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Assessing Urban Consumer Intention on Purchasing of Organic Food in Sri Lanka

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ABSTRACT

Purpose : *Food consumption patterns are changing as a result of prevailing health and environmental issues. Organic foods are generally believed as safer to consume, nutritious, and environmentally sound production. The main purpose of this study was to recognize how the revealed information on organic food labels and perceived organic knowledge influence attitudes and trust toward organic food purchase intention and how subjective norm drives toward organic food purchase intention among urban consumers in Sri Lanka.*

Research Method : *Primary data were collected through a questionnaire survey by means of face-to-face interview from a sample of 300 consumers covering five Divisional Secretariats in Colombo district. Divisional Secretariats were selected randomly. Data were analyzed by using Structural Equation Modeling and AMOS in SPSS.*

Findings : *The results revealed that consumer attitude is the main attribute that influences organic foods purchase intention. Further, results elaborate consumers more concern on the health attributes of the organic foods. Consumers also have low trust on organic food producing companies, farmers, vendors, organic labels and certifiers. The study indicates that organic label does not have a clear profile to consumers. Thus they do not believe organic labeling provides correct and sufficient information. The results show that respondents have low knowledge on organic foods.*

Research Limitations : *Data were gathered only from Colombo district of Sri Lanka. Therefore, future studies should be focused even on other urban areas of the country in order to capture general behavior of consumers on organic food purchase intention.*

Originality/ Value : *Findings of this study are important to policy makers, organic producers, vendors, marketers, certifiers and research institutions to implement better strategies to develop a positive attitude and trust towards organic food in order to promote organic food consumption in Sri Lanka.*

Keywords: *Consumer attitude, Organic food, Purchase intention, Trust, Urban consumers*

INTRODUCTION

Organic food is defined as a product from a farming system which avoids the use of chemicals such as synthetic fertilizers and pesticides (Shafiea and Rennie, 2012). Demand for organic foods is increasing all over the world due to numerous health conflicts faced by consumers. In fact, organic food purchasing behavior is increasing not only in developed countries but also in the developing countries and as a result, organic food market is widely regarded as one of the biggest growth markets in the food industry (Hughner *et al*., 2007; Paul *et al*., 2016). Further, it has suggested consumers and marketers have increased their interest towards organic foods due to the health and environmental issues prevailing due to pesticides, other non-natural substances, and genetically modified organisms which are used to increase the agricultural productions.

Piyasiri and Ariyawardana (2002) cited that agricultural products contain very harmful

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chemicals like arsenic and there are possible adverse effects on human health due to long term exposure to pesticide. But amount of using chemicals such as pesticides, weedicides and synthetic fertilizers are still remaining as it is due to the effectiveness of such products and not widely adapting to organic methods. The use of pesticides in food production is perceived to be associated with long-term and short term unknown effects on health (Wijesinghe and Nazreen, 2020; Hughner *et al.*, 2007; Alphonce and Alfnes, 2019). Rana and Paul (2017) revealed that modern consumers are greatly influenced by the rising incidents of lifestyle diseases caused by the chemical usage in agricultural productions, and hence, they show growing preference for organic food products.

In the context of Tanzanian consumer market, it was found that, consumers have positive behaviors on organic foods, as they are away from pesticides and other harmful farming materials that are reportedly harmful to human health (Canavari and Olson, 2007; Suprapto and Wijaya, 2012). Zanoli and Naspetti (2002) revealed that health benefit is the strongest purchasing motive in purchasing organic foods. In this light, one can argue that the belief of "organic foods are away from chemicals" is the strongest motive that influences organic food purchase intention in many countries.

Further, Hughner *et al*. (2007) elaborated the levels of knowledge in organic food have a strong influence on purchasing intention in organic foods. A study carried out in China revealed that attitude and subjective norm influenced intention to consume organic foods, but it has found that an attitude was the greatest (Torjusen *et al.,* 2001). Researches conducted in Tanzania and Kenya have insisted that personal attitude and health consciousness are the major factors that have influenced on organic food purchase intention in both countries (Wang *et al*., 2019). Consumers are willing to use organic foods but need clear, accurate and reliable information about organic products. A survey has mentioned consumers expect reliable information on organic food that affects their purchase intention. It has also been revealed that demographic variables, lifestyle and attitude towards environment protection define the level of organic food consumption (Padel and Foster, 2005). Stobelaar *et al*. (2006) mentioned, regular consumers of organic food included to educated and higher social class.

Further, Stobelaar *et al*. (2006) revealed that if the level of formal education is high, the level of consumption of organic food is also high and found strong correlation between these variables. Scientists have argued that the consumption of organic foods is an investment as it contributes to better health (Guido *et al*., 2010; Kriwy and Mecking, 2012; Zagata, 2012). Those who have better understanding on risk associated with pesticide think more about organic products and purchase (Saba and Messina, 2003). Consumers are concerning the risks associated with genetically modified foods and conventionally produced food products. As a result, organic foods are perceived as healthy products to be consumed (Siegrist, 2008).

Consumer behavior is a psychological phenomenon that effects on marketing because consumers must have positive attitudes about a product before they are interested in purchasing (Loureiro *et al.,* 2002). A study has mentioned, products with detailed labels and nutritional information give more value for customers to create a positive attitude and tend to buy such products (Rana and Paul, 2017). A study in Vietnam has revealed that place factor, product factor and promotion factor are the first level factors mostly influence organic food purchase behavior of consumers and the second level factor is the price. Place refers to providing products for easy access and distributions (Poyearleng *et al.,* 2019). A study in Sri Lanka has mentioned marketing mix and pre purchase related factors positively influence consumer behavior towards organic food purchasing behavior (Weerasiri *et al.,* 2016). Another research has mentioned that social influences cause for formation of purchase attitude and become the strongest predictor of organic purchase behavior. Further it says that household income is another most important predictor of organic food purchase behavior (Bai *et al.,* 2019).

Further, researchers have found that people prefer to use organic food because it is low in salt, fat and

artificial additives (Olivas and Bernabeu, 2012) and rich in vitamins and minerals essential to maintain good health (Yin *et al*., 2010). Organic food products are less in unhealthy substances and allergens compared to conventional food products. This is an advantage for people who are subjected to allergic disorders and digestive problems (Padel and Midmore, 2005).

According to the literature, many studies have investigated the factors affect on motivation to organic food purchasing intention in different countries. With what kind of factors consumers are motivated to consume organic food in Sri Lanka are yet to be researched widely.

Sri Lankan people are moving to healthy consumption with the improvement in living standards such as increase in income and health consciousness. They have started to focus more on food quality rather than quantity and hence creating a bigger chance for an organic market (Atapattu and Wijesinghe, 2017). As the organic market is still small and primitive in Sri Lanka, consumers generally have less awareness on organic products. Therefore, developing the trust on organic food productions is essential for enhancing organic food purchasing behavior in Sri Lanka. In the context of Sri Lanka, however, there are no rigouran scientific studies that have been done in relation to decisional factors of urban consumers' intention on purchasing organic food especially in Colombo district in Sri Lanka.

In this light of shed, this research was focused to investigate how revealed information, perceived knowledge, trust, attitudes, and subjective norms determine organic food purchase intentions of consumers in Colombo district in Sri Lanka. These findings will be helpful for the producers, vendors, marketers, farmers, suppliers, policy makers, green restaurants and government to develop effective strategies to improve the organic food consumption among the urban consumers especially in the Colombo district. Hence, objectives of this study are to examine how: (1) Revealed information, (2) Perceived knowledge, (3) Trust, (4) Attitudes and (5) Subjective norms determine, Purchase intention of organic food in urban consumers.

MATERIALS AND METHODS

Conceptual Framework

The proposed conceptual framework for the study (Figure 01) explains the relationships among selected six Constructs including, (1) Revealed information (RI), (2) Perceived knowledge (PK), (3) Attitude (A), (4) Trust (T), (5) Subjective norm (SN), and (6) Purchase intention of organic food (PI).
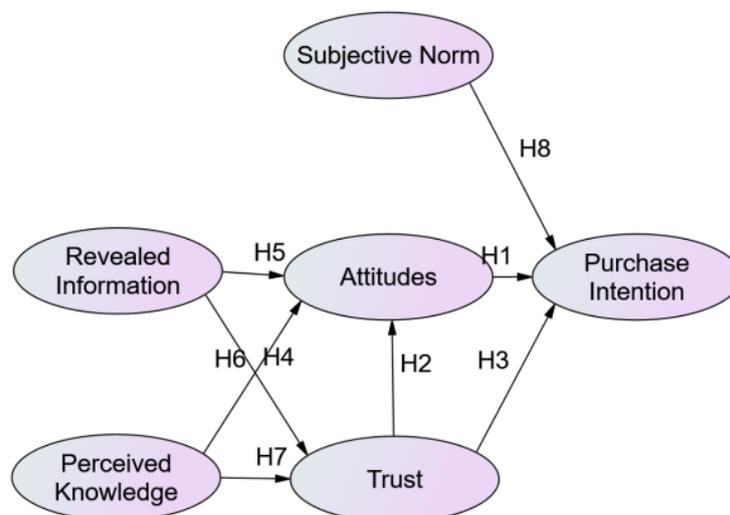

Figure 01: **The proposed conceptual framework**

Data Collection

A structured questionnaire survey was conducted to gather primary data from the consumers covering five Divisional Secretariats in Colombo district. The questionnaire was consisted of seven sections including Personal information of the consumer, Revealed information, Perceived knowledge, Subjective norm, Attitude, Trust and Purchase intention of organic foods. Twenty four items were used to assess these six Constructs other than personal information. All items in the questionnaire were assessed using a seven-point Likert-type scale, ranging from 1 to 7, where 1 was denoted "strongly disagree", and 7 was denoted "strongly agree". The questionnaire was pre-tested using twenty consumers to find the clarity and understanding.

In general, organic-food market is yet undeveloped and relatively new and they are only available at the major supermarkets in Sri Lanka. Thus, this study was administered at randomly selected six supermarkets, including 02 Nos. of 'Arpico', 02 Nos. of 'Keels Super', and 02 Nos. of 'Cargills' Food City out-lets from each selected Divisional Secretariat. Divisional Secretariats were selected randomly. Data were gathered from 300 consumers at selected supermarkets. Consumers were selected based on systematic sampling by interviewing each 5th customer arrived to the super market.

Data Analysis

Structural Equation Modeling (SEM) was used in this study to examine the proposed model (Table 05) using Analysis of Moment Structure (AMOS) in SPSS 16 version. Proposed model comprised of five Constructs namely, Revealed information, Perceived knowledge, Trust, Attitudes and Subjective norms which are considered as the independent variables and Purchase intention of organic food is the dependent variable. Twenty four items were used to assess these six constructs other than personal information. Two indicators which were less contributed to the Construct were removed and model was re-estimated. 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.

The model consisted of two components as Measurement Model and a Causal Structural Model (Jayasinghe-Mudalige *et al*., 2015; Byrne, 2016). As suggested by Byrne (2016), Confirmatory Factor Analysis (CFA) is carried out to determine whether all observed variables (indicator variables) appropriately reflect their underlying constructs (latent variables) and whether the measurement model has acceptable fit to data. After that, Path Analysis was used to examine the predicted causal relationship among the latent constructs (Byrne, 2016).

RESULTS AND DISCUSSION

### Descriptive Statistics of the Sample

Majority of the respondents in the study population were women (61%) and 39% were men and out of that 80% were married (Table 01). Population contained 45% and 38% in the age group of 30-49 and above 50 respectively. Among the sample population, 14% of the respondents had primary education and others possessed above that level. Majority of the sample was in the tertiary education level (50%). Thirty seven percent (37%) respondents had four members in their family. In the survey population, 59% were employed and 48% were among the income level of above LKR 50,000.

Measurement Model

All 24 statements which were used as indicators showed that the model fit was insufficient to proceed with the same set of indicators (Figure 02). Thus, it was pruned three indicators (PK_1, SN_1 and SN_2) which had low factor loadings (below 0.05) and insignificant (at p=0.05). After that, the revised model was re-estimated and the results are indicated in Table 02. Cronbach's alpha was used to assess the internal consistency of the Likert scale items and it was 0.77. According to Hair *et al*. (1998), it is acceptable when Cronbach's alpha is higher than 0.7.

Table 01: **Socio-demographic characteristics of the sample.**

Parameter	Category	Percentage (%)
Gender	Male	39
	Female	61
Age	15-29 years	17
	30-49 years	45
	50 and above	38
Employment Status	Unemployed	41
	Employed	59
Monthly Income	Less than 15,000	3
	15,000-34,999	13
	35,000- 59,999	36
	Above 59,000	48
Educational Level	Primary	14
	Secondary	35
	Tertiary	50
Civil Status	Unmarried	20
	Married	80
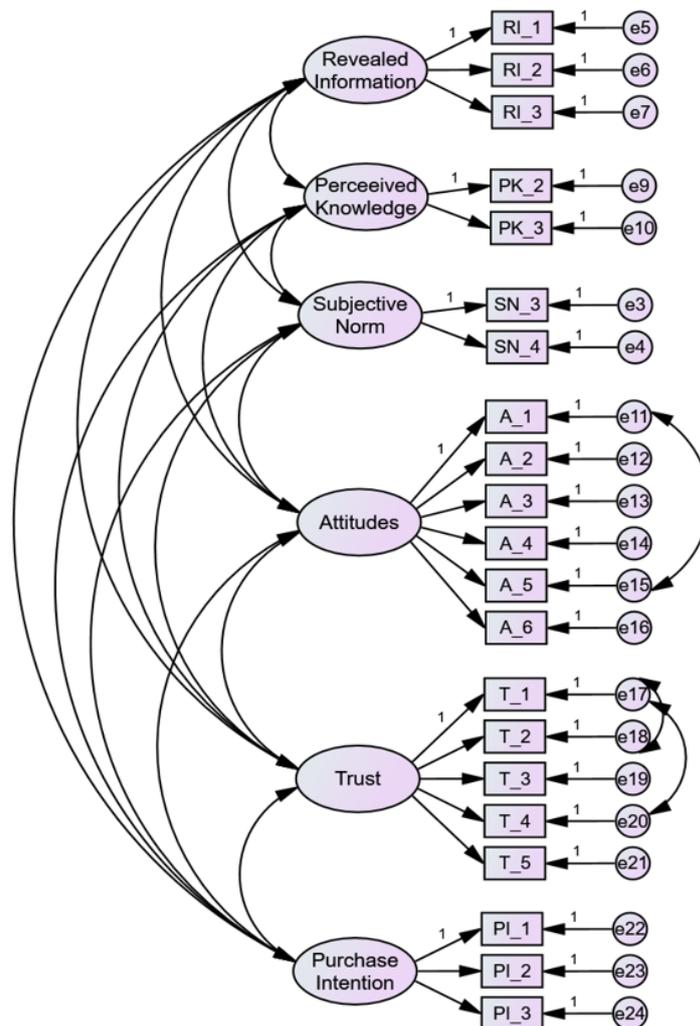
Figure 02: **The Measurement Model**

Composite reliabilities of all constructs except perceived knowledge were higher than the threshold value 0.7 (Hair *et al.*, 1998). The composite reliability of perceived knowledge was marginally below 0.6, thus signifying that all constructs have adequate reliability (Table 02). The Average Variance Extracted (AVE) of perceived knowledge, attitude and trust were below the suggested value 0.5, but other three had estimates above 0.5. Composite reliability and AVE indicate that the overall measurement model has a good convergent validity.

CFA was used to validate the proposed model constructs. It assessed the overall quality of the Measurement Model. Maximum Likelihood method was used to estimate the measurement model. Model fit was assessed by using Multiple Fit Indices (Table 03). Chi-square value (283.092) for the model was statistically significant, $^2/df$= 1.656; a root mean of squared error of approximation (RMSEA) = 0.047; goodness-of-fit (GFI) = 0.918; adjusted goodness-of-fit (AGFI) = 0.889; comparative fit index (CFI) = 0.941. According to Hair *et al*. (1998), the fit indices indicate a good model fit. It means organic food purchase intention can be assessed through these indicators and also consumer behavior towards organic foods can be moderated through the measurements driven by these indicators.

The CFA results listed in Table 02 show that standardized estimates are statistically significant except PK_3 indicator variable. It was revealed that the indicators effectively reflect each latent variable except PK_3 indicator variable.

RI_3 indicator shows the highest factor loading (0.82) towards revealed information which indicates that relevant information of the organic label highly reflects (by 82%) the underlying construct of revealed information. Based on this finding, the researcher can argue that, providing correct and sufficient information in the label of organic food is very important to enhance organic food purchasing behavior among urban consumers in Sri Lanka, as they are satisfied with the information on the label. Government support to promote organic foods (SN_4 indicator) highly reflects (Table 02) the factor of subjective norm by 73.8%. Therefore, the researcher can propose that promotion of organic food by the government is very important to promote organic food purchasing behavior in Sri Lanka. A_3 observed variable shows a higher estimate (0.949) towards attitude to organic food which shows healthiness of organic foods highly reflect attitude of the respondent by 94.9%. It means, that the main reason of purchasing organic food is its healthiness and hence, keeping good practices in producing organic food and promotion of organic food is important to enhance organic food purchasing behavior in this population. Results show that organic food label (T_4 indicator) highly reflects the underlying construct 'trust' by 83.5%. Hence, government intervention on the labeling process is important to maintain trust on organic food and to promote organic food purchasing behavior in this population. The Indicator variable of PI_3 shows a higher factor loading (0.815) towards the latent variable of purchase intention that indicates a higher probability of buying organic foods that highly reflects the underlying construct purchase intention by 81.5%.

Structural model

The study proposed to determine a conceptual model to understand how the revealed information of organic labeling and perceived knowledge influence on trust and attitude towards consumers' organic purchasing intention and also how subjective norm influences on organic purchase intention. It mainly focused on consumer decision process to buy organic foods.

The Structural Model Fit was assessed by using multiple fit indices (Table 03). Chi-square value (294.465) for the model was statistically significant, $^2/df$ = 1.683; a root mean of squared error of approximation (RMSEA) = 0.048; goodness-of-fit (GFI) = 0.914; adjusted goodness-of-fit (AGFI) = 0.886; comparative fit index (CFI) = 0.938. According to Hair *et al*. (1998), the fit indices indicate a good model fit. Therefore, the researcher can argue that organic food purchasing behavior of urban consumers in Sri Lanka can be enhanced by promoting through these indicators (Table 05) included under each Construct.

Table 02:   Properties of the Measurement Model.

Construct	Estimate	Composite Reliability	Average Variance Extracted (AVE)
Revealed Information		0.812	0.593
RI_1	0.626		
RI_2	0.799***		
RI_3	0.820***		
Perceived Knowledge		0.527	0.363
PK_2	0.146		
PK_3	1.264		
Subjective Norm		0.709	0.550
SN_3	0.583		
SN_4	0.738***		
Attitudes		0.782	0.498
A_1	0.249		
A_2	0.895***		
A_3	0.949***		
A_4	0.315***		
A_5	0.645***		
A_6	0.245**		
Trust		0.813	0.466
T_1	0.644		
T_2	0.509***		
T_3	0.652***		
T_4	0.835***		
T_5	0.560***		
Purchase Intention		0.833	0.635
PI_1	0.732		
PI_2	0.735***		
PI_3	0.815***		

** Significant at P < 0.01, *** Significant at P < 0.001

Table 03:   Measurement and Structural Model Fit Indices.

	Measurement Model Estimates	Structural Model Estimates
Chi-square ^{2})	283.092	294.465
df	171	175
Probability Level	0	0
^{2}/df Ratio	1.656	1.683
CFI	0.941	0.938
GFI	0.918	0.914
AGFI	889	0.886
RMSEA	0.047	0.048

df- Degrees of freedom

Path analysis (Figure 03) was used to perform hypothesis testing. The path analysis demonstrates that attitudes of consumers to organic foods significantly (Table 04) and positively enhance consumers organic foods purchase intention (Table 04), thus supporting H1.

Consumer attitude (mean= 5.88) was measured by using six indicator statements that asked about the chemical residues, safeness, healthiness, taste, quality and premium price of the organic foods. The results indicate that consumer attitude is the major factor that influences consumer organic food purchase intention. Further, literature reveals that attitude and subjective norm influenced intention to consume organic food and an attitude was the greatest (Torjusen *et al.,* 2001). The belief of healthiness of the organic foods highly reflects consumer attitude to buy organic food. Most of the studies have suggested that health benefits are the main motive for organic foods purchasing (Zanoli and Naspetti, 2002; Mangusson *et al*., 2003; Padel and Foster, 2005). If positive attitudes can be created among consumers, it is a good starting point in stimulation of organic food consumption behavior in Sri Lanka. Literature shows that the more favorable the attitude of an individual towards the behavior, the stronger the intention to perform the behavior. Further, a research on organic food consumption behavior has mentioned a positive and significant relationship between consumer attitude and purchase intention (Gifford and Bernard, 2006).

The results indicate that "trust" does not significantly impact on attitude and organic purchase intention (Table 04). The trust on organic food was measured by the indicator statements of "*I think that corporations in the field of organic foods are aware of their responsibilities, I think the organic farmers are aware of their responsibilities, I trust those who sell certified organic foods indeed sell quality organic foods, I trust organic food label or logo, and I trust the institutions certifying organic food products*". It means consumers tend to buy organic foods not because of having trust on above factors but because of the attitude that they have on organic foods as organic foods are healthier and safer to consume anyhow. Literature says trust significantly increases consumer attitude and then organic food purchase intention (Krystallis and Chryssohoidis, 2005). Further, it says that consumer trust is a delicate issue since even after consumption, users can not verify whether the food is organic. Trust in organic food, their vendors and certification are important and they are a major influence on consumer attitude and purchasing behavior (Janssen and Hamm, 2012). As organic foods relatively new to Sri Lanka, the consumers have low trust (mean = 3.93) on organic food producers, organic farmers, venders, organic labels and certifiers. Therefore, the government, organic food producers, policy makers, farmers, marketers and suppliers should implement better strategies to increase consumer trust towards organic foods.

Table 04: **Standardized regression weights for the structural paths.**

Hypothesized Relationship		Estimates
Purchase intention	← Attitudes	0.357***
Attitude	← Trust	0.498
Purchase intention	← Trust	0.107
Attitude	← Perceived knowledge	-0.592
Attitude	← Revealed information	0.252
Trust	← Revealed information	-0.030
Trust	← Perceived knowledge	0.900
Purchase intention	← Subjective norm	-0.043

*** *Significant at P < 0.001*

Table 05: **Likert scale items which are reflected by the underlying construct and observe variable name**

Construct	Variable Name	Questionnaire item
Revealed Information	RI_1	Organic labeling provides correct information on organic foods.
	RI_2	Organic labeling provides sufficient information.
	RI_3	I am satisfied with the information that organic labeling provides.
Perceived Knowledge	PK_1	I'm personally very knowledgeable about organic foods.
	PK_2	The average person in Sri Lanka is very knowledgeable about organic foods.
	PK_3	The food industry is very knowledgeable about organic food.
Subjective Norm	SN_1	My family thinks I should buy organic foods.
	SN_2	My friends think I should buy organic foods.
	SN_3	News and magazines affect my purchase decisions of organic foods.
	SN_4	Government supports for organic foods affect my decisions to buy organic foods.
Attitudes	A_1	Organic foods have lower chemical residues than conventional foods.
	A_2	Organic foods are safer to eat than conventional foods.
	A_3	Organic foods are healthier to eat than conventional foods.
	A_4	Organic foods are tastes better than conventional foods.
	A_5	Organic foods have superior quality than conventional foods.
	A_6	Organic foods are more expensive to eat than conventional foods.
Trust	T_1	I think that corporations in the field of organic foods are aware of their responsibilities.
	T_2	I think the organic farmers are aware of their responsibilities.
	T_3	I trust those who sell certified organic foods indeed sell quality organic foods.
	T_4	I trust a quality organic food label or logo.
	T_5	I trust the institutions certifying organic food products.
Purchase Intention	PI_1	If organic foods were available in the shops, I would buy them.
	PI_2	I am willing to buy organic foods despite their higher prices.
	PI_3	The probability I would buy organic foods is very high.
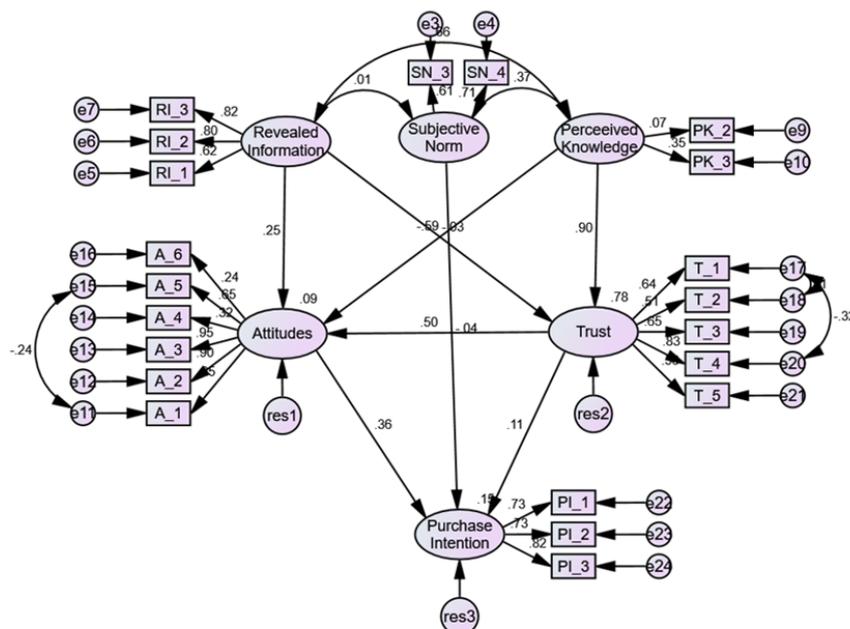
Figure 03: **The structural model**

Revealed information does not significantly impact on attitude and trust. Even though it is not significant at 0.001 probability, it also has a considerable effect on attitude towards organic foods. Perceived knowledge also does not significantly impact on attitude and trust (Table 04). This indicates that Sri Lankan consumers tend to buy organic foods based on their attitudes towards organic foods as they are safer to eat somehow. The indicators that were used to measure consumers' attitudes are "*organic foods have lower chemical residues, organic foods are safer to eat, organic foods are healthier to eat, organic foods are tastier, and organic foods have superior quality*". Therefore, we may propose that these are the major factors contribute towards organic food purchase intention at least in this study population. In the literature, it says that adequate information on organic food products are a requisite to enhance organic food purchase intention because such information tend to enhance consumer attitude and trust towards organic products (Gracia and Magistris, 2008).

CONCLUSIONS

Consumers tend to buy organic foods based on their attitudes towards organic foods. Attitudes represent the perceptions such as "organic foods have lower chemical residues, organic foods are safer to eat, organic foods are healthier to eat, organic foods taste better and organic foods have a superior quality".

This research provides several recommendations at policy level as well as in industry level. In general, organic foods are relatively new to Sri Lankan consumers and hence they have low awareness on organic foods. Thus, the government, marketers, research institutes, certifiers and producers should provide sufficient and correct knowledge on organic foods as well as credible information through diversified channels. Those things can support to enhance the consumer trust towards organic foods as well. If the consumers have a good understanding with regard to organic agriculture and organic food production process, it can generate more confidence in recognizing organic foods.

Further, the study indicates that organic label does not have a clear profile to consumers. It is the government's responsibility to set policy formulations to regulate proper labeling requirements for organic foods. Through that, the organic certifying agents can certify organic foods by issuing organic labels which represent clear information and quality of food to the customers. Credible labeling information can be given by displaying how organic foods are grown, processed, handled and the amount of organic ingredients percentage in a product. Programs should be conducted to increase awareness and trust in the general public towards the organic certification standards as well as the organic certifying agents. Padel and Foster (2005) have suggested the reason for limiting organic market share is the huge price difference between organic foods and conventional foods. Premium price, low trust and the limited awareness on organic foods are the main barriers to the organic market. Organic food sectors and marketers have to focus on promoting benefits and accessibility of organic foods to the general public to enhance consumer recognition and common acceptance.

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