

# THE FACTORS INFLUENCING CONSUMERS ORGANIC FOOD PRODUCTS BUYING INTENTION

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## ABSTRACT

*Organic food products are produced by engaging the concept of Organic farming methods. Organic food products are cultivated without the use of chemicals, fertilizers, pesticides and other artificial enhancers. There are many outlets that are selling organic food products. Consumers have started buying organic food products regularly and the demand is growing steadily. There are various factors that have an influence on the organic food consumers with respect to the buying intentions towards organic food products. The objective of this paper is to study the Knowledge, Consciousness, Availability, Price on Purchase Attitude and the buying Intentions of organic food products among the consumers of Coimbatore. The study is conducted by collecting questionnaires from the consumers who walk into the organic stores for buying organic food products. The samples collected were 468 for conducting the data analysis. The statistical tools used are Correlation, Regression Analysis, Factor analysis and Structural Equation Modelling.*

**Keywords:** Organic Food Products, Knowledge, Consciousness, Availability, Price, Purchase Attitude, Buying Intentions.

## INTRODUCTION

Organic food is a form of natural food which does not contain artificial chemicals such as fertilizers, antibiotics, pesticides, genetically modified organisms, herbicides and that is grown without any irradiation (Gad Mohsen et al., 2013). The Food and Agricultural Organization in United States report states that India produces cereals that include the oats, triticale, wheat, rice, rye, barley, maize and others spread over 97.1 million hectares; citrus fruit that includes oranges, lemons, tangerine, limes, pomelos/ grapefruit and others spread over 0.75 million hectares; temperate fruits like the cherries, pears, peaches/nectarines, apples, apricots, plums and other related fruits; subtropical and tropical fruits like the mangos, pineapples, bananas, dates, figs, Avocados, kiwis and similar others; the oil seeds (sunflower, linseed, peanuts, sesame, soybeans, turnip rape and other seeds, the protein crops spread over 26 million hectares; and all types of vegetables (Willer & Kilcher, 2011). The report on "*India Organic Food Market Forecast & Opportunities, 2019*", depicts that the market revenues for organic food in India are predicted to show a growth rate of CAGR [combined annual growth rate] of about 25% for the years 2014 till 2019 (Heyes, 2014). The behaviour of the environment has become a cause of concern and is considered highly important for the producers and to the consumers. Many of the earlier researches had showed a positive perception towards the organic food products (Davies et al, 1995). As there is growing shift towards the sophisticated and modern life there shall arise, a possibility of effect towards the preferences and food choices of the consumer. The report of Organic food and health about the organic products as considered by Rathika & Ammani (2012) states that, organic food products which were highly exported previously, has seen change of

demand by the consumers from the domestic market itself. Also, the consumers have started showing increase in awareness about the problems that arise out of consuming the chemically<sup>6</sup> grown foods.

### **Statement of the Problem**

In this modern world, reality is taking its back seat gradually and the artificial effect becoming driving force influencing the common people, which have a drastic negative impact in the life style of all age category (child-old aged) irrespective of the gender, socio-economic status, etc. Realizing the fact, vast majority of the people are turning around to look back the loss due to ignorance and are gradually catching up to the real natural world. It is worth mentioning, because of this positive change in the minds of people, initiatives by green organic promoters and policy makers are putting their valiant efforts to serve the people healthy and to save the eco-system as well. There are number of studies examining the consumer opinion on organic food consumption, however, this study concentrates to identify the influencing factors such as Knowledge, Consciousness, Availability and Price having direct impact on the purchase attitude leading to Behavioural Intentions. Therefore, this study is a maiden attempt by the researcher to evaluate and identify differences in the opinion of organic food products on certain aspects among consumers in Coimbatore.

### **Objectives of the Study**

To study the Knowledge, Consciousness, Availability, Price on Purchase Attitude and Buying Intentions of organic foods among consumers in Coimbatore.

### **Research Design**

This research design deals with describing the characteristics of a particular individuals or groups. This study is descriptive in nature and is conducted to analyze the factors influencing the purchase attitude and buying intentions of organic food products among consumers in Coimbatore city. Both the primary and secondary data are collected for the study. Survey samples are undertaken through well structured questionnaire to accomplish the objectives. Sample consumers are identified as the first step to collect the primary data from different places in the city limits of Coimbatore by considering the respondents who step-in to the organic stores and purchase organic food. Non-probability sampling based on convenient sampling method was adopted. The researcher concluded with 468 samples to conduct the data analysis. Initially, the first-hand information was collected using a self prepared questionnaire, its reliability is tested using Cronbach's coefficient alpha. The test-retest method was adopted during the pilot study with 50 organic food consumers. The relevant statistical techniques used are Correlation, Regression Analysis, Factor analysis and Structural Equation Modelling.

## **LITERATURE REVIEWS**

Çakıcı (2009) stated that when consumers become aware, knowledgeable and gain confidence in the label of organic food then consumer have better positive attitude about these products. Attitude of non-organic food buyers are to be examined along with consumers purchase intentions of organic food buyers. Gotschi et al. (2010) study says that consumer knowledge about organic food can highly influence the consumer behaviour and attitude about

organic food. Basha et al., (2015) stated consumer attitude is shifting towards organic food due to the concerns on health, environment, quality, life-style changes and these factors influence the buying of organic food products. Rana (2017) study analyses the factors which influences the purchase behaviour of consumers for organic food. The consumers who are conscious towards the health prefer organic food than non-organic foods. Marangoz & Paksoy (2014) inferred that more consumers are becoming aware and are moving towards consuming organic food products. Model reveals that consciousness on health is the important factor that creates impact on the consumer attitude towards purchasing organic food products.

All these results from various literatures observed from the results of various authors are presented considering the flow of the study from knowledge, preference, attitude and buying intention of consumers towards organic food products justifying the objective of the study.

### **Limitations of the Study**

The study was conducted in Coimbatore City and so the findings may not be relevant for other areas that can be studied. The products that were considered in this study were limited only to the organic food products and so be considered as the limitations for the study.

### **Theoretical Underpinning**

#### **Knowledge have Positive effect on buying intentions of Organic food products**

Knowledge about online purchase is less among females which has an impact on the buying intentions for products which are promoted and sold online Chiao & Yang (2010). There is high dependence on word of mouth among them for making purchase decisions.

#### **Environmental consciousness drives consumers purchase attitude in buying organic foods**

Positive effect exists between concern for environment and buying intentions of organic food products (Pomsanam et al., 2014). Honkanen et al. (2006) validates Durham & Andrade (2005) study that attitude of consumers their concern for environment has a high positive effect on buying intentions of organic food produce.

#### **Price can significantly differentiate purchase attitude in buying intention of organic foods**

Lockie et al. (2002) in his study finds out that even though consumers are very much concerned for environment, but if the price of the product is high, then consumers have negative influence on buying intentions.

#### **Availability can significantly differentiate purchase attitude in buying intention of organic foods**

Consumers are able to purchase organic foods in urban areas, as it is easily available for purchase. Similarly (Voon et al., 2011) stated that there is negative influence on attitude of consumers for purchasing if availability of organic food is limited. A study by Vermeir & Verbeke (2004) says that more consumers want to purchase organic food products but are restricted due to less availability of products to purchase.

## ANALYSIS AND RESULTS

The emerging situation and the growing familiarity of organic food due to the wicked effects of conventional farming using fertilizers awakened the consciousness of consumers subjective and media knowledge to achieve the benefit through organic food stuff which is beneficial for the self and the surroundings. In this regard, the researcher has attempted to identify the factual with six constructs viz. Knowledge, Environmental Consciousness, Availability, Price, Purchase Attitude and Buying Intentions in which attitude as mediator and intention as dependent variables. Initially, confirmatory factor analysis performed to validate the constructs followed by the path analysis using structural equation modelling. The SEM model reveals the covariance / correlation results of exogenous constructs, followed by the direct and indirect effects based on the factors (knowledge, consciousness and availability) influencing price and attitude (mediator) and consumer buying intention of organic food products in Coimbatore.

### RESULTS OF CFA

<b>Dimensions</b>	<b>Code</b>	<b>Loadings</b>	<b>AVE</b>	<b>CR</b>
Knowledge	HKN	0.69	0.519	0.683
	FKN	0.75		
Environmental Consciousness	ECN	0.73	0.491	0.659
	HCN	0.67		
Availability	AV1	0.73	0.52	0.764
	AV2	0.67		
	AV3	0.76		
Price	P1	0.69	0.45	0.71
	P3	0.7		
	P4	0.62		
Attitude	Att2	0.63	0.494	0.744
	Att3	0.69		
	Att4	0.78		
Buying Intentions	BI1	0.69	0.495	0.746
	BI3	0.74		
	BI5	0.68		

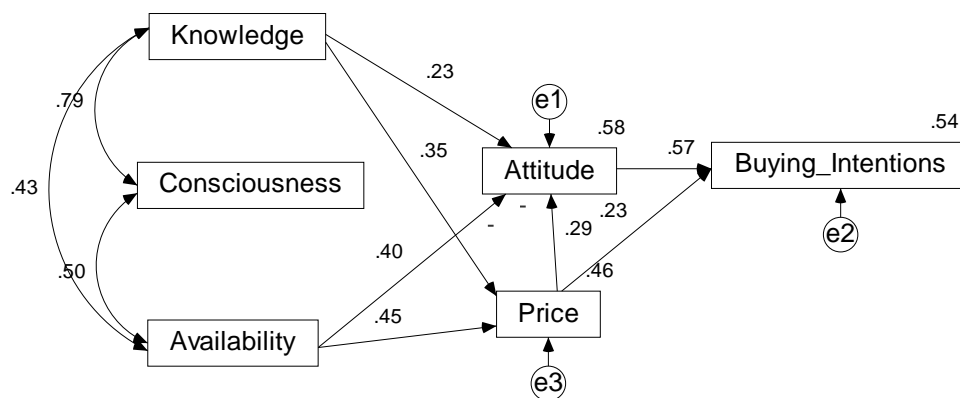
The reliability and validity statistics reported for the modified model of influencing factors (knowledge, consciousness, availability and price) along with attitude and buying intentions shows few factors are found to have recorded below 0.7 (recommended threshold) is evaluated as only marginal to retain the items in the constructs to conduct final model Table 1. Convergent validity (AVE) ranges from 0.450 to 0.520 while the construct reliability ranges from 0.659 to 0.764 respectively. The discriminant validity of the constructs fell within the threshold level which is only achieved after elimination of few items and after conducting modification indices to achieve the Model fitness. The fitness summary for the final model is shown below in Table 2.

	CMIN/DF	GFI	AGFI	NFI	CFI	RMSEA
Final CFA model	5.061	0.898	0.840	0.850	0.874	0.093
Threshold Limit	<5	>0.9	>0.8	>0.9	>0.9	<0.08

The final confirmatory factor analysis model measuring influencing factors along with attitude and buying intentions shows significant improvement after elimination of few items and conducting modification indices to achieve the good fit index. Results shows that all statistical values reported are found nearest to the prescribed threshold levels of the final model results viz. CFI=0.874, CMIN/df=5.061, GFI=0.898, AGFI=0.840 and RMSEA=0.093.

Therefore, considering the fitness results of all dimensions viz. knowledge, consciousness, Price, Availability, attitude and buying intentions measured using confirmatory factor analysis, the reliability and validity reported in the study is acceptable to proceed in analyzing the SEM (structural equation modelling) in Figure 1 and Table 3,4,5.

**STRUCTURAL EQUATION MODELING FINAL MODEL**



**FIGURE 1**  
**MODEL MEASURING DIRECT EFFECTS OF INFLUENCING FACTORS ON ATTITUDE AND PRICE AND INDIRECT EFFECT ON BUYING INTENTIONS**

			Estimate	S.E.	C.R.	P
Knowledge	<-->	Consciousness	30.796	2.298	13.399	***
Knowledge	<-->	Availability	9.294	1.082	8.586	***
Consciousness	<-->	Availability	8.914	.925	9.634	***

1. Significant positive correlation exist between the Knowledge and Consciousness
2. Significant positive correlation exist between the Knowledge and Availability
3. Significant positive correlation exist between the Consciousness and Availability

**Table 4**  
**REGRESSION WEIGHTS MEASURING DIRECT EFFECTS OF INFLUENCING FACTORS ON ATTITUDE AND PRICE AND INDIRECT EFFECT ON BUYING INTENTIONS**

			Estimate	S.E.	C.R.	P
Price	<---	Availability	0.478	0.040	11.847	***
Price	<---	Knowledge	0.169	0.019	9.116	***
Attitude	<---	Price	-0.275	0.039	-7.127	***
Attitude	<---	Knowledge	0.107	0.017	6.391	***
Attitude	<---	Availability	0.408	0.038	10.621	***
Buying_Intentions	<---	Price	-0.217	0.039	-5.566	***
Buying_Intentions	<---	Attitude	0.560	0.041	13.685	***

### Direct Effects

1. Direct effect exists between Availability and Price signifies a unit change in availability positively impacts price by 0.479 units proved statistically significant with the critical ratio=11.847, Sig.0.000 rejecting H<sub>0</sub>2a.
2. Direct effect exists between Knowledge and Price signifies a unit change in knowledge positively impacts price by 0.169 units proved statistically significant with the critical ratio of 9.116, Sig.0.000 rejecting H<sub>0</sub>2b.
3. Direct effect exists between Price and Attitude signifies a unit change in price negatively impacts attitude of buying organic foods by -0.275 units proved statistically significant with the critical ratio of -7.127, Sig.0.000 rejecting H<sub>0</sub>2c. Direct effect exists between knowledge and Attitude signifies a unit change in knowledge positively impacts attitude of buying organic foods by 0.107 units proved statistically significant with the critical ratio of 6.391, Sig.0.000 rejecting H<sub>0</sub>2d.
4. Direct effect exists between Availability and Attitude signifies a unit change in availability positively impacts attitude of buying organic foods by 0.408 units proved statistically significant with the critical ratio of 10.621, Sig.0.000 rejecting H<sub>0</sub>2e.
5. Direct effect exists between price and buying intentions signifies a unit change in price negatively impacts buying intention of organic foods by -0.217 units proved statistically significant with the critical ratio of -5.566, Sig.0.000 rejecting H<sub>0</sub>2f.
6. Direct effect exists between Attitude and Buying Intentions signifies a unit change in attitude positively impacts buying intention of organic foods by 0.560 units proved statistically significant with the critical ratio of 13.685, Sig.0.000 rejecting H<sub>0</sub>2g.

**Table 5**  
**INDIRECT EFFECTS INDIRECT EFFECTS OF INFLUENCING FACTORS ON ATTITUDE AND PRICE AND INDIRECT EFFECT ON BUYING INTENTIONS**

	Availability	Knowledge	Price	Attitude
Price	0.000	0.000	0.000	0.000
Attitude	0.131	0.046	0.000	0.000
Buying_Intentions	0.406	0.123	0.154	0.000

### Indirect Effects

1. Indirect effect exists between availability and attitude mediated by price shows a unit change in availability positively impacts attitude of buying organic foods based on price as mediator by 0.131 units proved statistically significant rejecting H<sub>0</sub>3a.
2. Indirect effect exists between knowledge and attitude mediated by price shows a unit change in knowledge positively impacts attitude of buying organic foods based on price as mediator by 0.046 units proved statistically significant rejecting H<sub>0</sub>3b.

3. Indirect effect exists between knowledge and buying intention mediated by attitude shows a unit change in knowledge positively impacts buying intention of organic foods based on attitude as mediator by 0.123 units proved statistically significant rejecting H03c.
4. Indirect effect exists between price and buying intention mediated by attitude shows a unit change in price positively impacts buying intention of organic foods based on attitude as mediator by -0.154 units proved statistically significant rejecting H03d.
5. Indirect effect exists between availability and buying intention mediated by attitude shows a unit change in availability positively impacts buying intention of organic foods based on attitude as mediator by 0.406 units proved statistically significant rejecting H03e.

### MODEL SUMMARY

TABLE 6 MODEL SUMMARY SHOWS FACTORS INFLUENCING ATTITUDE AND PRICE AS INDIRECT EFFECT ON BUYING INTENTIONS OF ORGANIC FOOD PRODUCTS								
	CMIN	CMIN/DF	RMR	GFI	AGFI	NFI	CFI	RMSEA
SEM model	11.490	2.298	0.043	0.992	0.967	0.993	0.996	0.053
Threshold Limit		< 5	< 0.05	> 0.9	> 0.8	> 0.9	> 0.9	< 0.08

In Table 6 the model summary measuring goodness of fit index with regard to direct and mediated effects of influencing factors on attitude and buying intentions shows CMIN = 11.490, CMIN/DF = 2.298, RMR=0.043, GFI=0.992, AGFI=0.967, TLI=0.988, CFI=0.996, Comparative Fit Index : CFI value of 0.90 or greater (Hu & Bentler, 1999) and NFI=0.993, Normed Fit Index (NFI) are used to measure model fit above 0.90 are considered as acceptable (Bentler & Bonett, 1980) and RMSEA 0.053 shows good fit model and shows close association between influencing factors and buying intention mediated by attitude among consumers buying organic food products in Coimbatore.

### DISCUSSION

As the consumers in Coimbatore, considered for the study, have adequate knowledge and conscious towards organic foods have significantly influenced in their attitude and buying intentions disagree with the statement that consumers who are knowledgeable about organic food products need not compulsorily have buying intentions as there are numerous factors involved in creating the buying intentions which can translate the knowledge into demand for the product. Padel (2005) study highlights the fact that customers lack knowledge of labelling, certifications, genuineness of the organic nature of the product. This can result in consumers refusing to buy organic products because of lack of confidence. The risk perception increases when consumers become more knowledgeable about the risk and its dangers. Also, if customers become confident on the distributor, then their perception of risk declines (Gianluca et al., 2008).

The understanding and the experience gained by a consumer over a period of his life time over a product is called the Consumer Knowledge. Beyond this point he does the search externally to gain more knowledge. All the categories selected except the consciousness and attitude as well as consciousness and price which makes no difference among consumers buying organic food products. Model construct in the study is significant and relevant to the study as it helps us to understand how consumers collect information and organizes the information (Alba, 1983). The types of knowledge are objective, subjective and experience (Dodd, 2005). The study is confined to the respondents based on their experience knowledge in buying organic food products in Coimbatore as it sums up the major activities of the consumer in terms of actual use,

past consumption, the information search made and the knowledge gained from their experiences.

SEM model shows price have a significant negative effect on attitude and buying intentions, when there is increase in price it has a significant negative effect on attitude and buying intentions which means increase in price have direct mediated effects on decrease in purchase attitude and buying intentions. Price can play a dual role as per the model of Erickson & Johansson (1985) that price has a direct negative impact on buying intentions and also has indirect positive impact on buying intentions when considering the perceptions of product quality. So, price can play a positive or negative influencing role on buying intentions of organic food products. In the study result, the attitude varied marginally across all three cases where, the attitude declines marginally when the price expected to increase by 20% and attitude improves marginally when price decreases by 20%. Overall, the purchase attitude and buying intentions are found to be very high among organic food consumers which means all the consumers participated in the survey observed to have genuine purchase attitude that have significantly influenced their organic buying intentions.

Attitude is a tendency to have a positive or negative reaction to a person, situation or for an event (Eagly & Chaiken, 1993). Lim et al. (2014) study has revealed that there exists a positive relationship between consumers buying intention and the actual purchase for the organic food. Consumer belief and its benefits derived have created a positive impact on the attitude towards purchasing organic foods. From the study it is found that there is a significant relationship between direct significant effects on purchase attitude on buying intentions. The result contradicts with the study by Pearson et al. (2010) states that there exists a gap between consumer positive attitude to buy and with their actual level of purchase of organic foods.

## **Suggestions**

Price plays a significant role in buying behaviour and it is obvious that high price can decrease the interest when similar products (conventional) exist in the market though there are benefits for self and society. Therefore, to retain the spirit and bring in more consumers into the organic fold, untiring efforts through initiative in media, government sources, NGOs is a must to create more awareness to strengthen the organic market.

It is mandatory that the organic food product need to be promoted to every corner of the market which is absent in local (Indian) settings. Only specific organic shops are promoting the product by keeping it available in their store, while it is gaining much more importance to keep within its reach for all people in the society i.e. shall be made available with mega retailers like super markets, malls, departmental stores and also in small retail stores like kirana stores, provision stores, etc.. Creating awareness through store display exclusively providing space for organic products can help people to reach for the products.

It is necessary to inculcate the consumers with marketing message that connect organic attributes with desired consumer values (organic food product, eco-friendly nature, etc.). Change is needed in the attitude of organic food consumers. Government shall strictly implement the laws related to organic foods through providing centralized facilities for supply chain activities with low cost for all the entrepreneurs that may help in promoting organic foods that will also enhance the consumer organic attitude particularly in food products.

Subsidies shall be provided for the volunteers who are in the verge of establishing organic food technologies. Initiatives from Corporate houses to campaign for organic food



products shall be made mandatory. Encouraging the imports with necessary tax relief benefits or incentives will help the manufacturers to go green and organic.

## CONCLUSION

The preference and purchase attitude has positive influence on organic food products. Also, the buying intention of the consumers motivated through their purchase attitude had significantly influenced to buy organic food products. Barriers needed to be eliminated and the support from the government to help the general public only to choose organic food products by making it mandatory or the government shall initiate policy and implement through their health department to exclusively promote organic food products and ban all the food products that will have negative impact on their health and can cause injury. Therefore, it is felt that when the suggestions are taken into consideration with due care by the government and policy makers, it will help to enhance the attitude and purchase intentions of the public to opt only for organic food products that will help the present and future generations to lead safe and healthy life.

## IMPLICATIONS FOR FUTURE RESEARCH

1. Only the purchase behaviour of the consumers towards organic food products has been taken into consideration for the present study, and within the Coimbatore city limits which when conducted in different geographical areas may yield different results and hence this needs further review and research.
2. Studies can also look into the problems faced during promotion of organic food products, benefits achieved when promoting organic food products, etc. and this shall give in depth understanding to the factual situation.
3. A standard set of consumers, who are only using organic food products shall be considered as users and a set of consumers, who are non-users of organic food products shall be considered as non-users and a comparison can be made. This can be analyzed to assess the difference in benefits.

## REFERENCES

- Alba, J. (1983). The effects of product knowledge on the comprehension, retention, and evaluation of product information. *Advances in Consumer Research*, 577-580.
- Basha, B., Mason, M., Shamsudin, C., Iqbal-Hussain, M., & Salem, H.M. (2015). Consumers Attitude Towards Organic Food (March 20, 2017). *Procedia Economics and Finance*, 31, 444-452.
- Chiao, C.C., & Yang, C.C. (2010). The impact of recommendation sources on online purchase intentions: The moderating effects of gender and perceived risk. *World Academy of Science, Engineering and Technology*, 6, 111-114.
- Davies, A., Titterington, A., Cochrane, C. (1995). Who buys organic food? A profile of the purchasers of organic food in Northern Ireland. *British Food Journal*, 97(10), 17-23.
- Dodd, T.L. (2005). Differential Effects of Experience, Subjective Knowledge, and Objective Knowledge on Sources of Information used in Consumer Wine Purchasing. *Journal of Hospitality and Tourism Research*, 3-19.
- Durham, C.A. & Andrade, D. (2005). Health vs. environmental motivation inorganic preferences and purchases. American Agricultural Economics Association Annual Meeting, Providence, Rhode Island.
- Eagly, A.H., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth, TX: Harcourt Brace Jovanovich College Publishers.
- Erickson, G. & Johansson, J. (1985). The role of price in multi-attribute product evaluations, *Journal of Consumer Research*, 12, 195-199.
- Gad Mohsen, Dacko, M., & Scott, G. (2013). *An extension of the benefit segmentation base for the consumption of organic foods: a time perspective*. *Journal of Marketing Management*, 29(15-16). 1701-1728.
- Honkanen, P, Verplanken, B & Olsen, S.O. (2006). Ethical values and motives driving organic food choice. *Journal of Consumer Behavior*, 5(5), 420-430.

- Heyes, J.D. (2014). Record growth of organic food consumption in the U.S. and India. Retrieved from [http://www.naturalnews.com/046188\\_organic\\_food\\_consumption\\_record\\_growth\\_international\\_markets.html](http://www.naturalnews.com/046188_organic_food_consumption_record_growth_international_markets.html)
- Lockie, S., Lyons, K., Lawrence, G., & Mummery, K. (2002). Eating green: Motivations behind organic food consumption in Australia, *Sociologia Ruralis*, 42, 23-40.
- Marangoz, M., & Paksoy, H.M. (2014). Modeling attitude towards organic foods: *A research on adolescents*, 3(7), 40-49
- Padel, S.F. (2005). Exploring the gap between attitudes and behavior. *British Food Journal*, 606-625.
- Pearson, D., Henryks, J., & Jones, H. (2010). Misreading between the lines: Consumer confusion over organic food labelling. *Australian Journal of Communication*, 37(3), 73-86
- Pomsanam, P., Napompech, K., & Suwanmaeneepong, S. (2014). An exploratory study of the organic food purchase intention among Thai-Cambodian Cross-Border Consumers. *Asian Journal of Applied Science*, 7(5), 294-305.
- Rathika, P., & Ammani, P. (2012). Eating healthy consumer perception towards of organic foods, *International Journal of Marketing, Financial Services and Management Research*, 1(2), 2012, ISSN: 2277 3622.
- Vermeir, I., & Verbeke, W. (2006). Sustainable Food Consumption: Exploring the Consumer Attitude-Behavior Gap. *Journal of Agricultural and Environmental Ethics*, 19(2), 169-194.
- Voon, J.P., Kwang, S.N., & Agrawal, A. (2011). Determinants of Willingness to Purchase Organic Food: An Exploratory Study Using Structural Equation Modeling. *International Food and Agribusiness Management Review*, 14(2), 103-120.
- Willer, H., & Kilcher, L. (2011). *The World of Organic Agriculture. Statistics and Emerging Trends 2011*.