Factors Influencing Local Branded Fresh Milk Purchase Intention among Consumers: A Case from Kurunegala District of Sri Lanka

A.G.K. Wijesinghe[1]

Abstract

Disputable information released through the mass media related to the imported powder milk incorporated with melamine, dicyandiamide (DCD) and animal fat has made a negative influence on powder milk consumption in Sri Lanka. This study was focused to analyze how consumers' perceived knowledge, processed knowledge, health consciousness, attitudes, certification and subjective norms influence the purchase intention of local branded fresh milk among consumers in Kurunegala District in Sri Lanka. Data were collected from 200 consumers in selected supermarkets and other sales centers covering five Divisional Secretariats in Kurunegala district by means of face to face interview. Super markets were selected randomly and respondents were selected by systematic sampling. A Confirmatory Factor Analysis was carried out to find the relationships between selected seven Constructs. The results revealed that consumers' health consciousness was the main Construct that influenced the purchasing intention of locally produced branded fresh milk. Findings of this study provide new information about the purchasing behaviour of consumers.

Keywords: Confirmatory factor analysis, Locally produced branded fresh milk, Purchase intention, Recent trends

Introduction

There are several motives for milk consumption among consumers. The first most influential motive is its nutritional composition for better human health. Milk contains a wide range of essential nutrients that need for a healthy survival (Gonda, 2009, Kurajdova et al., 2015). Since the beginning of the life, fresh milk became essential and one of the major food components for all mammal kinds. Milk plays a crucial role as a whole diet with the presence of essential nutrition such as lactose, protein, mineral, milk fat, and vitamins. Also, milk protein contains 18 essential amino acids out of 22 that cannot be produced by human body itself (Gonda, 2009; The Dairy Council, 2007-2014).

[1] Senior Lecturer, Faculty of Agriculture & Plantation Management, Wayamba University of Sri Lanka,Makandura, Gonawila (NWP).
Email: kusum_wijesinghe06@yahoo.com ; kusum@wyb.ac.lk

Especially calcium and mineral are important sources of bone and teeth health (Bus & Worsley, 2003). Researches have mentioned that if a person does not have a well grown bones by the age of peak bone mass, the person is at the risk of getting osteoporosis at elderly ages (Deakin University Australia, 2013).

The recommended daily milk intake for a healthy life is about 200-400 ml for an adult and 600-800 ml for a child and a pregnant woman (Miller, 2000). Although fresh milk is considered as the most popular beverage across the world, the level of per capita consumption in Sri Lanka is considerably low. Literature says per capita consumption of fresh milk and powdered milk in Sri Lanka is at 110.33 ml per month and 341.36 g per month respectively (Department of Census and Statistics, 2013; Vidanapathirana, 2019; Wijesinghe et al., 2020).

In the recent past, certain issues had come into stage in relation to milk powder consumption especially for the imported brands. The most arguing social storm that aroused in relation to milk powder industry was the addition of melamine, DCD and animal fat. A research has mentioned that laboratory testing of some samples of imported dairy milk products such as whole milk powder and skim milk powder made with milk from the North and South Islands contain some amount of DCD residues (Lucas, 2013). Further, literature says that extra water is added to liquid milk in order to increase its volume thus its protein concentration tends to go down. In order to increase the nitrogen content of that diluted milk, melamine is added though it is an illegal due to its harmfulness (Savindya, 2020). A research has mentioned that negative health effects of addition of melamine on human beings not yet experimentally tested but believed to cause kidney stones and also cancer effects. The other issue that recently came into discussion was the addition of pork fat into dairy milk in order to increase the level of milk fat due to removal of original milk fat for other productions. However these issues have not yet been proven. But it has made a negative influence on milk consumption especially for imported powdered milk among consumers. Thus, demand for locally produced liquid milk has gone up considerably even in the Sri Lankan market (Savindya, 2020).

Further relevant authorities largely disregard on destroying some nutrients when making powdered milk by heating-up of raw milk. Therefore, the best nutritional milk form is fresh milk for better health (Schmid, 2006). Furthermore, researchers have demonstrated that milk powder comprises "oxidized cholesterol". A study has mentioned that the milk powder contains suspended small fat globules that contribute to arteriosclerosis and heart

disease (Kimball, 2010). And also, medical researchers have confirmed that there is a progressive association between fresh milk consumption and reduction of risk for coronary heart disease and stroke (Shaper et al., 1991).

According to the literature, the availability of uncontaminated and safe fresh milk from a reliable source is low in developing countries (Hanford et al., 2016). According to the market information, demand for fresh milk cannot be met by the supply from the milk industry in Sri Lanka. In Sri Lanka, most of the people suffer from Anemia, Chronic energy deficiency and majority of the women suffer from Osteoporosis. Medical researchers have reported that fresh milk fortified with vitamin 'D' helps to reduce the risk of "Osteomalacia" and "Osteoporosis". Further they say that milk has a positive impact on cognitive behavior of humans (Kapoor & Munjal, 2017). Due to these reasons, calcium must be adequately taken after people reach their peak bone mass. Theoretically fresh milk can be recommended as a convenient source of calcium (Kapoor & Munjal, 2017).

Further, a recent study has reported that health awareness is the only factor that influence the purchase intention of both processed and raw liquid milk (Hoque et al., 2018; Kulsuma, 2018). Several studies have stated that attitudes and beliefs about a specific food predict their level of consumption (Wham & Worsley, 2003). However, debatable issues which recently arisen on imported milk powder, have influenced on milk consumption and hence consumers more concern on food quality and safety attribute, prior to the purchasing of milk products.

Consumer behavior studies have revealed that there are two types of knowledge in relation to consumers' decision making on consumption i.e. objective knowledge and subjective knowledge (Perez, 2020). These two components represent the perceived knowledge on a given food product. Objective knowledge described the exact and accurate information that an individual possesses. Subjective knowledge describes an individual's perception on certain attributes of a product. Processed knowledge comprises of consumer perception on standards of fresh milk production process and equipment used. A research has mentioned that if a consumer is more knowledgeable on a food product, risk of consumption of the given product is low (Huang, 2014). Therefore, enhancing knowledge on positive impacts of fresh milk consumption is important. Further, researchers have mentioned that consumers' attitude towards a product is a function of consumers' evaluations of the attributes that should possess with the product (Fishbein & Ajzen, 1975). Moreover, attitude is also defined as the conscious evaluation of emotions and action-oriented towards the good or bad decision about a

certain product or idea. Better attitude towards the product shows more preference to buy that product (Lee & Lee, 2009).

Recent, public media has mentioned that there was a controversy related to the milk powder certification in Sri Lanka. It has mentioned that two essential analyses should be carried out in issuing quality and safety certificates by reputed bodies (Vidanapathirana, 2019; http://www.ft.lk/business/SLSI-confirms- standards-for-milk-powder). Hence, it is essential to research the factors influencing on consumer perception in relation to trust on certifications in Sri Lanka.

The variable 'subjective norm' represents the social pressure from family, friends, newspapers and magazines, and other significant sources for a consumer to decide whether to purchase the product or not (Ortega et al., 2014; Teng & Wang, 2015). A study has mentioned that dairy product consumption can be increased by using key influencers such as family and friends (Boniface & Umberger, 2012).

Even though there are few researches conducted in relation to fresh milk consumption in Sri Lanka, there is a lack of research on which factors influence branded fresh milk purchasing behavior among consumers in Sri Lanka especially after the controversial issues in relation to harmful components included in the imported powder milk. Hence, it is essential to study further the factors affect on consumer behavior in relation to branded fresh milk consumption after the issues arisen with addition of melamine, DCD and animal fat. Therefore, the main objective of this study is to find out the factors influencing branded fresh milk purchase intention among consumers in Kurunegala district in Sri Lanka as a case.

Based on that, specific objectives of this study are to examine how:

1) perceived knowledge influences local branded fresh milk purchase intention
2) processed knowledge influences local branded fresh milk purchase intention
3) health consciousness influences local branded fresh milk purchase intention
4) attitudes influences local branded fresh milk purchase intention
5) certification influences local branded fresh milk purchase intention
6) subjective norms influence local branded fresh milk purchase intention

Materials and Methods
Conceptual Framework
The proposed conceptual framework (Figure 1) explains the relationship among perceived knowledge, processed knowledge, health consciousness, attitudes, certification, subjective norms and purchase intention. A structured questionnaire was developed to measure these variables and quantitative methodology was selected to analyze the data in order to have more accurate and scientific findings.

Figure 1: The Proposed Conceptual Model
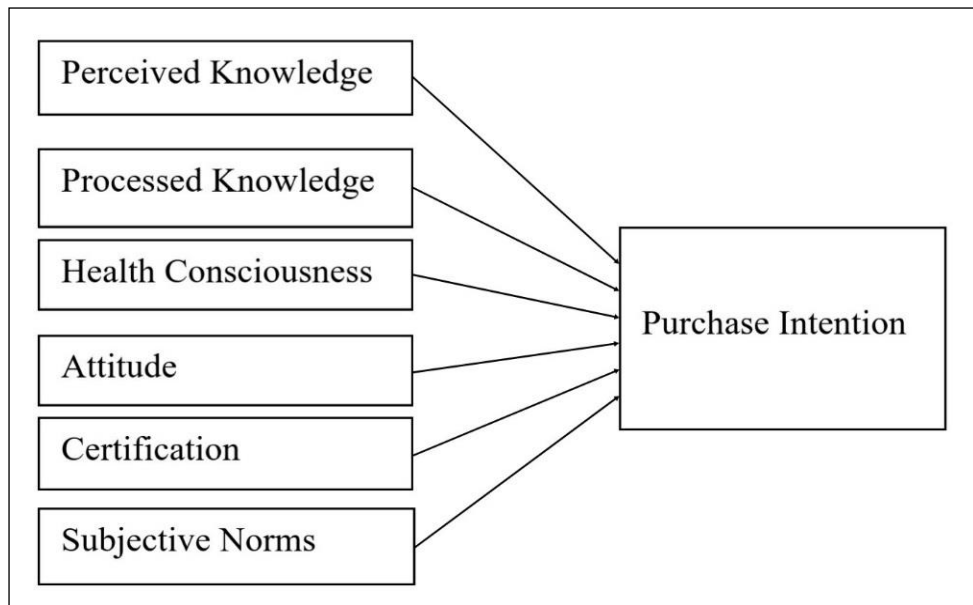
Data Collection
A structured questionnaire survey was conducted to gather primary data from the study population. In general, fresh milk is available in super markets, groceries, milk bars and retail shops. Thus, this study was administered at randomly selected six available places from each selected Divisional Secretariat. Five Divisional Secretariats namely Kurunegala, Wariyapola , Pannala ,Bingiriya and Polpithigama were selected randomly. Data were gathered from a sample of 200 consumers in selected places. Sample size was determined based on the Cochran Formula (Cochran, 1963) and it was sufficient. Consumers were selected based on systematic sampling by interviewing each third customer arrived to the super markets, groceries, milk bars and retailed shops.

Measures

The questionnaire consisted of eight sections to measure consumers'
information in relation to: demographic factors, perceived knowledge,
processed knowledge, health consciousness, attitudes, certification,
subjective norms and purchase intention of locally produced branded fresh
milk.

Twenty-five items were used to assess these seven constructs other than
demographic factors (Table 1). All items in the questionnaire were assessed
by using a five-point Likert-type scale, ranging from 1 to 5, where 1 denoted
"strongly disagree", and 5 denoted "strongly agree".

**Table 1: Likert Scale Items Which are Reflected by The Underlying
Construct**

Construct	Variable Name	Questionnaire item (indicator)
Perceived knowledge	PERK1	I believe source of collection of raw milk is safe
	PERK2	I believe process of raw milk delivery is up to the standard
	PERK3	I am knowledgeable to evaluate locally produced branded fresh milk
Processed knowledge	PROK1	I believe locally produced branded fresh milk production process is up to the standard
	PROK2	I believe machineries that are using to milk production maintain the relevant quality and standard
	PROK3	I believe packaging process maintains standard
Certification	C1	I prefer to buy locally produced branded fresh milk with SLS certificate
	C2	I trust certified milk is in higher quality
Subjective norm	SN`1	My family thinks I should buy locally produced branded fresh milk.
	SN2	My friends think I should buy locally produced branded fresh milk.
	SN3	Advertisements affect my purchase intention of fresh milk.
	SN4	Researchers influence me to buy locally produced branded fresh milk

Construct	Variable Name	Questionnaire item (indicator)
	SN5	Family doctor influences me to buy locally produced branded fresh milk
Attitudes	A1	I believe quality of the packaging is up to the standard of locally produced branded fresh milk
	A2	Locally produced branded fresh milk is more tasty
	A3	I believe locally produced branded fresh milk is more safer to consume
Heath consciousness	H1	As I am conscious about my own health I buy locally produced branded fresh milk
	H2	As I am conscious about my family health I buy locally produced branded fresh milk.
	H3	I believe no added animal fat in branded local fresh milk
	H4	I believe hazardous chemicals are not added to locally produced branded fresh milk
	H5	I believe no risks to consume locally produced branded fresh milk
Purchase Intention	PI1	Usually I buy locally produced branded fresh milk
	PI2	I have strongly decided to buy locally produced branded fresh milk all the time
	PI3	I never change to imported fresh milk if locally produced branded fresh milk is available
	PI4	I like to buy locally produced branded fresh milk forever

Data analysis

Descriptive statistics were used to analyze the demographic factors of the sample. Reliability of the instrument was calculated by using Cronbach's Alpha Reliability Coefficient.

In this study confirmatory factor analysis was used to examine the relationship between seven Constructs by using Analysis of Moment Structure (AMOS) in SPSS. Byrne (2016) has elaborated that the Confirmatory

Factor Analysis (CFA) is done to determine whether all observed variables (Indicator variables) properly reflect their underlying Constructs (Latent variables) and whether the measurement model has acceptable fit to the data (Byrne, 2016).

Results and Discussion
Descriptive Statistics of the Sample
Most of the respondents were women (51 %) and 49 % were men in the studied population (Table 2). Population contained 40 % and 29 % in the age groups of 16-30 and above 50 respectively. Among the sample population, 24 % of the respondents had primary education and others had above that level. Majority of the sample was in the degree level (37 %). Forty percent of the respondents had four members in their family. In the survey population, 59 % were employed and 61 % were among the income level of above LKR 40,000. Majority (89 %) of the respondents highlighted that fresh milk price is comparatively higher than powdered milk.

Figure 2: Consumer Preference on Local Branded Fresh Milk
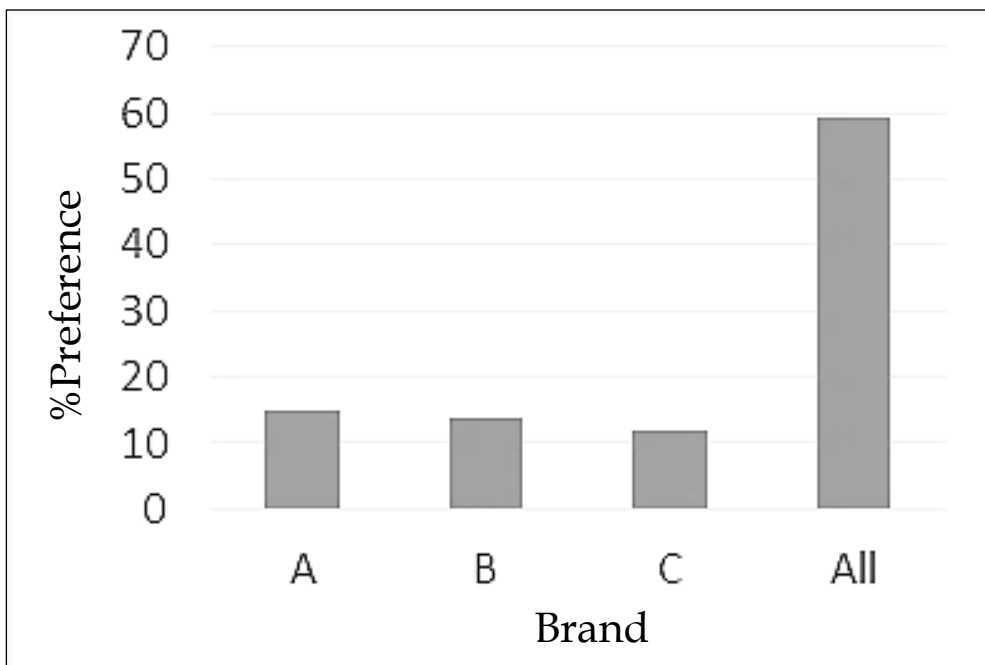
According to the Figure 2, it shows that 16% of respondents within the sample consider to purchase one local brand (here A) whereas 14% of respondents preferred to purchase another local brand (here B), and 12% of respondents preferred to purchase the other local brand (C). This shows that the majority

of the respondents (58%) tend to buy local branded fresh milk in any brand name. It means that the majority of the consumers likes to buy local branded fresh milk.

Table 2: Socio-Demographic Characteristics of the Sample

Parameter	Category	Percentage (%)
Gender	Male	49
	Female	51
Age	Below 15 years	5
	16-30 years	40
	31-50 years	26
	Above 50	29
Employment Status	Unemployed	41
	Employed	59
Monthly Income	Less than 25,000	15
	25,000-40,000	24
	40,000-65,000	21
	65,000-100,0000	30
	Above 100,000	10
Educational Level	Primary	24
	Secondary	33
	Diploma	6
	Degree	37

Measurement Model
Reliability of the Instrument
Cronbach's alpha was used to assess the internal consistency of the Likert scale items. The measured Cronbach's alpha was 0.891. According to Hair (1998), it is acceptable when Cronbach's alpha is higher than 0.7.

All 25 statements which were used as indicators showed that the model fit was insufficient to proceed with the same set of indicators. Thus, it was pruned two indicators relevant to 'certification' (C1 and C2) which had low factor loadings (below 0.05) and insignificant (at p=0.05). After these two indicators were removed, re-estimated results indicated in Table 3.

Table 3. AMOS output of Confirmatory Factor Analysis

Construct	Estimate	P value
Perceived knowledge		
PERK1	1.458	***
PERK2	0.716	**
PERK3	0.471	***
Processed Knowledge		
PROK1	0.838	***
PROK2	0.72	***
PROK3	0.766	***
Subjective Norm		
SN1	0.517	***
SN2	0.475	-
SN3	0.48	***
SN4	0.739	***
SN5	0.708	***
Attitudes		
A1	0.591	***
A2	0.698	-
A3	1.258	***
Health Consciousness		
H1	0.709	***
H2	0.71	***
H3	0.545	***
H4	0.708	***
H5	0.944	***
Purchase Intention		
PI1	1.184	***
PI2	0.671	-
PI3	0.705	***
PI4	0.726	***

Perceived knowledge

PERK1 indicator shows the highest factor loading (1.458) towards the perceived knowledge (PERK). PERK1 indicates the trust on 'the source of collection of raw milk is safe' that highly reflects for the perceived knowledge'. PERK2 indicates the trust on 'the process of raw milk delivery is up to the standard' and PERK3 indicates that 'having sufficient knowledge to evaluate locally produced branded fresh milk'. These two indicators (PERK2

and PERK3) also contribute significantly towards the Construct of 'perceived knowledge' by 0.716 and 0.471 respectively (Table 3).

Processed Knowledge

PROK1 indicator shows the highest factor loading (0.838) towards the processed knowledge (PROK). PROK1 indicates that 'local fresh milk production process is up to the standard'. PROK2 indicates that 'machineries which are being used in milk production process maintain relevant quality and standard'. PROK3 indicates that 'packaging process maintains its relevant standards'. All these indicators (PROK2, PROK3) significantly contribute to the Construct of 'processed knowledge' by 0.72 and 0.766 respectively (Table3).

Subjective Norm

SN4 indicator shows the highest factor loading (0.739) towards the subjective norms (SN). SN4 indicates that 'researchers influence to buy locally produced branded fresh milk' that highly reflects for the Construct of 'subjective norm'. SN5 indicates that 'family doctor influences on fresh milk purchasing behavior', SN1 indicates that 'my family thinks I should buy locally produced branded fresh milk' and SN3 indicates that 'advertisements effect on fresh milk purchase intention'. All these indicators significantly contribute to the Construct of 'subjective norm' by 0.708, 0.517, and 0.48 respectively (Table 3).

Attitudes

A3 indicator shows the highest factor loading (1.258) towards an attitude (A). A3 indicates that 'locally produced branded fresh milk is safer to consume'. A1 indicates that 'the quality of packaging is up to the standard' and A2 indicates that 'locally produced branded fresh milk is tastier'. All these indicators significantly contribute to the Construct 'attitude' by 0.591 and 0.698 respectively (Table 3).

Health Consciousness

H5 indicator shows the highest factor loading (0.944) towards the Construct 'health consciousness'. H5 indicates that 'there is no risk associated with consumption of fresh milk'. H1 indicates that consumers' 'health consciousness of own health'. H2 indicates that 'health consciousness of own family health', H3 indicates that consumers' 'belief of no added animal fat in the local branded fresh milk' and H4 indicates that 'belief of no added hazardous chemicals in the local branded fresh milk'. All these indicators significantly contribute to the Construct 'health consciousness' by 0.709, 0.71, 0.545, and 0.708 respectively (Table 3).

The CFA results listed in Table 3 show that standardized estimates are statistically significant. It was revealed that the significant indicators effectively reflect each Construct (latent variable).

Regression Weights in Between Hypothesized Relationship

The results demonstrated that health consciousness significantly (***P < 0.001) and positively effects on purchase intention of local branded fresh milk among consumers (Table 4). Hoque et al. (2018) and Kulsuma, (2018) have mentioned that health consciousness is the only factor that influence the purchase intention of both raw and processed liquid milk. Current research findings support these literature.

Table 4: Standardized Regression Weights for the Structural Paths

Hypothesized Relationship		Estimates
Purchase intention	← Attitude	0.23
Purchase intention	← Health consciousness	1.90
Purchase intention	← Subjective norms	0.02
Purchase intention	← Perceived knowledge	-0.66
Purchase intention	← Processed knowledge	-0.32

Consumers' health consciousness was measured by using the statements which asked about "self-consciousness about own health (H1), consciousness about family health (H2), belief as no added animal fat to the local branded fresh milk (H3), belief as no added hazardous chemicals to the local branded fresh milk (H4), and belief of no-risk of consuming local branded fresh milk" (H5). The results indicated that consumer 'health consciousness' is the major factor that influence purchase intention of local branded fresh milk (Table 4). Perceived knowledge, processed knowledge, subjective norm and attitude do not significantly impact on purchase intention of local branded fresh milk. Hence, results of this study elaborate that Sri Lankan consumers tend to buy branded local fresh milk based on their health consciousness defined by the indicators i.e. H1, H2, H3, H4, and H5 (Table 1)

Figure 3: Structural Model
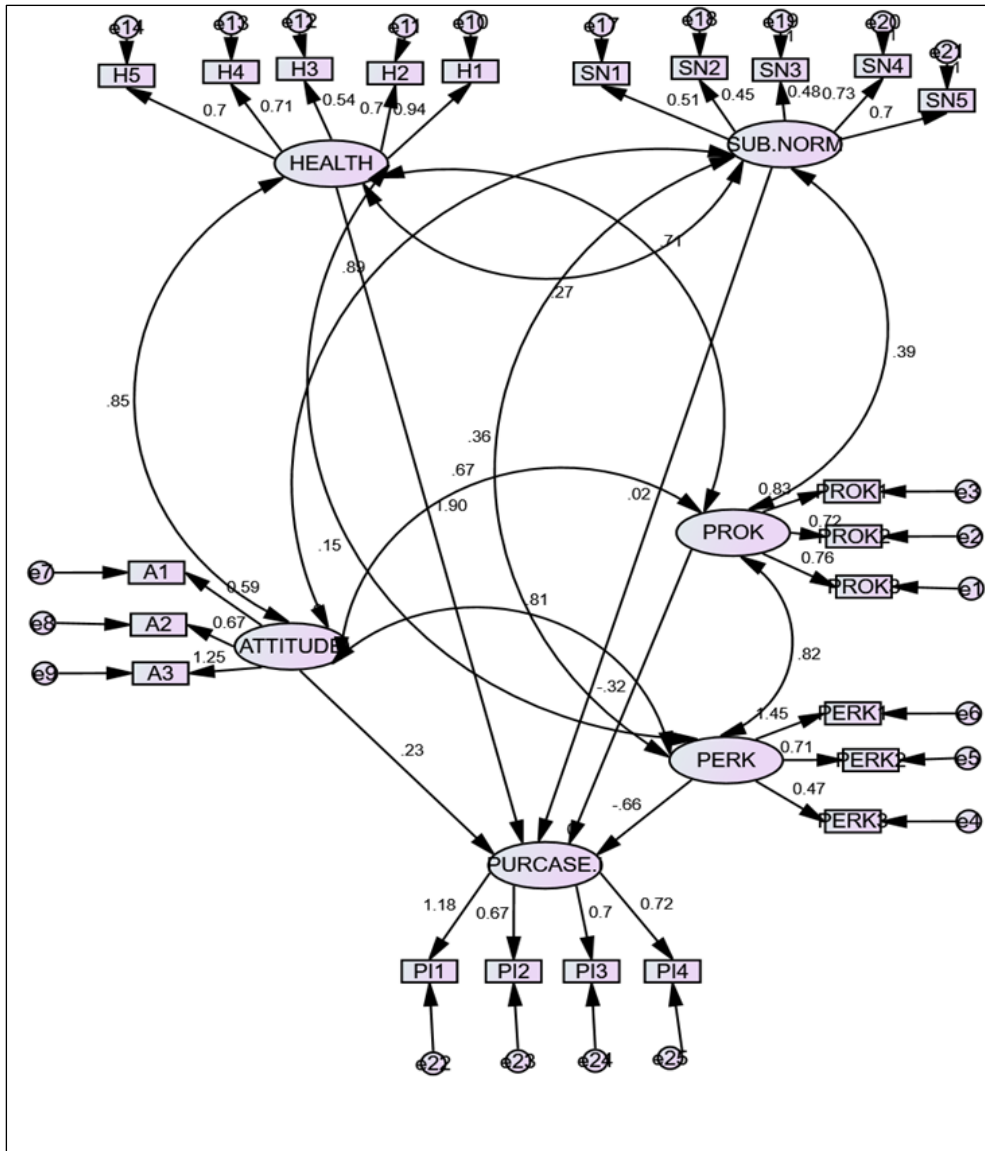
According to the results of the Structural Model (Figure 3), the most contributing indicators towards the Construct 'health consciousness' are: 'I am conscious about my own health (H1), I believe no added hazardous chemicals to local branded fresh milk (H4), I am conscious about my family health (H2), and I believe no risk of consuming local branded fresh milk (H5)' by 94%, 71%, 70% and 70% respectively. The other indicator that 'I believe no added animal fat in local branded fresh milk (H3)' contributes to the 'health consciousness' by 54%.

Conclusion

Consumers' 'health consciousness' is the significant and most contributing factor towards the purchase intention of local branded fresh milk in this population. The most contributing indicators to the 'health consciousness' are 'I am conscious about my own health (H1), I believe no added hazardous chemicals to local branded fresh milk (H4), I am conscious about my family health (H2), and I believe no risk of consuming local branded fresh milk'.

Therefore, these findings provide several recommendations at policy level as well as an industry level. In order to enhance branded fresh milk consumption among Sri Lankan consumers, it is essential to maintain health attributes defined by the above indicators. Therefore branded fresh milk producers should implement a transparent procedure of fresh milk production process to enhance trust among consumers and potential consumers. As well as government should involve in creating trust among consumers by inducing relevant parties to visualize the good practices in manufacturing process of branded fresh milk in their factories which will enhance processed knowledge that influence on increasing their purchase intention. Government intervention to monitor the good practices of production processes within the factories and standards of certifications in Sri Lanka are most important.

Further, producers, marketers, certifiers, government and research institutes should provide correct knowledge on branded local fresh milk products and credible information through newspapers, Television, research papers, magazines, websites and workshop etc. Those things can support to enhance consumer knowledge towards the local branded fresh milk in Sri Lanka. This study showed that different consumer groups responded differently to the frequency of local branded fresh milk consumption. People who have higher education and higher income tend to consume more fresh milk than others.

Findings of this study reveal important information for local fresh milk producing companies to incorporate more healthy practices in all the processes of branded fresh milk production to enhance fresh milk consumption behavior among consumers. This study will help to local companies in Sri Lanka to design product attributes, promotion, pricing and marketing strategies to improve the local branded fresh milk market. Therefore quality and standards must be maintained to attract more consumers toward the local branded fresh milk in order to develop a fresh milk consumption culture within Sri Lanka.

References

Boniface, B., Umberger, W. (2012). Factore influencing Mlaysian consumers' consumption of dairy products, 56 *Conference paper*, Australian Agricultural Resource Economics Society, http://ageconsearch.umn.edu /record/124243/files/2012AC%20Boniface%20CP.pdf

Bus, A.E.M., & Worsley, A. (2003). Consumers' Sensory and Nutritional Perception of three types of milk. *Public Health Nutrition*, 6, No2. 201208.

Byrne, B.M. (2016). Structural Equation Modeling with AMOS: Basic Concepts, Applications and Programming, Third ed. Routledge, New York. pp. 3 16.

Cochran, W.G. (1963). Sampling Techniques, (2nd Ed.), New York: John Wiley and Sons, Inc.

Department of Cenus and statistics, (2013). Colombo Sri Lanka

Deakin University Australia, (2013). Milk Facts and Fallacies [online]. Available at: http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Milk

Fishbein, M. & Ajzen, I. (1975). "Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research", Addison-Wesley, Reading, MA.

Gonda, M. (2009). Nutričný význam mlieka, online available on the internet: http://www.polnoinfo.sk/clanok/615/nutricny-vyznam-mlieka

Hair, J.F., Anderson, R.E., Tatham, R.L., & Black, W.C. (1998). Multivariate Data Analysis, Fifth ed. New Jersy, Prentice Hall.

Hanford, C.E., Campbell, K., & Elliott, C.T. (2016). Impacts of Milk Fraud on Food Safety and Nutrition with Special Emphasis on Developing Countries, *Comprehensive Reviews in Food Science and Food Safety,* 15, 130–142.

Hoque, M., Alam, M., & Naid, K. (2018). Health consciousness and its effect on perceived knowledge and belief in the purchase intent of liquid milk: consumer insights from an emerging market. *Foods,* 7, 150.

http://www.ft.lk/business/SLSI-confirms- standards-for-milk-powder. Access 07.02.2021

Huang, C.H. (2014). Relationships between Consumers' Nutritional Knowledge, Social Interaction, and Health-conscious Correlates toward the Restaurants. *Journal of Int. Management Studies,* 9, 59

Kapoor, D., & Munjal, A. (2017). Functional Foods: The New Secret of the Health Conscious Indian Women, *Global Business Review,* 18, 750–765

Kimball, A.B., Guerin, A., Latremouille-Viau, D., Yu, A.P., Gupta, S., Bao, Y., & Mulani, P. (2010). Coronary heart disease and stroke risk in patient with psoriasis: retrospective analysis, *Journal of medicine,* 123, (4):350-7

Kulsuma, N. (2018). Determinants of Consumers' Intention and their Behaviour in Buying Liquid Milk. *Asian Profile*, 46, 295–310.

Kurajdova, K., Petrovicova, J.T., & Kascakov, A. (2015). Factors influencing milk consumption and purchase behavior-Evidence from Slovakia, *Prcedia Economics and Finance,* Science Direct, (34) -573-580. www.elsevier.com

Lee, J.K., & Lee, W.N. (2009). Country-of-origin effects on consumer product evaluation and purchase intention: the role of objective versus subjective knowledge. *Journal of International Consumer Marketing*, 21(2), 137-151.

Lucas, G.N. (2013). Dicyandiamide contamination of milk powder, *Sri Lanka Journal of Health Science,* 42(2): 63-64

Miller, G.A., & Keller, J. (2000). Psychology and neuroscience: mating peace. *Current Directions in Psychological Science,* 9(6), 212-215

Ortega, D.L., Wang, H.H., & Widmar, N.J.O. (2014). Effect of media headlines on consumer preference for food safety, quality and environmental attributes. *Australian Journal and Resource Economics*, 58, 293-300.

Perez, E.V.B., Faber, I., Osorio, S., & Stergiadis, S. (2020). Consumer knowledge and perceptions of milk fat in Denmark, the United Kingdom, and United States, *Journal of diary science,* 103, (5), Pg 4151-4163, Elsevier

Savindya, S. (2020). Is it essential to drink milk daily, The Sri Lankan Scientist, https://scientist.lk/2020/01/27/is-it-essential-to-drink-milk-daily online access 04.10.2020

Schmid, N.D. (2006). The Health Benefits of raw milk from grass fed animals. Available at http://www.realmilk.com/healthbenefits.html (Retrieved 24th July 2019).

Shaper, A. G., Wannamethee, G., & Walker, M. (1991). Milk, butter and heart disease. *British Medical Journal,* 302, 785-791.

The Dairy Council. (2014). Macro-nutrients in Milk online. Available on the Internet: http://www.milk.co.uk/page

Teng, C., & Wang, Y. (2015). Decisional factors driving organic food consumption: Generation of consumer purchase intentions. *British Food Journal* 117, 1066-1081.

Vidanapathirana, R. (2019). Recent Trends in Milk production and consumption, https://www.dailynews.lk/2019/04/05/*features*, online access 14.11.2020

Wham, C.A., & Worsley, A. (2003). New Zealanders' attitudes to milk: implication for public health. *Public Health Nutrition*, 6, No 1. Pp.73-78.

Wijesinghe, A.G.K., Abeynayake, N.R., & Priyadarshani, R.L.C. (2020). Factors influencing milk powder brand preference: a case from Kegalle district of Sri Lanka, *Sri Lanka Journal of Marketing,* Vol 6 No 2.