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VIT Business School

Trimester - I Digital Assessment August, 2022

BMT 5111: Applied Economics for Managerial Decisions

Slots: G2+TG2

1) Read the document "Factors influencing organic foods purchase intention of Indian customers" and summarize your learning from it.

2) Identify the factors affecting demand of organic foods in India

3) If you are a manager of any organic food producing firm, what steps can you take to boost the demand of consumers.

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Factors influencing organic foods purchase intention of Indian customers

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Abstract These days, consumers are more inclined towards a healthy lifestyle. They understand the quality of food intake directly affects their health. Consuming organic food is a good option available to them. India being a big producer of organic food has started showing interest towards consumption of organic food. Understanding of consumer is very important for marketers for the holistic growth of organic food market. The aim of this study is to comprehend the key factors affecting purchase intention of the Indian organic customers. This study has used a semi-structured questionnaire on 200 organic customers and proposed a research model. The data analysis has used confirmatory factor analysis (CFA) and identified that all the indicating variables have reflected their underlying constructs. After undergoing CFA, it is also established that the acceptable fit to the data has been reflected by the measurement model. Moreover, path analysis was used to check the predicted causal relationship among the latent constructs (structural model). Contribution to the sustainable environment is the target of mature organizations. The proposed relationship model for purchase intention may help organization dealing in an organic food market.

Keywords Sustainable products · Organic food · Subjective norms · Perceived risks · Purchase intention

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Introduction

After becoming independent, the major problem faced by India was the dearth of food resources. The early 1960s had witnessed the green revolution to increase the production of different types of crops, helping in meeting the growing demands of food grains of the ever-increasing population (Pingali 2012). The main aim of the green revolution was to become self-sufficient in the field of food grains by developing and using high yielding varieties of seeds and fertilizers, modern irrigation methods, and managing land holdings which were scattered. The agricultural lands of Punjab, one of the states of Northern India; invariably known as the food basket of India has been changed into goldmines because of its hardworking farmers. The farmers of Punjab were the first ones in India to test new seeds, had a faith in using pesticides and fertilizers and introduced mechanized and modern production techniques to make the state "the wheat bowl of India." In the initial years, the usage of fertilizers and pesticides made the state prosperous, but the continuous and unwanted usage of chemicals in the form of fertilizers and pesticides gradually made the land as well as the water bodies toxic and

poisonous. The water in some districts of Punjab was so polluted that the underground water of these districts was declared unfit for human consumption by the state government. The percentage of toxic elements like chloride, chromium, uranium, and many other toxic elements (some out of which can lead to cancer) had risen to alarmingly high levels in the water (Bajwa et al. 2015) affecting the physical condition of numerous villagers who were bound to consume the infected water. Due to persistent and excessive and harmful use of chemical fertilizers and pesticides, the productivity of many agricultural has either reduced or the fields now lay barren. With the increased usage of pesticides, the pests have also become resistant to pesticides leading to excessive losses to crops. The same was reported a few years back when the cotton crop was attacked and destroyed because of American bollworm in the large farms of Punjab. The panicked farmers now started using huge amount of pesticides to safe their crops from being destroyed. The excessive usage of pesticides was recommended by the pesticide dealers to make the best use of the situation. Wherein Punjab Agriculture University, the premier institute of Punjab had recommended only seven sprays for a particular crop; the farmers were using the sprays by more than 32 times (indiatogether.org) for the same crop which resulted in making the land unproductive because of the damaging effects of the pesticides. A large number of cases related to intoxication and spread of many diseases were reported in various parts of Punjab due to excessive usage and exposure to pesticides. To safeguard their crops from different types of pests, the farmers took loans from commission agents as well as from the banks to buy pesticides and other related equipments. The natural resources on one side were excessively used and on the other hand, were continuously polluted affecting the balance of the environment and health of millions of people. Thus, it becomes more evident that we develop such techniques and methods that will help in growing crop without damaging environment. This leads the farmers as well as the government to explore and boost the untried organic food market and to get themselves free from the hazardous cycle of using the pesticides to boost the production on the cost of ecology, environment and more so, of health. The Indian government, as well as different states and many non-government organizations, are encouraging the culture of organic agriculture among the farmers to prevent further damage to land, ecology, food chain, and the environment by unwarranted utilization of harmful chemicals (ncof.dacnet.nic.in). As researchers regarding preferring and adopting organic food have taken place in the advanced nations, the study should also be conducted from the perspective of Indian customers to determine the bunch of influential factors and inhibiting factors affecting the preference of consumers towards organic food. Moreover, the conclusions and inferences of the present study would help the government to devise policies to reduce the extreme use of chemical pesticide. These days, people have started showing concern towards health and consumption of organic food is helping them to do so. Organic food producers are having a less negative impact on human health as well as environment than conventional products and hence are also called as a sustainable or environmentally friendly product (Gil et al. 2000).

Organic food

The main reason to develop food products using renewable resources is to conserve soil and water as well as to enhance quality of environment for the present and future generations. Products like organic meat or poultry or eggs or dairy products usually come from animals that are kept in a natural environment and are neither fed with any kind of antibiotics nor are given any growth hormones. The other category of organic food items is those that are produced without using most conventional pesticides or are not fertilized with fertilizers having synthetic ingredients or are not grown through radiations. Before labelling any product as "organic," a government-approved certifier visits the farm to ensure whether the farmer is following all the rules as per the USDA organic standards for developing the organic food or not.

Growth of organic food in the global market

The organic food market is expanding very fast and it has revenue over 60 billion euros with more than 45 million hectares of land is used worldwide for organic farming. The USA is leading in an organic market with more than 26 billion euros followed by Germany with around 8 billion euros and France with over 4 billion euros. China has also published official data in 2013 and claimed that they stand forth with 2.4 billion euros organic market. Looking at the biggest organic producers worldwide, two million organic producers were reported in 2013. Exactly in the previous year, the

highest producing countries were India (650,000), Uganda (189,610), and Mexico (169,703).

Scenario of the organic food market in India

According to recently published TechSci Research report namely India Organic Food Market Forecast and Opportunities, 2020; "organic food market in India is projected to register growth at a CAGR of over 25% during 2015–2020. Growing health consciousness is the key factor surging the demand for organic food products in India. Other factors driving growth in the market include higher income levels, improving living standard, and favorable government initiatives aimed at improving the current scenario of organic farming in the country by providing financial and technical support to organic farmers. Rising awareness about the benefits of consuming organic food products coupled with rising health concerns is driving the consumption of organic food products in India (Saini 2013). Though high prices of organic food are hindering widespread adoption, producers are increasing their focus on reducing the price differential between organic and conventional food products. As demand for organic food products rises, increase in production and economies of scale would result in reduced cost of production, further driving growth in India organic food market over the next five years."

Organic food manufacturers always were in search of understanding the factors important for purchase intention. Previous studies have explained some of the decisional factors which help consumer's to form intention towards organic food buying. Researchers also try to understand the relationship among various decisional factors and purchase intention towards organic food buying.

Review of literature

The organic food market has seen a significant growth in the last decade in India. The study conducted by Misra and Singh (2016) explained that the intention of the organic food customers was majorly motivated by food safety and health concerns, whereas it has also discussed that trust and certification plays a significant role in influencing the customers. More the customer will have information about the organic food they will show better intention, at the same time availability of organic food items is a major concern as Indian customer does not want to travel more for shopping and prefer buying from a nearby store which generally lacks in organic food availability. The kind of lifestyle people follow is also responsible for their food habit. Lot of research has been done to understand the consumer lifestyle (Sriwaranun et al. 2015) and its effect on buying pattern. As per studies, for some of the consumers, purchase of organic products was a lifestyle as they had the affordability factor. With many other high-end products, organic products were also considered as a status symbol. Prices of organic food items in India are significantly higher than the conventional food items which are a major obstacle in the growth of this market as Indian customers highly price sensitive and even a marginal increase of price affects the consumption of food items in lifestyle. As discussed (Chakrabarti 2010) earlier that the availability of organic food items is the major challenge in the nearby stores in tier 2 or tier 3 cities in India. Food items are considered to be low involvement purchases so customers do not bother to buy it from nearby stores which generally do not keep varieties of organic foods. In China, there exists the availability of different types of safe food labels in the Chinese food markets. Most of the Chinese consumers are aware of safe food but they have less understanding about safe food, little identification of the appropriate labels, and limited aptitude to identify safe food. Xie et al. 2015 discussed that consumers who are not familiar with the term "organic" or who are not aware of organic certification or organic labelling are less likely to buy organic foods. Most of the Chinese consumers trust the information provided by the shop assistants or they incline towards buying organic food products from the shops that claim to sell such types of products. Researchers have found that gender, one of the demographic aspects from the point of organic product buyers, has an important role to play in the purchase and usage of organic food. The study agrees that it is primarily the women, who buy organic food in larger quantity and more regularly than men (Tsakiridou et al. 2007). This is more evident from the fact that the women usually bear the responsibility of grocery shopping. The prime responsibility of the women is to look at the health of their family members, thus providing healthy food to their family members also become their prime responsibility and in continuation of the same, the demographic variable of gender influences both the prospective and real food consumption (healthy) practices of family and the overall home environment. Seegebarth et al. 2016 discussed that as the concerns about food-related diseases and increased

usage of genetically modified foods have increased among the consumers, the new term "green consumers" has been coined which assimilate environmental considerations while making daily purchases, going for purchasing healthier, safer and better-quality food. Even now, there is a challenge in front of marketing managers to understand the consumer's behavior towards organic food. Thus, a deeper understanding of the consumer's perception from the dimension of perceived value in the backdrop of organic food products is required to be developed and later on, developing and implementing successful management strategies leading to converting positive consumer perceptions towards organic foods products to actual buying behavior and satisfaction.

The studies have shown that consumers' show trust towards organic foods if the revealed information on the labels of packets mentions the content. Revealed information can be the food content information, quality assurance by the manufacturer, health concerns, environmental concern, and price. Study Liang 2015 discussed the impact of trust factor developed by the organic food labelling on the purchase decision of organic food consumers. Teng and Wang 2015 mentioned in the study of organic food consumption that trust serves as an antecedent of attitudes and it has major influence between the relationship shown by revealed information and perceived information with purchase intention. This study has also discussed the role of subjective norms and attitude towards organic foods. Moreover, this study discussed the role of knowledge of organic food on the trust getting generated through it and its impact on the behavior of organic food customers. Sriwaranun et al. 2015 studied that the customers are ready to pay a premium for the purchasing organic food products if they have the past experience of purchasing organic products, they are keeping good health and side by side, and they also have strong ethical and environmental concerns; such type of consumers also think that organic food products have better quality and they are better for health also. Respondents with children, however, are less likely to pay a premium for organic products. The analysis also indicates that the price premium hinders purchase.

Organic food consumption largely depends on subjective norms towards organic food which affects the intention of the buyer through the formation of attitude towards organic food mentioned by Tarkiainen and Sundqvist 2005. These decisional factors responsible for organic food consumption successfully indicate the involvement of famous Ajzen's theory of planned behavior which predicts behavioral intention and actual behavior and lays a foundation for this study.

Research methodology

This descriptive study was conducted in Punjab. Purposive (Judgemental) sampling was used to select the respondents which were organic food existing customers. Data was collected with the help of a structured questionnaire. This questionnaire was divided as per various constructs used in this study: Revealed information, attitude, perceived value, subjective norms, trust, and purchase intention. The respondents' demographic profile information which contains age, gender, income, education level, and district of Punjab they belong to were also collected using questionnaire. Two hundred completed questionnaire were received and being used for this study. Collected data were analyzed by using statistical technique named structural equation modeling. SPSS AMOS 20 was used with maximum likelihood estimation method as statistical tool.

Research objectives

- To study the decisional factors responsible for the purchase intention of the organic food customers.
- To check the relationship between key decisional factors and purchase intention of the customer's towards the organic food.

Table 1 represents the demographic description of respondents. The respondents were asked to report their demographic information at the end of the questionnaire which included gender, age, level of education, and monthly income. The respondents were predominantly males, i.e., 64% and females were 36%. It has been found that the maximum number of respondents, i.e., 81% is till 39 years of age which replicates the same trend of the population, i.e., LPU faculties which are mostly young people. Postgraduate respondents are having 46% of the total sample. Majority of respondents who have shown intention towards organic food was from income level 30,000 INR to 70,000 INR and this income group consists of 67% of the entire sample. Full details of the samples can be found in the below-mentioned Table 1.

Table 1 Demographic details

Sample characteristics	Category	Sample details	
		Actual count	%
Gender	Male	128	64
	Female	72	36
Age group	> 30	78	39
	30–39	83	42
	40–49	24	12
	50+	15	8
Education level	Graduate	35	18
	Postgraduate	92	46
	Ph.D.	72	36
	Post Doc and above	1	1
Monthly income	> 30,000	29	1%
	30,001–50,000	72	36
	50,001–70,000	61	31
	70,000+	38	19

Conceptual model (Fig. 1) is explaining the relationship among various decisional factors with purchase intention. The mentioned factors and its effect has been hypothised in this model.

The hypotheses in this research are as follows:

Hypothesis 1: Revealed information by organic food items has a significant positive effect on trust.
Hypothesis 2: Subjective norms about organic food items have a significant positive effect on trust.
Hypothesis 3: Perceived value of organic food has a significant positive effect on trust.
Hypothesis 4: Trust has a significant positive effect on purchase intention.
Hypothesis 5: Attitude towards organic foods has a significant positive effect on purchase intention.
Hypothesis 6: Revealed information of organic foods has a significant positive effect on purchase intention.
Hypothesis 7: Subjective norms towards organic foods have a significant positive effect on purchase intention.
Hypothesis 8: Perceived value of organic foods have a significant positive effect on purchase intention.

Results and discussion

Evaluation of reliability, internal consistency, convergent validity, and discriminant validity of the measures was checked followed by the testing hypotheses using structural model. Data analysis was conducted using maximum likelihood estimation through AMOS 20. The Cronbach's alpha of every construct is between 0.75 and 0.84. It was recommended by Nunnally and Bernstein in 1994 that any value more than 0.70 validates the sufficient internal consistency. Composite reliability (CR) exceeded the threshold limit of 0.6 as suggested by Fornell and Larcker (1981) which proves that there is an acceptable level of internal consistency and reliability. Moreover, the CFA results also support the convergent validity for all constructs. The average variance extracted Fornell and Larcker (AVE) across all the constructs exceeded the 0.5 benchmark suggested by Fornell and Larcker (1981) (Table 2).

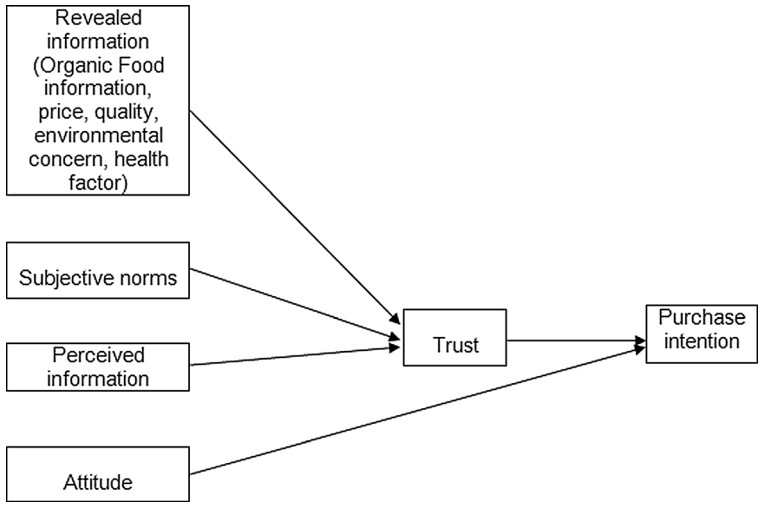

Fig. 1 Conceptual framework

Table 2 Measurement scales and summary statistics

Construct	Cronbach alpha	Composite reliability	AVE (convergent validity)
Revealed information I believe that information provide by organic labelling is correct	0.76	0.96	0.52
I believe that information provide by organic labelling is sufficient			
Attitude I believe that organic foods have lower chemical residues than conventional foods	0.84	0.95	0.56
I believe that organic foods are safer in comparison to conventional foods I believe that organic foods are healthier in comparison to conventional foods			
I believe that organic foods have superior quality in comparison to conventional food			
Perceived value I believe that an average person of Punjab is very knowledgeable about organic foods	0.75	0.96	0.51
I believe that government of Punjab has sufficient knowledge about organic foods			
I believe that the food industry has sufficient knowledge about organic foods			
Subjective norms My family recommends me to buy organic food	0.79	0.96	0.6
My friends suggest me to buy and consume organic food			
News and magazines influence my purchase decision for organic food			
Local Government support for organic food also affect my decision to buy organic food			
Trust I trust on certified organic food	0.79	0.96	0.6
I trust the institutions providing organic food products			
I trust on the logo of organic food			
Purchase intention In future, I will purchase organic food.	0.82	0.96	0.64
I will regularly purchase organic food			
I intend to buy organic food products for long-			
term health benefits I intend to buy organic food products because of its food safety concern			
I intend to buy organic food products due to its environment-friendly nature			

The difference in the constructs is measured in this study using discriminant validity. It says if all the items of any constructs are strongly associated with each other as compared to the items of the other constructs then the constructs is believed to show discriminant validity. As explained in Table 3, shows that the shared variance of different variables is not greater than the square root of the average variance explained. It is proved that discriminant validity exists in this study.

Table 3 Discriminant validity

	Rinfo	Att	Pval	Sub Norm	Trust	Pur Int
Rinfo	0.645					
Att	0	0.6				
Pval	0.219	0	0.604			
Sub Norm	0.168	0.029	0.484	0.51		
Trust	0.203	0	0.278	0.475	0.560	
Pur Int	0.216	0.038	0.073	0.216	0.276	0.52

Table 4 Regression weights: group number 1 - default model

Hypotheses relationship			Estimate	S.E.	C.R.	*p*	Hypothesis
TrustAvg	<–	RInfoAvg	0.137	0.059	2.318	0.02	Accepted
TrustAvg	<–	SubNormsAvg	0.382	0.074	5.158	***	Accepted
TrustAvg	<–	PerValAvg	0.32	0.079	4.048	***	Accepted
purintavg	<–	TrustAvg	0.22	0.051	4.345	***	Accepted
purintavg	<–	attavg	0.277	0.046	6.068	***	Accepted
purintavg	<–	RInfoAvg	0.159	0.043	3.655	***	Accepted
purintavg	<–	SubNormsAvg	0.175	0.058	3.032	0.002	Accepted
purintavg	<–	PerValAvg	0.295	0.06	4.961	***	Accepted

***p@0.001

Structural model

The model fit indexes represented in Table 5 shows reasonable model fit. This study has used AMOS 20.0 (maximum likelihood estimation) to check the hypotheses. Table 4 provides the results of hypotheses of their acceptance or rejection. As per the results, all the hypothesis got accepted.

H1 described that revealed information has a positive association with trust. For the path leading from revealed information to trust (Trust<– RInfo), the unstandardized estimate of the total effect is 0.135, that is statistically significant at the level of 0.02 (Fig. 2). The result of the study supports H1 and corresponding hypotheses based on p value analysis. Table 4 give the details of unstandardized weights for all the relations.

As pner the details provided in Table 4, all the assumptions hypothesized in the paper are accepted. H2 predicted that subjective norms (SubNorms) have a positive association with trust (Trust). For the path leading from subjective norms to trust (Trust<–SubNorms), the unstandardised total effect is 0.382, statistically important at the 0.001 level. All the hypotheses are accepted providing enough evidence that all the relationships are positively significant. Table 5 provides enough evidence about the model fit as index values are well within the acceptable limits.

Trust has been found a key factor in this study which got influenced by other decisional factors like revealed information on the packets of organic food items, subjective norms towards organic foods, and customers' perceived information about organic foods. Finally, it has been found in this study that trust has positively

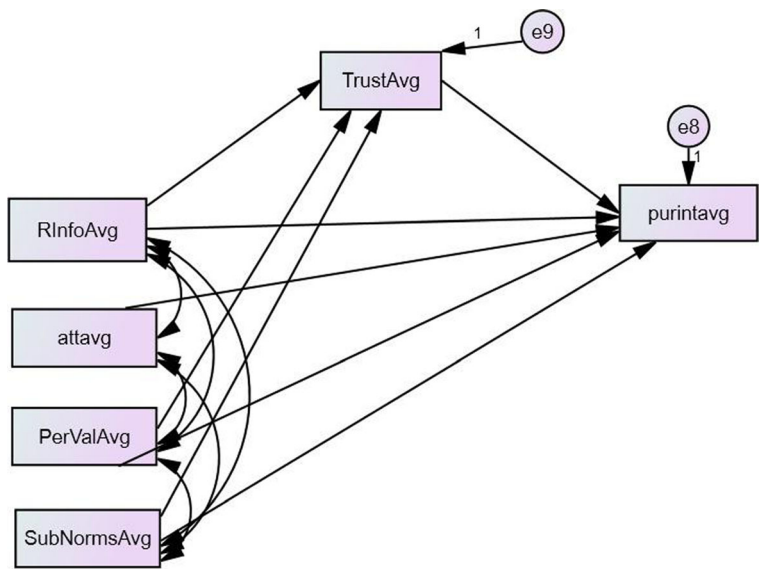

Fig. 2 Structural model

Table 5 Model fit indices

CMIN/DF	GFI	AGFI	TLI	CFI	RMSEA	Pclose
1.092	0.998	0.962	0.998	0.98	0.21	0.407

affected the purchase intention. Whereas attitude is one construct which does not affect trust but directly affects purchase intention of organic foods.

Social and managerial implications

The key factors for organic food purchase intention identified in this study are important for the marketers and organizations to understand so that it can help them to focus on the target customers. As soon as organic food market expands, it will create economies of scale and will pull down the price of these food items which is currently at higher levels as compared to the conventional food items. This will help organic food market to expand in India and grow with significant growth rate.

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