model implies that endogenous variables are a function of the endogenous effect on themselves, together with the effects of exogenous variables on the endogenous variables and the unique factors (error terms).

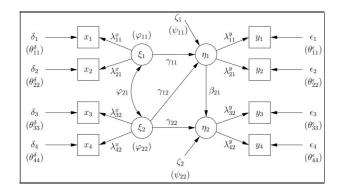


Figure 3. An Example of Structural Equation Modelling Using LISREL Notation

Table 5. Description of Symbols in Figure 3

| Symbol   | Explanation   |  |  |
|--|---|--|--|
| x  | Observed exogenous variables  |  |  |
| ξ  | Latent exogenous variables  |  |  |
| ÿ  | Observed endogenous variables   |  |  |
| η  | Latent endogenous variables   |  |  |
| $\lambda$ (matrix symbol $\Lambda$ )                   | Path coefficients for the effect of a latent                                      |  |  |
|  | exogenous/endogenous variable on an observed exogenous variable                   |  |  |
| $\gamma$ (matrix symbol $\Gamma$ )                     | Path coefficients for the effect of a latent exogenous variable                   |  |  |
|  | on a latent endogenous variable   |  |  |
| β (matrix symbol B)                                    | Path coefficients for the effect of a latent endogenous                           |  |  |
|  | variable on another endogenous variable   |  |  |
| $egin{array}{c} \zeta \ oldsymbol{\delta} \end{array}$ | Error variables associated with latent endogenous variables                       |  |  |
| δ  | Error variables associated with observed exogenous variables                      |  |  |
| 3  | Error variable associated with observed endogenous variables                      |  |  |
| φ  | Variances/Covariances of latent exogenous variables                               |  |  |
| $\dot{m{	heta}}$                                       | Variances of error variables  |  |  |
| Ψ  | Variances of error variables that are associated with latent endogenous variables |  |  |

### Hypotheses

Six hypotheses for structural equation modelling are

- 1) Hypothesis 1 (H1): Japanese Brand Origin has a positive impact on Information Search Intention.
- 2) Hypothesis 2 (H2): Japanese Band Origin has a positive impact on Brand Attitude.
- 3) Hypothesis 3 (H3): Japanese Brand Origin has a positive impact on Perceived Product Ouality.
- 4) Hypothesis 4 (H4): Information Search Intention has a positive impact on Purchase Intention.
- 5) Hypothesis 5 (H5): Brand Attitude has a positive impact on Purchase Intention.
- 6) Hypothesis 6 (H6): Perceived Product Quality has a positive impact on Purchase Intention. Hypotheses are illustrated in Figure 4.



Figure 4. Hypotheses for Structural Equation Modelling

### • Questionnaire Design

A five-point Likert scale was utilized to collect data on individual's attitudes. Respondents were asked whether they agreed, somewhat agreed, had a neutral opinion, somewhat disagreed, or agreed with 17 statements in part 3 of the survey. Responses for each statement was then translated into data for measured indicators. Two to five measure indicators were expected to connect to a latent variable which represented individual attitude toward Japanese brand origin, information search intention, brand attitude, perceived product quality, and purchase intention. Statements and interpreted codes were demonstrated in Table 6 and a graphical representation of the model that was desired to fit was plotted in Figure 3.

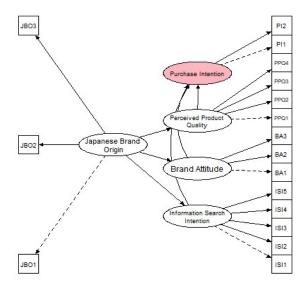


Figure 5. An Illustration of The Model Under Study

Table 6. Indicators for Structural Equation Modelling

| Code                   | Statement   |  |
|------------------------|---|--|
| Japanese Brand Origin  |   |  |
| JBO1                   | When buying the imported powdered milk, Japanese country of   |  |
|                        | origin is a very useful piece of information that I consider  |  |
| JBO2                   | I look for Japanese country of origin to choose the best imported   |  |
|                        | powdered milk   |  |
| JBO3                   | I find Japanese country of origin determine the quality of the  |  |
|                        | imported powdered milk  |  |
| Brand Attitude (BA)    |   |  |
| BA1                    | My general impression of Japanese imported powdered milk brand  |  |
|                        | is that it presents an excellent quality  |  |
| BA2                    | My general impression of Japanese imported powdered milk brand  |  |
|                        | is that it presents a prestigious product   |  |
| BA3                    | Japanese brands have a high reputation  |  |
| Perceived Product Qua  |   |  |
| PPQ1                   | Japanese imported powdered milk has high nutritional values   |  |
| PPQ2                   | Japanese imported powdered milk is safe for my child/children's   |  |
| DDO1                   | health  |  |
| PPQ3                   | Japanese imported powdered milk supports my child/children's growth   |  |
| PPQ4                   | Japanese imported powdered milk offers great value for money  |  |
| Information Search In  | tention (ISI)   |  |
| ISI1                   | Even if I have already known the product and the brand, I am still  |  |
|                        | willing to be more informed about the product and brand from  |  |
|                        | Japan   |  |
| ISI2                   | I like to read more information about the Japanese imported   |  |
|                        | powdered milk   |  |
| ISI3                   | I will watch out the advertisement and report about Japanese  |  |
| TOTA                   | imported powdered milk  |  |
| ISI4                   | I will consult with people who have purchased Japanese imported   |  |
| ISI5                   | powdered milk   |  |
| 1515                   | I will consult with shopkeepers, brand representatives for their recommendation for Japanese imported powdered milk |  |
| Purchase Intention (Pl |   |  |
| PI1                    | I will purchase/use Japanese imported powdered milk   |  |
| PI2                    | I am willing to pay a premium for Japanese imported powdered  |  |
|                        | milk  |  |

# 4.5. Consumers' Evaluation of Product Attributes: Results of Choice Experiment

The preferences for product attributes of Vietnamese parents under study were revealed in choice experiment in Table 7.

Table 7. Preferences for Product Attributes and The Cross-Term Effects with Consumers' Characteristics

|              | Coefficient | P-value    |
|--------------|-------------|------------|
| Main Effect  |             |            |
| ASC          | 1.990       | 0.992      |
| Vietnam      | -1.140      | < 0.001*** |
| USA          | -0.844      | < 0.001*** |
| Korea        | -0.840      | < 0.001*** |
| Labelled     | 1.025       | < 0.001*** |
| Certificated | 2.167       | < 0.001*** |
| Price        | -0.000      | 0.185      |

|                                   | C 00 1      |           |
|-----------------------------------|-------------|-----------|
|                                   | Coefficient | P-value   |
| Cross Term                        |             |           |
| ASC: Income_H                     | -0.732      | 0.999     |
| ASC: Gender_H                     | 0.022       | 1.000     |
| ASC: Education_H                  | 0.486       | 0.999     |
| ASC: Age_H                        | -0.943      | 0.999     |
| ASC: Employment_status_H          | -0.345      | 0.999     |
| ASC: Living_area_H                | -0.398      | 0.999     |
| Vietnam: Income_H                 | -0.334      | 0.316     |
| Vietnam: Gender_H                 | 0.353       | 0.491     |
| Vietnam: Education_H              | 0.098       | 0.789     |
| Vietnam: Age_H                    | -0.589      | 0.102     |
| Vietnam: Employment_status_H      | -0.208      | 0.610     |
| Vietnam: Living_area_H            | -1.760      | 0.042**   |
| USA: Income_H                     | 0.666       | 0.066*    |
| USA: Gender_H                     | 0.599       | 0.329     |
| USA: Education_H                  | 0.197       | 0.619     |
| USA: Age_H                        | -0.189      | 0.636     |
| USA: Employment_status_H          | -0.181      | 0.675     |
| USA: Living_area_H                | -1.686      | 0.049**   |
| Korea: Income_H                   | 0.429       | 0.159     |
| Korea: Gender H                   | 0.088       | 0.849     |
| Korea: Education_H                | -0.368      | 0.267     |
| Korea: Age_H                      | 0.488       | 0.129     |
| Korea: Employment status H        | 0.112       | 0.760     |
| Korea: Living area H              | -0.051      | 0.949     |
| Labelled: Income H                | 0.453       | 0.095*    |
| Labelled: Gender H                | 0.192       | 0.645     |
| Labelled: Education H             | -0.233      | 0.435     |
| Labelled: Age_H                   | 0.698       | 0.020**   |
| Labelled: Employment_status_H     | 0.268       | 0.419     |
| Labelled: Living area H           | 1.035       | 0.118     |
| Certificated: Income H            | 0.719       | 0.004***  |
| Certificated: Gender_H            | -0.585      | 0.158     |
| Certificated: Education H         | -0.632      | 0.020**   |
| Certificated: Age_H               | 1.336       | <0.001*** |
| Certificated: Employment_status_H | 0.555       | 0.062*    |
| Certificated: Living area H       | 1.484       | 0.011**   |

Note: Estimates of the path coefficients shown in the Table \* p-value <0.1, \*\* p-value <0.05, \*\*\* p-value <0.01

#### 5. Conclusion

The outcomes provide compelling evidence that Japanese brand origin is more preferred than Vietnamese, American, and Korean counterparts. Additionally, nutrition standard labels and safety certificates are essential, while price insignificantly contributes to purchase decision. Furthermore, Japanese brand origin is a positive signal for information search intention, brand attitude, and perceived product quality. Brand attitude and perceived product are then indicators for purchase intention while the data rule out the possibility that information search intention is engaged in purchase intention. All in all, the study affirms the positive view of Vietnamese parents toward the image of Japan, and how this notion leads to purchase preference and purchase willingness. This argues the acceptance of Japanese products in the Vietnamese market, hence the enormous potentials. The implementation of the study can be witnessed in product marketing, especially with powdered milk imported from Japan. Since factors affecting consumers' purchase behavior have been revealed, marketers should focus on "product of Japan", nutrient and safety information to attract Vietnamese consumers' attention.

#### References

[1] A. Hoa, "Ông lớn ngành sữa thách thức dư luận và cơ quan quản lý," *Báo Đầu tư*. [Online]. Available: https://baodautu.vn/ong-lon-nganh-sua-thach-thuc-du-luan-va-co-quan-quan-ly-d22712.html. [Accessed: 05-Jul-2020].

- [2] "Việt Nam tăng mạnh nhập khẩu sữa và sản phẩm từ thị trường Bỉ và Nhật Bản," AgroInfo, Jun. 11, 2019. [Online]. Available: http://agro.gov.vn/vn/tID27940\_viet-nam-tang-manh-nhap-khau-sua-va-san-pham-tu-hai-thi-truong-bi-va-nhat-ban.html. [Accessed: Sep. 01, 2024].
- [3] "Mẹ Việt có đang 'thần thánh hóa' sữa Nhật?" Dân Trí, Feb. 1, 2018. [Online]. Available: https://dantri.com.vn/doi-song/me-viet-co-dang-than-thanh-hoa-sua-nhat-20180201081411608.htm. [Accessed: Sep. 01, 2024].
- [4] T. Dũng, "Vì sao sữa Nhật lại rất được ưa chuộng tại Việt Nam?" [Online]. Available: https://www.kidsplaza.vn/blog/vi-sao-sua-nhat-lai-rat-duoc-ua-chuong-tai-viet-nam.html. [Accessed: 14-Oct-2015].
- [5] "Overview of Viet Nam's Dairy Industry," [Online]. Available: http://investvietnam.gov.vn/en/nghanh.nghd/27/dairy-industry.html. [Accessed: Sep. 01, 2024].
- [6] EVBN, Vietnam Dairy Edition 2016, 2016.
- [7] Kenneth Research, "Vietnam Dairy Market Growth, Size, Share, Global Forecasts Analysis," Market Watch, May 18, 2020. [Online]. Available: https://www.marketwatch.com/press-release/vietnam-dairy-market-growth-size-share-global-forecasts-analysis-2020-05-18. [Accessed: Sep. 01, 2024].
- [8] R. Whitehead, "Dairy Majors Investing Heavily as Vietnam Ramps up Milk Production," *Dairy Reporter*, Jan. 8, 2020. [Online]. Available: https://www.dairyreporter.com/Article/2020/01/08/Dairy-majors-investing-as-Vietnam-ramps-up-milk-production. [Accessed: Sep. 01, 2024].
- [9] "Why do Vietnamese people like Japanese goods?" Vannang Banok, May 23, 2020. [Online]. Available: https://www.vannang-banok.com/en/vi-sao-nguoi-viet-chuong-hang-nhat. [Accessed: Sep. 01, 2024].
- [10] K. Kurokawa, "How does Vietnamese value Japanese companies?" Q&Me, [Online]. Available: https://qandme.net/en/report/How-does-Vietnamese-value-Japanese-companies. html. [Accessed: Sep. 01, 2024].
- [11] "Japanese products appeal to Vietnamese people's taste," *Vietnamnet*. [Online]. Available: https://english.vietnamnet.vn/fms/business/177747/japanese-products-appeal-to-vietnamese-people-s-taste.html. [Accessed: 04-May-2017].
- [12] T. Xuan, "Japanese Goods See Enormous Potential Market in Vietnam," *Tuoi Tre News*, Dec. 12, 2018. [Online]. Available: https://tuoitrenews.vn/news/business/20181212/japanese-goods-see-enormous-potential-market-in-vietnam/48093.html. [Accessed: Sep. 01, 2024].
- [13] M. Lanfranchi, A. Zirilli, A. Passantino, A. Alibrandi, and C. Giannetto, "Assessment of Milk Consumer Preferences: Identifying the Choice Factors through the Use of a Discrete Logistic Model," *British Food Journal*, vol. 119, no. 12, pp. 2753-2764, 2017.
- [14] K. Karin, E. Tan, M. v. Sharron, and C. J. S., "Perception and Understanding of Health Claims on Milk Powder for Children: A Focus Group Study among Mothers in Indonesia, Singapore, and Thailand," *Appetite*, vol. 105, pp. 747-757, Oct. 2016.
- [15] O. Gulseven, "Estimating Factors for the Demand of Organic Milk in Turkey," *British Food Journal*, vol. 120, no. 9, pp. 2005-2016, Sep. 2018, doi: 10.1108/BFJ-12-2017-0712.
- [16] H. T. Pham, "Factors Influencing on Purchase Formula Milk for Babies: An Empirical Research in Hanoi," *International Journal of Business Administration*, vol. 6, no. 5, Aug. 2015.
- [17] Z. Johnson and S. Lee, "Brand Origin or Product Origin? The Effects of Country of Origin Fit on Brand Evaluation," *Advances in Consumer Research*, vol. 36, pp. 87-112, Jan. 2009.
- [18] V. G. Morwitz, J. H. Steckel, and A. Gupta, "When do Purchase Intentions Predict Sales?" *International Journal of Forecasting*, vol. 23, no. 3, pp. 347-364, 2007.
- [19] W. Irshad, "Service Based Brand Equity, Measure of Purchase Intention, Mediating Role of Brand Performance," 2013.
- [20] C. Fill, Marketing Communications: Contexts, Content and Strategies. London: Prentice Hall, 1999.
- [21] D. Malmarugan, "Strategic Model for Predicting Customer's Intention to Purchase Apparel Online," *Innovative Marketing*, vol. 4, no. 1, May 2008.
- [22] D. P. Singh, "Online Shopping Motivations, Information Search, and Shopping Intentions in an Emerging Economy," *Journal of Business Economics and Environmental Studies*, vol. 4, no. 3, pp. 5-12, Feb. 7, 2014.
- [23] A. Chaudhuri, "The Effects of Brand Attitudes and Brand Loyalty on Brand Performance," *European Advances in Consumer Research*, vol. 4, no. 2, pp. 276-292, 1999.

- [24] A. Kartika and A. Kusuma, "The Role of Ad Effectiveness in Mediating Ad Tarik Power to Brand Attitude on Aqua Brand Advertisement (Study on Aqua Consumers) in Denpasar City," *E-Journal of Management Unud*, vol. 5, no. 1, pp. 197-206, 2016.
- [25] D. Aaker, Managing Brand Equity: Capitalizing on the Value of a Brand Name. New York: The Free Press, 1991.
- [26] H. Aizaki, "Chapter 2 A Brief Example of Discrete Choice Experiments using the support.CEs and apollo Packages," Non-Market Valuation with R. [Online]. Available: http://lab.agr.hokudai.ac.jp/nmvr/02-dce.html. [Accessed: 29-Aug-2019].
- [27] H. Aizaki, "Basic Functions for Supporting an Implementation of Choice Experiments in R," *Journal of Statistical Software*, vol. 50, no. 3, pp. 1-24, Sep. 2012.
- [28] H. Aizaki and K. Nishimura, "http://lab.agr.hokudai.ac.jp/nmvr/02-dce.html," *Agricultural Information Research*, vol. 17, no. 2, pp. 86-94, 2008.