

Factors Influencing Urban Consumer Milk Powder Brand Preferences: A Case From Western Province of Sri Lanka

A.G.K. Wijesinghe¹, D. Y. H. Liyanage², Y.M.P.M.Wijethunga³

Abstract

Brand preference is an essential attribute to study in consumer behaviour. This study was focused on evaluating the factors contributing to milk powder brand preference among consumers in the Gampaha district. The objectives of this study were to identify the factors that influence milk powder brand preference and to identify the most preferred milk powder brand among local and imported milk powder brands in the market. A questionnaire survey was conducted through face-to-face interviews to gather primary data from a sample of 400 respondents covering five divisional secretariats in the Gampaha district of the Western Province. The data were analysed using confirmatory factor analysis in AMOS. The results of the study show that the factors that affect brand preference are brand availability, trust in brands, and subjective norms. When considering brand preference for the chosen two local brands and seven imported brands, it shows that 55.05% purchased both local and imported brands, while 38.03% purchased only the local brands. In the study population, 6.91% purchased only imported brands. These results will help milk brand manufacturers, investors, advertisers, relevant businesses, and the government implement the required product changes and quality improvements in the milk powder industry in the country.

Keywords: Brand preference, Factors, Milk powder, Urban consumer

¹ Department of Agribusiness Management, Faculty of Agriculture and Plantation Management, Wayamba University of Sri Lanka. Email: kusum_wijesinghe06yahoo.com

² Department of Agribusiness Management, Faculty of Agriculture and Plantation Management, Wayamba University of Sri Lanka.

³ Department of Agribusiness Management, Faculty of Agriculture and Plantation Management, Wayamba University of Sri Lanka.

Introduction

Milk powder is one of the most important food components among consumers in Sri Lanka. Even though fresh milk is considered the most popular and common beverage globally, the level of fresh milk consumption in Sri Lanka is considerably low. The average monthly per household consumption of fresh milk and powdered milk is 528.4g and 1182g, respectively (HIES Survey, 2019).

The average monthly household expenditures on fresh milk and powdered milk are Rs. 62.16 and Rs. 1062.48, respectively, in Sri Lanka (HIES Survey, 2019). The powdered milk industry consists of government and private sector companies regarding several imported brands and two leading local brands. In the year 2021, Sri Lanka has produced approximately 42,5369,628 litres of fresh milk, while the import of powdered milk has reached 83,024,406 kg (Ministry of Industries, 2023). Due to self-insufficiency in fresh milk production, Sri Lanka depends to a large extent on imported milk powder from countries such as Australia and New Zealand (Gunarathne et al., 2015; Krishnapillai et al., 2020). Due to that, the annual importation of milk powder in Sri Lanka amounts to a hundred thousand metric tons in order to meet the consumption requirements of the country (Anon, 2020). The financial burden of these imports on the country's economy is significant, with expenditures reaching Rs. 55.6 billion, indicating a substantial economic challenge for Sri Lanka (Hitihamu, 2021). Although there have been efforts by successive governments in Sri Lanka to enhance the availability of liquid milk and encourage its consumption, the preference for powdered milk remains predominant among the populace (Wijesinghe et al., 2020). Therefore, it is clear that milk powder is an essential food item among Sri Lankan consumers. In this light, understanding consumer preferences for different brands becomes paramount.

In establishing brand preference, consumers compare, distinguish, and rank different brands by focusing on their uniqueness (Mihiretu, 2022). Research has mentioned that several factors affect consumer preference for a particular milk brand and brand choice. Researchers have mentioned that demographic variables such as family size, monthly income, number of children, and brand availability are some of the factors that contribute to milk powder brand preference

(Wijesinghe et al., 2020). Another study has mentioned that the essential attributes of milk powder brand preference are the taste of the milk, quality of the milk, availability, attitude, and safety (Mihiretu, 2022; Vidanapathirana, 2019). A study has found that consumers are extremely brand loyal when it comes to milk powder purchasing behaviour, even though there is high market competition in the milk powder industry (Lakmali et al., 2022).

The milk powder sector underwent a turbulent period in 2008 after a storm of food quality standard issues. Those are the detection of DCD (dicyandiamide) in imported milk powder in 2013 and the Chinese milk scandal in 2008, which involved milk adulterated with melamine (Anuranga, 2012), and the issue of milk powder containing traces of animal fat and palm oil in 2019. This information reversed the milk powder consumption in our country. In generally such a negative impact cannot be corrected withing a short period. Though over the years, milk powder brand preference has been researched in developed and developing countries, studies conducted in Sri Lanka are very few after this negative information observed in relation to milk powder brands.

Due to the contamination incidences mentioned above, consumers in Sri Lanka more concerned when purchasing imported milk powder for consumption. Therefore, consumer buying behaviour towards brand selection is a crucial area for milk powder producers and marketers. When considering powdered milk brands, Sri Lankan consumers prefer a particular brand that is much more affordable to them. Hence, it is essential to identify the factors that influence milk powder brand preference and which is the most widely used milk powder brand in the Sri Lankan market.

Therefore, this research was focused on investigating how brand availability, product factor, certification, place of origin, trust in the brand, and subjective norms contribute to consumers' powdered milk brand preference and determining the consumers' highest preferred brand in the market.

Literature Review

The agricultural sector in Sri Lanka is highly dependent, making up 7.5% of the country's GDP, while the contribution of livestock accounts for 0.7 percent of national GDP in Sri Lanka (Central Bank of Sri Lanka, 2021). The dairy industry in Sri Lanka is led by both the government and private sector, comprising both local and foreign multinational companies that are involved in powdered milk and fresh milk production. However, the foreign multinational companies that make up the private sector continue to play the most dominant role in the milk powder industry. With local milk production fulfilling only 40% of the total dairy requirement of the same year, the substantial shortfall was addressed through imports.

Consumer Behaviour Toward Purchase Intention of Powdered Milk

The availability of data on consumers' purchasing habits, preferences, and demand for dairy products is thought to be one of the most important determinants of the dairy productions. According to the findings, the majority of households prefer imported powdered milk to local powdered milk for consumption. It's because of the unique qualities of these powdered milk products, as well as their widespread availability in comparison to local liquid and powdered milk (Wijesinghe et al., 2020; Vidanapathirana et al., 2017).

The monthly income of a household and the amount spent on milk have a strong correlation. Literature says that the most significant food attribute of milk was the flavour and the other significant characteristics were quality consistency and safety (Vidanapathirana et al., 2017).

Theoretical Background

The theory of Reasoned Action Behaviour (TRAB) explains how subjective norms and a person's attitude toward actions influence a person's behavioural intention. Further, the Theory of Planned Behaviour (TPB) explains how a person's behavioural intention is influenced by perceived behavioural regulation and the factors listed in TRAB (Ajzen & Fishbein, 1980). Consumer behavioural purpose is a crucial antecedent of actual individual behaviour, according to the TPB. It is believed that people attempt to make sound decisions based on the facts available to them. This assertion is used to construct the

relationship between consumer behavioural intentions and actual actions (Ajzen & Fishbein, 1980; Teng & Wang, 2015). They go on to say that a person's behavioural intention to perform or not perform behaviour is the immediate determinant of that person's actual behaviour.

The Consumer Decision Model (CDM) proposes that brand awareness, knowledge sources, attitude, trust, purchasing intention, and purchase actions are the core elements of product choice behaviour (Howard, 1989). Consumers value brand awareness even more than product consistency (Gifford & Bernard, 2006). The messages from different information sources for customers to raise brand awareness are emphasized by CDM. When trust and attitude are generated, the buyer's desire to purchase a product increases. Customers are more likely to purchase items when their appetite reaches a certain level.

Further, several studies have followed the CDM (Demeritt, 2002; Pieniak et al., 2010) and found that knowledge improves customer awareness and trust, which leads to increased purchasing intention and attitudes. Therefore, according to the CDM model, when researching consumer brand preference for a product, some of the factors that can be considered are brand awareness, brand knowledge, attitude regarding the brand, trust in the brand, taste of the product, and product factors.

Effects of Brand Availability on Brand Preference

Recent research has mentioned that consumer purchase intention gradually increases when they access the product. In contrast it has mentioned that lack of supply negatively influences consumer brand preference (Farid et al., 2023). Kumar and Babu (2014) have mentioned that product quality, availability, and pricing have been regarded as major reasons for preference for dairy brands. According to the former research, the majority of households prefer imported powdered milk over the local powdered milk for consumption because of their widespread availability in comparison to local liquid and powdered milk (Wijesinghe et al., 2020). Consumers purchase more imported powdered milk and other dairy products due to a lack of supply, accessibility, and consistency of local fresh milk and related products

(Boimah & Weible, 2023). Based on this literature, the following hypothesis was proposed for this study:

H1: *Brand availability positively influences the milk powder brand preference of urban consumers.*

Effects of Product Factor on Brand Preference

Research has mentioned that several factors affect consumer preference for a particular milk brand and brand choice. Researchers have mentioned that the essential attributes of the milk powder brand preference are the taste of the milk, quality of the milk, and safety (Boimah & Weible, 2023). Research has mentioned that product factors such as taste and creaminess influence consumers' brand preference (Bhuvaneshwari & Kanchana, 2020). Based on this literature, the following hypothesis was proposed for this study:

H2: *Product factors positively influence the milk powder brand preference of urban consumers.*

Effects of Certification on Brand Preference

A study has mentioned that the consumer perception of an ISO-certified product has a positive impact on perceived quality but not on brand image. Nevertheless, perceived quality has a positive impact on brand image (Wu & Jang, 2014). Further, brand reputation has a positive impact on brand attitude, which in turn has a positive impact on brand choice and purchasing intention (Wu & Jang, 2014). As a result, consumers' expectations of quality, brand reputation, and brand attitude serve as mediator variables in the impact of ISO certification on purchasing intent (Lee, 2020). Hence, the following hypothesis was proposed for this study:

H3: *Product certification positively influences the milk powder brand preference of urban consumers.*

Effects of Place of Origin on Brand Preference

Three dimensions, i.e., design, assembly, and parts of the production line, could affect the overall product quality (Tuan et al., 2012). Consumers' perceptions of product quality are influenced by the country of origin of the product, process design, and assembly line of

manufacturing. Perceived quality perceptions, such as previous unsatisfactory purchasing experiences, may affect one's overall product quality evaluation (Castillo et al., 2022). Extrinsic signals are often used by buyers to make decisions about product quality and purchasing. Buyers often use the country of origin, an extrinsic cue, to draw inferences about a product's intrinsic values. This is why country of origin and an extrinsic cue are often used by buyers to determine foreign goods (Tuan, 2012; Castillo et al., 2022). Based on this literature, the following hypothesis was proposed:

H4: *Place of origin positively influences the milk powder brand preference of urban consumers.*

Effects of Trust on Consumer Brand Preference

Trust is also a significant factor that affects brand preferences (Dam, 2020). Research shows that consumer trust plays a crucial role in influencing attitudes, loyalty, and purchase intentions in the e-marketplace. The belief that "milk powder does not contain harmful additives, it offers all nutrients, and it does not contain animal fat" contributes significantly to confidence in the milk brand (Wijesinghe et al., 2020). Therefore, the following hypothesis was proposed:

H5: *Trust in the brand positively influences the milk powder brand preference of urban consumers.*

Effects of Subjective Norms on Brand Preference

Subjective norm is characterized as the amount of social pressure that a customer feels to embrace or resist a buying behaviour for a product (Kurajdova & Petrovicova, 2015; Hasan & Suciarto, 2020). Further, it says that subjective norm is a key determinant of how social impact affects behavioural intention. Key influencers, such as family, professionals, and friends, may influence dairy product consumption in different ways. Based on this literature, the following hypothesis was proposed:

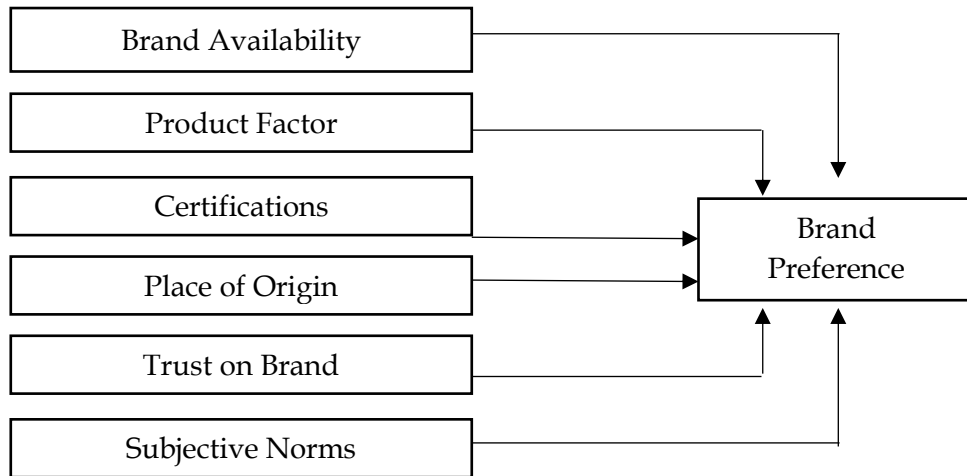
H6: *Subjective norms positively influence the milk powder brand preference of urban consumers.*

Methodology

Conceptual Framework

The proposed conceptual framework (Figure 1) explains the relationship between brand availability, product factor, certification, place of origin, trust in brands, subjective norms, and brand preference.

Figure 1: The proposed conceptual framework



Source: Authors' compilation

Data Collection

To collect primary data from the sample population, a pre-defined standard questionnaire was used (Wijesinghe et al., 2020-2021; Carfora, et al., 2019). The questionnaire was pretested with a small sample of potential consumers, and minor modifications were made to the preliminary questionnaire. The survey was carried out in five randomly selected Divisional Secretariats (DS) in Gampaha District. Supermarkets and stores were selected randomly from each DS division. Data were collected from 400 customers based on systematic sampling by questioning each third customer who came to the supermarket. The sample size for the study was determined using the Cochran Formula (Cochran, 1963) with a 95% confidence level and a 5% margin of error.

Measures

The questionnaire consisted of three main parts, i.e., demographic information, choice of milk brands, and factors influencing the

preferences of milk powder brands. Twenty-six indicators were used to assess these seven factors (Table 1) other than personal information and choice of brand. All these indicators were evaluated using a 5-point Likert-type scale ranging from 1 to 5, where 1 denoted "strongly disagree" and 5 denoted "strongly agree."

Table 1. Indicators used to measure selected factors

Factor	Indicator Name	Indicators measured by the Likert scale
Brand Availability (AV)	AV1	Availability of the milk powder brand has a significant influence on my purchase decision.
	AV2	Because of its high availability, I like to buy this milk powder brand.
	AV3	I don't like to use milk brands that are not always available.
	AV4	Availability is the most important factor for me.
Product Factor (PF)	PF1	The creamy taste of the milk powder has a significant influence on my brand preference.
	PF2	The thickness of the milk has a significant influence on my brand preference.
	PF3	The solubility of the milk powder has a significant influence on my purchase decision.
	PF4	The design and type of package have a significant influence on my brand preference.
Certifications (C)	CE1	Certification of the milk powder brand has a significant influence on my brand preference.
	CE2	I consider the certification of the milk brand before making the purchase decision (SLS and ISO).
	CE3	I buy only certified milk powder brands, among all others.

Factors Influencing Urban Consumer Milk Powder Brand Preferences: A Case from Western Province of Sri Lanka

Place of Origin (PO)	PO1	The place of origin (country) of the milk powder has a significant influence on my purchase decision.
	PO2	I believe imported brands are better in the production process than local brands.
	PO3	I consider place of origin before purchasing.
Trust on Brands (TB)	TB1	I believe that my preferred brand has the best quality when compared to another competitor.
	TB2	I believe it is healthier and provides all the nutrients.
	TB3	I believe my milk powder brand does not contain harmful chemicals.
	TB4	I believe my milk powder brand does not contain animal fat.
Subjective Norm (SN)	SN1	My family thinks I should buy this brand.
	SN2	My friends think I should buy this brand.
	SN3	Information from news and magazines affects my purchase decision to buy my milk powder brand.
	SN4	Celebrity characters in advertisements influence me to buy my milk brand.
Brand Preference (BP)	BP1	The brand name has a significant influence on my purchase decision.
	BP4	I used to buy my preferred brand among all others at the shop.
	BP3	I have used a particular milk powder brand over the years.
	BP4	I find my preferred milk brand at any available place.

Data Analysis

The demographic factors and consumer preference for selected local and imported milk brands were analysed using descriptive statistics.

The reliability of the instrument was measured using the Cronbach alpha reliability coefficient.

The validity of the measurement model was assessed using Confirmatory Factor Analysis (CFA). Structural Equation Modeling (SEM) was used to examine the proposed model using Analysis of Moment Structure (AMOS) in the SPSS 21 version to determine whether all observed indicators (observed variables) properly represent their underlying factors (latent variables) and whether the measurement model has a sufficient fit. To determine the significant level and relationship between dependent and independent variables, factor loadings were taken.

Results and Discussion

Descriptive Statistics of the Sample

The majority of respondents were women (76.62%), and 23.38% were men in the study population (Table 2). The population consisted of 56.72 percent of respondents from the age group of 16-30 years. In the remaining portion, 37.81% and 5.22% of respondents were in the 31-50-year age and 51 and above age categories respectively.

In the sample population, 0.75% of respondents were at the primary level of education. Most of the respondents had tertiary-level education (68.16%) in this population. Among the respondents, 61.69% were employed, and 37.06 % were above the income level of LKR 60,000.

Table 2. Socio-demographic characteristics of the sample

Parameter	Category	Percentage (%)
Gender	Male	23.38
	Female	76.62
Age	Less than 15 years	0.25
	16-30 years	56.72
	31-50 years	37.81
	51 and above	5.22
Employment Status	Unemployed	38.31

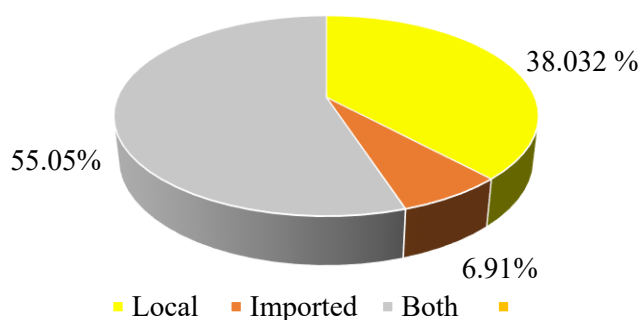
Factors Influencing Urban Consumer Milk Powder Brand Preferences: A Case from Western Province of Sri Lanka

	Employed	61.69
Monthly Income	less than Rs 15,000	10.45
	Rs 15,001 - Rs 35,000	16.67
	Rs 35,001- Rs 60,000	35.82
	Rs 60,001 and above	37.06
Educational Level	Primary	0.75
	Secondary	31.09
	Tertiary	68.16

Descriptive Statistics of Consumer Milk Powder Brand Preferences

Figure 2 offers an overall idea of the preference of consumers for local and imported milk powder brands and their highest preferences for the chosen milk brands. In the study population, 6.91% preferred to buy only the imported milk powder brands, and 38.03% preferred to buy only the local milk powder. Most of the respondents (55.05%) chose to buy local and imported milk powder without considering the commodity's origin.

Figure 2: Consumer Preference for local and imported milk powder



Sampling Adequacy

To ascertain the factorability of the data, the Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity (BTS) were executed. The KMO test evaluates the suitability of the data for factor analysis, with a recommended threshold value of at least 0.60. Furthermore, the BTS assesses the significance of the correlation matrix, with a threshold of $P < 0.1$. The results of both tests, as depicted in Table 3, satisfied the minimum requirements, affirming that the data were appropriate for further factor analysis.

Table 3. KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.786
Bartlett's Test of Sphericity Approx. Chi-Square	3752.83
df	190
Sig.	.000

Reliability Statistics

Cronbach’s Alpha is the most common tool to measure internal consistency. It is acceptable when Cronbach’s alpha is higher than 0.7 (Hair et al., 1998). Internal consistency of all the indicators that make up each factor showed the value higher than 0.7 which indicated that internal consistencies of indicators within the factor are acceptable.

Confirmatory Factor Analysis validated the proposed model showing higher factor loadings (greater than 0.5) of items within the factor and measurement model explained 72.152 % of the total variance. Variance contribution from each factor is given in Table 4.

Table 4. Total variance explained by the factors

Component	Rotation Sums of Squared Loadings	
	% of Variance	Cumulative %
Brand Availability (BA)	14.918	14.918
Product factor (PF)	12.848	27.766
Certifications (C)	12.520	40.286
Place of Origin (PO)	11.587	51.873
Trust on brands (TB)	11.502	63.374
Subjective norm (TB)	8.778	72.152

Assessment of Fitness for the Structural Model

The model elaborated a good model fit having degree of freedom (df) = 189, p-value = 0.000, root mean square error approximation (RMSEA) = 0.08, Tucker-Lewis index (TLI) = 0.90, Normed fit index (NFI) = 0.91,

comparative fit index (CFI) = 0.91, goodness of fit index (GFI) = 0.89, Adjusted goodness of fit index (AGFI) = 0.89 and CMIN/df = 3.838.

It was revealed that model fit indices met the adequate threshold level (Byrne, 2016) and hence, it is validated that the measurement components corresponded to their underlying latent factor (Table 5).

Table 5. Goodness of fit indices

Category	Indices	Recommended Least	Attained Value
Absolute Fit	χ^2	$p < 0.05$	0.000
	GFI	$p > 0.90$	0.89
	RMSEA	$p < 0.08$	0.08
Incremental Fit	AGFI	$p > 0.90$	0.89
	CFI	$p > 0.90$	0.91
	TLI	$p > 0.90$	0.90
	NFI	$p > 0.90$	0.91
Parsimonious Fit	CMIN/DF	3-5	3.838

Source: Survey data

Confirmatory Factor Analysis (CFA)

Twenty-six statements that were used as indicators showed that the model's fit was inadequate for the same set of indicators to continue. Four indicators (PF4, PO2, SN3, and SN4) with low factor loads (below 0.05) and negligible loads (at $p=0.05$) were removed. Table 6 presents the re-estimated results, indicating that all standardized estimates are statistically significant.

Table 6. Results of the CFA

Factor	Estimate of indicators	P-Value
Brand Availability		
AV1	0.266	***
AV2	0.725	***
AV3	0.717	***
AV4	0.782	***
Product Factor		
PF1	0.891	***

SLIIT Business Review

PF2	0.838	***
PF3	0.659	***
Certifications		
CE1	0.898	***
CE2	0.904	***
CE3	0.802	***
Place of Origin		
PO1	1.061	***
PO3	0.677	***
Trust in Brand		
TB1	0.671	***
TB2	0.751	***
TB3	0.921	***
TB4	0.911	***
Subjective norms		
SN1	0.462	***
SN2	0.256	***
Brand Preference		
BP1	0.485	***
BP2	0.788	***
BP3	0.733	***
BP4	0.714	***

*Levels of statistical significance, ***P<0.001*

Availability (AV) is one of the most significant factors of brand choice. AV4 indicator has the highest loading (0.782) for the factor of brand availability, indicating that brand availability is the most important thing for the consumer. The PF1 indicator has the highest loading (0.891) for product factor, indicating that the creamy taste of the milk powder impacts the milk powder brand selection. The CE2 indicator has the highest factor loading (0.902) towards certifications, indicating the consideration of the certification of the milk brand before purchase. The PO1 indicator has the highest factor loading (1.061) for place of origin, indicating that the place of origin (country) of the milk powder significantly influences consumer purchase decisions.

TB3 has the highest factor loading (0.921) for trust in the brand, indicating that, belief in the milk powder brand does not contain

harmful chemicals. The SN1 indicator has the highest factor loading (0.462) for the subjective norms, indicating that the family influences milk powder brand preferences. When considering brand preferences (dependent variable), the highest loading indicator is BP2 (0.788), highlighting that the customer is used to buying his or her preferred brand among all others at the shop.

Regression Weights In Between Hypothesized Relationship

The analysis of Standardized Regression Weights (Table 7) indicates that consumers' brand preference for milk powder is positively influenced by subjective norms while negatively influenced by brand availability and trust in the brand. Product factors, certifications, and place of origin are not significant in consumer brand preference for milk powder.

Table 7. Standardized regression weights

Hypothesized Relationship	Estimates	P- value
BP <---Availability	-1.256	0.003**
BP <--- Product	0.176	0.346
BP <-- Certifications	0.119	0.527
BP <--- Place of Origin	-0.002	0.991
BP <---Trust on Brand	-0.621	0.050**
BP <--- Subjective Norms	1.669	***

*Levels of statistical significance, **P<0.01 ***P<0.001*

There were four indicators under availability, which are: "availability of the milk powder brand has a significant influence on my purchase decisions," "I like to buy this milk powder brand because of its high availability," "I don't like to use milk brands that are not always available," and "availability is the most important factor for me." The results suggest that brand availability is a significant factor affecting consumer brand preference for local and imported milk powder brands (SRW -1.256, $P < 0.001$), supporting hypothesis 1 (H1). As the questions asked to measure availability have been revers-coded the negative value gives an alarm to justify that if the brand is not available as much as consumers expect, brand preference will decrease.

Therefore, if producers want to increase brand preference for a given milk powder brand, it is essential to make it sufficiently available for consumers. If any milk powder brand is rarely available, consumers believe that adapting to use such a brand is useless as they can't buy it regularly.

Trust in brands was measured using five indicators: "I believe that my preferred brand gives the best quality when compared to another competitor, I believe it is healthier and provides all the nutrients, I believe my milk powder brand does not contain harmful chemicals, and I believe my milk powder brand does not contain animal fat." Trust was found to be another significant factor influencing consumer brand preference for local and imported milk powder (SRW -0.621, $P < 0.01$), thus supporting the hypothesis 5 (H5). Negative impact shows that if trust is low for a given milk powder brand preference for that brand will decrease. Therefore, we can propose that the urban consumer milk powder brand preference can be improved by incorporating quality developments defined by the measured indicators, providing assurance that they do not include harmful chemicals, and enhancing trust.

The factor of subjective norms positively and significantly influences consumer brand preference for local and imported milk powder brands (SRW 1.669, $P < 0.001$), supporting hypothesis 6 (H6). The Theory of Reasoned Action Behavior (TRAB) explains how subjective norms and a person's attitude toward actions influence a person's behavioral intention. Subjective norms refer to an individual's perception of social pressure or influence from significant others (e.g., family, friends, colleagues) regarding the behavior. It considers both normative beliefs (what others think) and motivation to comply (how much one cares about others' opinions). The Theory of Planned Behavior (TPB) explains how people attempt to make sound decisions based on the facts available to them. If consumers have trust in what subjective norms say, their preference to buy any milk powder brand will increase. Accordingly, the findings of this research supported these theories.

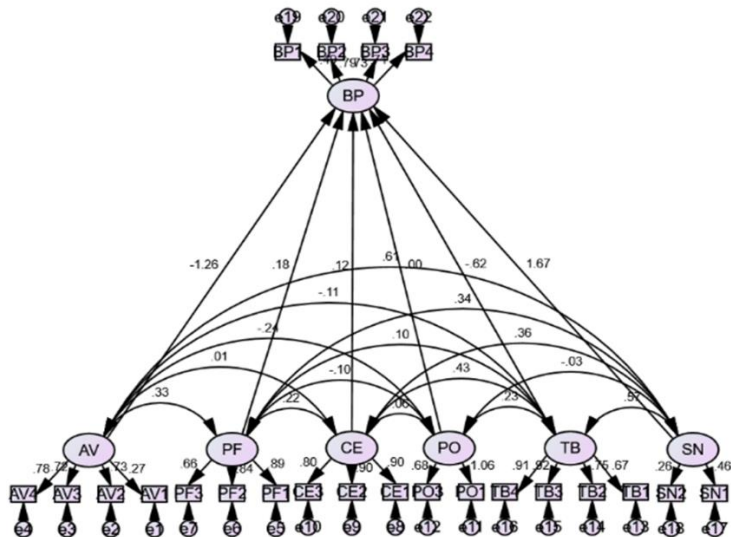
In this study, there were four indicators used to measure the subjective norms, i.e., the family influence on purchasing a certain brand and

friends influence on purchasing a certain brand, the impact of information from news and magazines, and the influence of celebrity endorsements in advertisements on the decision to buy milk powder brand.

Therefore, we can suggest that brand preference can be improved through properly designed marketing communications to influence different categories of subjective norms. If local producers want to enhance sales for their local brands, these findings can be used in their marketing communications, thus enhancing their market share.

The results do not support hypotheses H2, H3, and H4, indicating that brand preference for milk powder is not significantly influenced by the factors, i.e., product factor, certifications, and place of origin (country) of the milk powder. This reveals that Sri Lankan consumers tend to choose powdered milk based on their trust in the brand, influence of subjective norms, and the availability of milk powder brands. Figure 3 illustrates the structural relationships between consumer brand preference and selected factors.

Figure 3: The structural relationship between consumer brand preference and factors



AV-Brand Availability, PF-Product Factor, CE-Certifications, PO-Place of Origin, TB-Trust on Brand, SN-Subjective norm, BP-Brand Preference.

Conclusions

Availability of the brand, trust in the brand, and subjective norms are the main factors that affect consumer brand preferences for particular local and imported powdered milk brands. In order to promote the milk powder industry, producers and marketers should consider the factors defined by the given indicators. Under the trust in the brand included, which asks about believing in best quality compared to competitors, believing in containing all nutrients, not containing harmful chemicals, and animal fat. Even though consumers prefer a particular brand, they have low trust in the brand, especially toward imported brands. There was a contentious problem that recently emerged in imported milk powder brands after the discovery of DCD in imported milk powder. This incident led to greater consumer interest in purchasing local milk powder and consideration of the health impact. Consumers are conscious that certain harmful chemicals are present in imported milk, while local brands are free from harmful chemicals. Therefore, milk brand producers should make relevant strategies to maintain product quality and their brands' trust.

The availability of the brand is another crucial component in the preference of the consumer for the brand. Insufficient supply of local brands is a crucial problem for the powdered milk consumers in this population. Many customers have switched brands due to the limited supply of their preferred local brands. Local producers of milk powder should also focus on improving product availability.

Subjective norm is another factor that significantly affects milk powder brand preference. Family and friends' influence positively impacts milk powder brand preference. Milk powder is a family-based dairy product used in Sri Lanka; thus, family members' preferences positively affect the purchasing behaviour of milk powder. Milk brand producers should make relevant strategies to raise awareness among potential consumers through different influential groups of people in order to enhance milk powder brand preference for local brands.

The research findings would assist milk brand manufacturers, investors, policymakers, marketers, and the government to make the required product changes and quality improvements in the milk powder industry, as well as help to forecast the future growth of Sri

Lanka's local dairy industry. Furthermore, through these results, necessary practices that should be integrated into local milk brand manufacturing can be suggested to increase availability.

References

- Ajzen, I., & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior*. Prentice-Hall, Inc., Englewood Cliffs, N.J.
- Anon, (2020). Government to implement price formula on imported milk, *Daily Mirror*. Available at: <http://www.dailymirror.lk/business-news/Government-to-implement-priceformula-on-imported-milk/273-163926>, online access 31. 03. 2024.
- Anuranga, D. (2012). DCD, A potential Shield to uplift local milk: Case Study Based on Sri Lankan milk powder Industry. *Scientific Research Journal*, 2, 20-25.
- Bhuvaneshwari, P., & Kanchana, V. S. (2020). A study on brand preference and factors considered in selection of branded beverages in Tirupur. *International Journal for Research in Applied Science and Engineering Technology*, 8(2), 807-812.
- Boimah, M., & Weible, D. (2023). "We prefer local but consume imported": Results from a qualitative study of dairy consumers in Senegal. *Journal of International Food & Agribusiness Marketing*, 35(2), 244-260.
- Carfora, V., Cavallo, C., Caso, D., Del Giudice, T., De Devitiis, B., Viscecchia, R., & Cicia, G. (2019). Explaining consumer purchase behavior for organic milk: Including trust and green self-identity within the theory of planned behavior. *Food Quality and Preference*, 76, 1-9.
- Castillo, A. C., Flores, A. M., Sanchez, L. M., Yusay, A., & Posadas, M. A. (2022). The Moderating Effect of the Country of Origin on Smartphones' Brand Equity and Brand Preference on Customer

-
- Purchase Intention. *Journal of Business and Management Studies*, 4(2), 58-78.
- Central Bank of Sri Lanka. Annual report, (2021). Central Bank of Sri Lanka.
- Cochran W. G. (1963). *Sampling Techniques*, (2nd Ed.), New York, John Wiley and Sons.
- Dam, T. C. (2020). Influence of brand trust, perceived value on brand preference and purchase intention. *The Journal of Asian Finance, Economics and Business (JAFEB)*, 7(10), 939-947.
- Demeritt, D. (2002). What is the 'social construction of nature'? A typology and sympathetic critique. *Progress in human geography*, 26(6), 767-790.
- Farid, M. S., Cavicchi, A., Rahman, M. M., Barua, S., Ethen, D. Z., Happy, F. A., ... & Alam, M. J. (2023). Assessment of marketing mix associated with consumer's purchase intention of dairy products in Bangladesh: Application of an extended theory of planned behavior. *Heliyon*, 9(6).
- Gifford, K., & Bernard, J. C. (2006). Influencing consumer purchase likelihood of organic food. *International Journal of Consumer Studies*, 30(2), 155-163.
- Gunarathne, A., Kono, H., Kubota, S., & Karunagoda, K. (2015). The Impact of Socio-economic Factors on Milk Production Cost and Marketing Channel; A Case Study of Marginal Farms in Kurunegala District of Sri Lanka. *Japanese Journal of Farm Management*, Vol. 52 (Issue 4), pp. 37-42.
- Hair, J.F., Anderson, R.E., Tatham, R.L., & Black, W.C. (1998). *Multivariate Data Analysis*, Fifth ed. Prentice-Hall, New Jersey.
- Hasan, H. N., & Suciarto, S. (2020). The influence of attitude, subjective norm and perceived behavioral control towards organic food

- purchase intention. *Journal of Management and Business Environment (JMBE)*, 1(2), 132.
- Hitihamu, H. M. S. J. M., Lurdu, M. S., & Bamunuarachchi, B. A. D. S. (2021). Value Chain Analysis of the Milk Industry in Sri Lanka. Hector Kobbekaduwa Agrarian Research and Training Institute.
- Household Income and Expenditure Survey, (2019). Summary report, Sri Lanka Household Income and Expenditure. Online access 12.10.2023.
- Howard, J.A., & Sheth, J.N. (1969), *The Theory of Buyer Behavior*, John Wiley & Sons, Inc., New York, NY.
- Krishnapillai, S., Sathiyamoorthy, S., & Sireeranhan, A. (2020). Impact of Milk Powder Imports on Local Milk Industry and Consumers' Welfare in Sri Lanka, *International Journal of Economics and Financial Issues*, 10 (5), 165.
- Kumar A., & Babu S. (2014). Factors Influencing Consumer Buying Behavior with Special Reference to Dairy Products in Pondicherry State. *International Monthly Refereed Journal of Research in Management Technology*, 3, 65-73.
- Kurajdova, K., & Tábořecká-Petrovicová, J. (2015). 'Literature review on factors influencing milk purchase behaviour', *International Review of Management and Marketing*, 5(1), 9-25.
- Lakmali, M. G. T., Samaraweera, G. C., Narayana, N. M. N. K., & Laksiri, W. M. R. (2022). How Brand Preference Shapes Brand Loyalty of Milk Powder Through Young Consumers' Eyes: The Moderating Role of Health Consciousness, *Sri Lanka Journal of Marketing*, 8(3).
- Lee, E. J., Bae, J., & Kim, K. H. (2020). The effect of sustainable certification reputation on consumer behavior in the fashion industry: Focusing on the mechanism of congruence, *Journal of Global Fashion Marketing*, 11(2), 137-153.

- Mihiretu, G. (2022). The Effect of Graphic Design, Product Availability and Competitor Performance on Customers' Brand Preference: The Case of BGI Ethiopia (Doctoral dissertation), online access 06.08.2023.
- Ministry of Industries, (2023). Available at <https://www.industry.gov.lk/web/wp-content/uploads/2023/03/Sector-overview-milk-and-milk-based-products-.pdf>, 21.01.2023.
- Pieniak, Z., Aertsens, J., & Verbeke, W. (2010). Subjective and objective knowledge as determinants of organic vegetables consumption, Food quality and preference, 21(6), 581-588.
- Teng, C. C., & Wang, Y. M. (2015). Decisional factors driving organic food consumption: Generation of consumer purchase intentions, British Food Journal, 117(3), 1066-1081.
- Tuan, L. T. (2012) 'Powdered Milk Consumers' Buying Behavior', International Journal of Business and Management, 8(2). doi: 10.5539/ijbm.v8n2p29.
- Vidanapathirana R., Rambukwella R., & Priyankara E.A.C. (2017). Consumer Buying Behaviour and Preference for Liquid and Powdered Milk, online access 11.06.2023.
- Vidanapathirana, R. (2019). Recent trends in milk production and consumption Sri Lanka, Daily news. Available at <https://www.dailynews.lk/2019/04/05/features/182279/recent-trends-milk-production-and-consumption?page>, online access 28.12.2023.
- Vidanapathirana, R., Rambukwella, R., & Priyankara, E. A. C. (2017). 'Consumer Buying Behaviour and Preference for Liquid and Powdered Milk', online access 06.11.2023.

Wijesinghe, A. G. K. (2020). 'Factors Influencing Milk Powder Brand Preference A Case from Kegalle District of Sri Lanka, Sri Lanka Journal of Marketing, 6(2).

Wijesinghe, A. G. K., Senadeera, U. M. R. M. I., & Abeynayake, N. R. (2021). Exploring consumer intention and perceptions towards purchasing local milk powder. *Journal of Food and Agriculture*, 14(1), 18-35.

Wu, S. I., & Jang, J. Y. (2014). 'The impact of ISO certification on consumers' purchase intention', *Total Quality Management and Business Excellence*, 25(3-4), 412-426. doi: 10.1080/14783363.2013.776770.