

## **Assessment on factors affecting towards consumer preference of powdered milk vs fresh milk in Sri Lanka: A case of Rathnapura divisional secretariat division**

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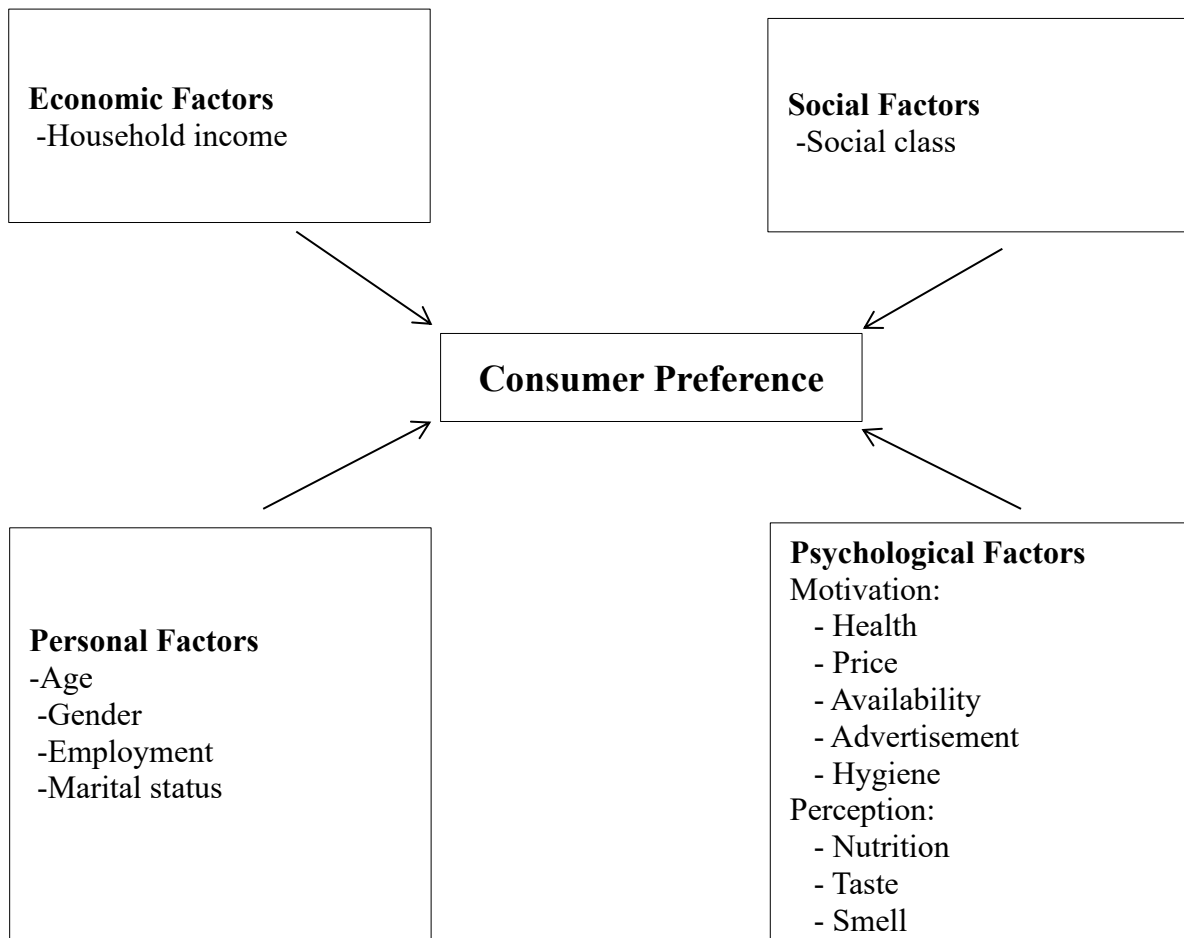
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### **1. Introduction**

Having a cup of milk tea is very common habit of Sri Lankan lifestyle. Milk is a balanced food which is rich in nutrients such as protein, calcium, phosphorous and vitamins. The dairy sector in Sri Lanka is a sub sector of livestock sector and it had growing well from the past to present due to open economic system (Perera, 2018). With the development of technology milk came out in different forms. Powdered milk is one form of milk. Due to the busy lifestyle, most of the people start to go for powdered milk instead of fresh milk. In 1970's 80% of demand for milk is fulfilled by local market. But at present, only 33% is covered by local market and the remaining is met by imported milk by spending a significant portion from GDP. It was due to the brand positioning strategies of well reputed multi-national companies. However imports of dairy sector had turned down after the detection of DCD (Dicyandiamide) in imported milk powder which caused to change the consumer preference toward local brands. (Vidanapathirana, 2017). This had created great opportunity to local milk producers to grab the market. The study is investigating with the aim of identifying factors which influence to consumer preference on powdered milk vs. fresh milk. Having information on consumer preference on milk is the key determinant to uplift the efficiency of the local dairy sector. And also analysis of information on consumer preference is help projection of the future development of the dairy sector in Sri Lanka.

### **2. Materials and Methods**

The approach is to identify the factors which had affected on consumer preference towards powdered milk vs. fresh milk by using the conceptual model. The selected study location is Rathnapura Divisional Secretariat Division, which is located at Sabaragamuwa province in Sri Lanka. The sampling frame of this study is individual from a household. The sample size is about 300. The sampling technique which had used to collect data is simple random sampling method. Primary data collect through structured questionnaire using in depth interviews. Published articles, research papers, and documents will use as the secondary data. This approach belongs to the quantitative data analysis. Descriptive statistics and binary logistic regression were used to examine the results. The relationship between the dependent variables and the independent variable had examined by using binary logistic regression. The dependent variables of this survey are consumer preference of powdered milk and consumer preference of fresh milk. Independent variables are personal factors, economical factors, psychological factors, social factors. Furthermore, the conceptual model was developed based on the literature review. The developed conceptual model is showing in the below figure.



**Figure 1. Conceptual model**

### 3. Results and Discussion

#### Descriptive statistics

According to the results the socio-demographic profile of participants revealed that, most of the participants were male (52%). The majority level of education is up to higher level (40%). The 38% of participants were full time employed. When considering marital status of participants the majority were married (59%). In terms of monthly household income, the 63% of participants received mean household income in between LKR 40 001 - 80 000. Among 300 participants most of the individuals about 62% is prefer to drink powdered milk and only 37% is prefer to drink fresh milk. So it is suggest that the most preferred milk of consumers is powdered milk.

#### Binary logistics regression

Binary logistic regression was used to identify the factors which had affected on dependent variables. The dependent variables of this survey are consumer preference of powdered milk and consumer preference of fresh milk. The independent variables are age, gender, employment, marital status ,income, social class, health, price, availability, advertisement, hygiene, nutrition, taste and smell. According to the Classification table results, overall percentage predicts that, this approach to prediction was correct 69.2% of the time. Omnibus tests of model coefficients results revealed that, Chi-square value (47.90) was very significant at 0.01 level ( $p = 0.001 < 0.01$ ). Therefore it suggests that estimated model is significant.

According to the Model summary test results, Nagelkerke R square suggests that the model explains 20% of the variation in the outcome.

According to the Variables in the equation results, variable full time employment status and variable marital status of married were indicated positive significant (at 0.05 levels) relationship with consumer preferred milk. Variables including income, health, and perception were significant at 0.05 level and they were positively associates with dependent variables as beta values indicated positive values. It means if income of consumer, health and perception properties are increased then the preference toward powdered milk or fresh milk is increasing. Also variables including availability and sensory were very significant at 0.01 level and indicated positive relationship with dependent variables. It suggests that if the preferred milk is highly available and sensory properties are increased then the preference toward fresh milk or powdered milk goes up. Further, variable advertising was highly significant at 0.001 levels and indicated positive beta value. It suggests that advertising is highly affected on consumer preference toward milk and if the advertising strategies were increased the preference of consumer toward fresh milk or powdered milk goes up. Even though variable price is significant at 0.05 level it is having negative relationship with preferred milk means increase of price lead to reduce the consumer preference on milk. However the other factors including at the conceptual model (independent variables) such as, personal factors including age, gender and social factor including social class were not add significantly to the model which means those variables were not associate to preferred milk of consumers.

Model can written as,

$$\ln[p/(1-p)] = 0.327 + 0.85X1^* + 0.83X2^* + 2.01X3^* + 2.25X4^* - 2.34X5^* + 3.11X6^{**} + 0.34X7^{***} + 1.15X8^* + 2.42X9^{**} + 1.0X10 - 1.01X11 + 0.88X12$$

\* = 0.01 < P < 0.05    \*\* = 0.001 < P < 0.01    \*\*\* = P < 0.001

**Table 01. Variables in the equation results**

Variable	Description	Sig.	B
Personal Factors:			
Employment	Employment status		
	Full time	0.03 6	0.843
Marital	Marital status		
	Married	0.04 8	0.826
Economic Factors:			
HouseholdIn	Monthly household income	0.04 4	2.012
Psychological Factors (Motivational):			
Health	It is a great source of bone development and strengthen the tooth persuade me to buy it	0.04 3	2.250
Price	It has fair price persuades me to buy it	0.04 6	-2.341
Availability	It is easy to find at any area	0.00 7	3.117

Advertising	The message on advertisement attempts to persuade me to buy it	0.00	0.364
Psychological Factors (Perception):			
Nutrition	It is nutrition as it contain protein, calcium, vitamins and minerals	0.02	1.159
Sensory1	It has nice smell and good taste	0.00	2.425
Constant		0.32	0.327

#### 4. Conclusions

According to the results estimated model was statistically significant with Chi-square value of 47.90 and  $p < 0.001$ . According to the descriptive statistics results suggests that preference for powdered milk is higher than the preference for fresh milk. The aim of this study is to identify the factors which had affect for the consumer preference on powdered milk vs. fresh milk. Factors included in the conceptual model such as full time employed, married, monthly household income, health, price, availability, advertising, nutrition, and sensory had significantly affected to the preference toward powdered milk vs. fresh milk. But other factors including age, gender and social class were not affected for this. The findings of this study will help for future projections to uplift the dairy industry in Sri Lanka.

#### 5. References

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