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Article

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MANAGEMENT | RESEARCH ARTICLE

Who buys organic food? Understanding different types of consumers

Gunjan Gumber^{1*} and Jyoti Rana²

Abstract: Globally, concerns regarding consumers' food quality and safety have increased. There is an increase in the search of alternative healthy and safe food that also enhances immunity. Organic food eliminates most of the concerns that consumers have. Market experts expect the Indian domestic organic food market to grow rapidly in the coming years. This study aims to understand the characteristics, attitudes, and buying patterns of different types of consumers so that producers, sellers, and the government can design appropriate marketing strategies. To study the attitude of consumers, the Multi-attribute Model was used. A survey was conducted in Delhi-NCR, and data was obtained from 556 consumers. Through Exploratory Factor Analysis, six factors were derived: health, humanity, and environment; obstacles in buying; trust and confidence; fundamental knowledge; tradition and culture; and social acceptance and status. Based on these factors, and with cluster analysis, consumers were classified into five segments: incognizant consumers, unconcerned consumers, critical consumers, conservative consumers, and congruent consumers.

Subjects: Asian Studies; Health Psychology; Consumer Psychology; Business, Management and Accounting; Marketing; Marketing Research; Marketing Management

Keywords: Organic food; consumer behaviour; attitude; market segmentation

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PUBLIC INTEREST STATEMENT

These days consumers are becoming more conscious about their health and the food that they intake. Organic food serves their needs of safe and healthy food. Globally, organic food market is expanding. India's most of the organic food produce is exported but with increasing awareness, Indian organic food market, which is yet very small and fragmented, is also growing. In an emerging organic food market, it is indispensable for producers, marketers and policy makers to understand consumers, their attitudes and buying behaviour. This study explored that consumers are aware about the benefits of organic food related to health, humanity and environment but there are a number of obstacles, like high prices, erratic availability, inaccessibility in buying these products. Some consumers have low level of awareness and some are skeptical about the genuineness of these food products. Therefore, to address consumers' concern and to bring this market into mainstream, consolidated efforts are required from all the stakeholders.

1. Introduction

Worldwide, concerns regarding food quality and safety have increased as there has been an increase in the number of food-related diseases and scandals. The outbreak of coronavirus pandemic has also raised concerns. Consumers now actively seek alternative food that is healthy and safe, and enhances immunity to prevent diseases. Organic food products eliminate most consumers' concerns towards regular, conventional food. The term 'organic' serves as a heuristic cue of superiority over conventional food (Vega-Zamora et al., 2013). These food products are produced naturally by harmonizing all aspects of chemicals-free pesticides and fertilizers (Lampkin, 1999), Genetically Modified Organisms (GMOs), and irradiation (Marwa & Scott, 2013). Moreover, organic farming and organic food consumption are closely related to environmental, economic, and social concerns (Salleh et al., 2010). Consumers perceive organic food to be less damaging and more environment-friendly than conventional food (Nguyen et al., 2019).

Food industry experts believe there to be enormous potential in the organic food market. In the year 2018, global retail sales of organic food and drinks market marked USD 105.5 billion (Sahota, 2020), which was USD 97 billion in 2017 (Willer et al., 2019), USD 89.7 billion in 2016, and USD 81.6 billion in 2015 (Willer & Lernoud, 2018).

The COVID-19 pandemic has fuelled the demand for organic food products, as consumers believe these products will help boost immunity and act as ammunition against the virus. As a result, organic food stores across the globe are witnessing a considerable increase in sales.

The United States is the biggest organic food products market in the world; however, this trend is expanding to emerging countries too, like India and China (Techsci, 2013). Globally, India has the maximum number of organic food producers (Willer et al., 2019). Most of this produce is exported to developed countries, such as the US and some European nations (Yes Bank, Ingenus Strategy and Creative Research, 2016).

With the rising levels of education and awareness, increasing disposable income, global exposure, and initiatives by the government, Indian consumers are also becoming progressively conscious about their health. Since the last decade, organic food products have gained widespread attention and acceptability in the Indian domestic market.

The Indian organic food market was valued at USD 704 million in 2018. Industry experts expect it to grow at a CAGR of 20 percent and reach USD 2091 million by 2024 (Imarc., 2019). These figures reflect the potential of the organic food market in the coming years and the significance of understanding the buyers of organic food, and why they do so.

Research studies have been conducted worldwide to understand organic food consumers, identify the factors that affect their attitude, and study their buying patterns. However, the findings of these studies vary. There is a significant impact of environment, culture, economy, and various other factors on consumers' purchase behaviour; and therefore, it is imperative to conduct an area-specific study. This study will focus on the consumers of the Delhi-National Capital Region, India.

The insights from the study will help organic food producers/growers, marketers, and policymakers to understand the consumers and segment them. They will be able to address the preferences of different types of consumers and design appropriate marketing and communication strategies. As organic food consumption is closely related to ecological and economic sustainability, these insights will also be useful for policymakers as they will be able to assess consumers' attitudes and preferences, which will serve as an essential input for policy-making.

2. Objectives

1. To study the factors affecting the attitude of consumers towards organic food
2. To identify the types of organic food consumers and understand their characteristics and buying patterns

3. Theoretical background of the study

There are many existing models and theories to understand consumers' attitude, intention to buy, and buying behaviour. In context of organic food, Zanolini and Naspetti (2002) used the Means-End Chain model, while Chen (2007), Arvola et al. (2008), Voon et al. (2011), and Al-Swidi et al. (2014), and Teng & Weng (2015) used the theory of Planned Behaviour. Vassallo and Saba (2015) used the Values theory, Kareklas et al. (2014) used the Self-Constraint Theory, and Lee and Yun (2015) used the S-O-R model and Cue Utilization Theory to study the buying intention and behaviour of organic food consumers.

Many studies found that attitude is the most significant predictor of intention to buy organic food products (Kozup et al., 2003; Yadav & Pathak, 2016). Attitude is a combination of consumers' feelings, beliefs, and behavioural intentions towards a product (Perner, 2010). The more favourable feelings consumers have, the more they will consume (Honkanen et al., 2006). Literature suggests that researchers have developed a few scales to measure the attitude of consumers towards organic food; however, most of them are being used in developed countries only, where they have been used only once and then criticized (Bruner, 2003) on practical and methodological parameters (Sarabia et al., 2020).

For the Indian economy, organic food is a paradox; it is both traditional and a new and modern concept (Gumber, 2018). There is a requirement for a practical, simple, and effective method to measure attitude for the provision of a basis for understanding consumers and designing effective marketing and communication strategies (Taticchi et al., 2010).

Attitude can be measured with the help of the Multi-Attribute Model, which states that attitude towards a product is a function of beliefs and perceptions about its attributes (Fishbein & Ajzen, 2010). When consumers are involved with a product, they tend to search for information related to its salient attributes and accordingly form an impression about it (Cox, 1967). Product attributes significantly influence the purchase of organic food products (Chauke & Duh, 2019). Attributes like health, environmental protection, and animal welfare are important determinants for purchasing organic food products (Lee & Yun, 2015). However, some studies found that while consumers have a positive attitude towards organic food, it is not reflected in their actual buying behaviour (Auger & Devinney, 2007; Carrington et al., 2010; Moraes et al., 2012; Padel et al., 2005). Therefore, it is vital to examine attitudes and study actual purchase patterns to identify the profiles of different types of consumers. The theoretical framework of the study is presented in Figure 1.

3.1. Beliefs and perceptions about attributes of organic food

Many studies have been conducted to understand consumers' beliefs, perceptions, attitudes, intentions, and buying behaviour towards organic food. Various attributes of organic food and consumers' beliefs, perceptions, and attitudes towards them are presented in Table 1.

Figure 1. Theoretical background of the study.

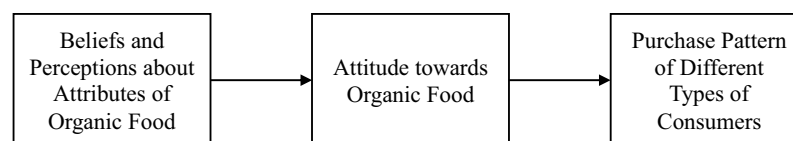


Table 1. Beliefs and perceptions about the attributes of organic food

Author (s) and Year of Publication	Country	Product & Sample Size	Attribute	Belief/Perception/Attitude
(Rodríguez-Bermúdez et al., 2020)	Spain	830	<ul style="list-style-type: none"> • Food quality, health concerns, no pesticides • Excessive price, lack of habit, lack of trust 	<p>Help in forming a positive attitude</p> <p>Major barrier in purchase</p>
(Nassivera et al., 2020)	Italy	Organic food 600	<ul style="list-style-type: none"> • Environmental concerns, perceived intrinsic quality, food safety, socio-economic opportunities for farms 	Significantly influence purchase intentions
Chauke and Duh (2019)	S. Africa	Organic food 612	<ul style="list-style-type: none"> • Free from GMOs, no artificial additives and flavors, no pesticides, high quality 	Significantly influence purchase
Farias et al. (2019)	Brazil	Organic food 241	<ul style="list-style-type: none"> • Environmental awareness, healthy consumption 	Determinants of purchase and re-purchase
(Nguyen et al., 2019)	Vietnam	Organic food 572	<ul style="list-style-type: none"> • Health consciousness, trust in the organic label • Environmental concern 	Significant predictors of attitude towards organic food Not significantly related to attitude towards organic food
(Janssen, 2018)	Germany	Organic food 9470 households	<ul style="list-style-type: none"> • Naturalness and healthiness, environmental protection • Local/domestic food, High-quality food, enjoyment of eating • Price consciousness, convenience orientation 	Most influential motivators for consumption Positive influence on consumption Negative influence on consumption
(Oroian et al., 2017)	Romania (North-West Development region)	Organic food 568	<ul style="list-style-type: none"> • Natural and sustainable consumption, Extrinsic attributes, Health, Sensory appeal, Weight concern, Social stature 	Motivators for organic food consumption

(Continued)

Table 1. (Continued)

Author (s) and Year of Publication	Country	Product & Sample Size	Attribute	Belief/Perception/Attitude
(Chrysargyris et al., 2017)	Cyprus (4 districts)	Organic Vegetables 180	<ul style="list-style-type: none"> • Health, freshness & taste • Knowledge • Premium prices 	<p>Favourable perceptions Lack of information about organic farming Willing to pay, if adequately informed</p>
(Kapuge, 2016)	Sri Lanka	400	<ul style="list-style-type: none"> • Awareness & health consciousness • Environmental consciousness & reference group 	<p>Key determinants of buying intention Do not affect purchase intention</p>
(Yadav & Pathak, 2016)	India—Varanasi and Allahabad (UP)	Organic food 220	<ul style="list-style-type: none"> • Health • Environmental consciousness • High prices, unavailability, inconvenience 	<p>Significant predictor of organic food purchase Does not have significant influence on buying intention Barriers in organic food purchase</p>
(Hwang, 2016)	US	Organic food 183	<ul style="list-style-type: none"> • Food Safety • Concern for environment and society • Status 	<p>Positive impact on old and young consumers' buying intention Does not motivate older consumers to buy organic food A way to present themselves (old consumers) to society</p>
(Nuttavuthisit & Thøgersen, 2015)	Thailand	2 focus groups & 10 in-depth Interviews 177	<ul style="list-style-type: none"> • Trust • Food safety, health 	<p>Pre-requisite for purchase Main reasons for buying</p>
(Lee & Yun, 2015)	US	725	<ul style="list-style-type: none"> • Nutritional, environment-friendly, animal welfare • Premium price 	<p>Affects purchase attitude Unfavourable effect on purchase attitude</p>
Nasir and Karakaya (2014)	A metropolitan area of Europe	316	<ul style="list-style-type: none"> • Health and food-quality • Limited variety of organic food 	<p>Main motivations for buying organic food Main obstacle in buying</p>

(Continued)

Table 1. (Continued)

Author (s) and Year of Publication	Country	Product & Sample Size	Attribute	Belief/Perception/Attitude
Sangkumchaiang and Huang (2012)	Northern Thailand	390	<ul style="list-style-type: none"> • Expected health and environmental benefits, supporting small and local farmers, attraction of fashionable products, fresh and tasty food • Inadequate information and price 	<p>Main motivators for buying organic food</p> <p>Barriers to increase in market share</p>
(Ozguven, 2012)	Turkey—Izmir	410	<ul style="list-style-type: none"> • Quality, price, health, food safety • Health and price 	<p>Motivations for organic food buying</p> <p>Most significant predictors of purchase</p>
(Aertsens et al., 2011)	Belgium—Flanders	Vegetables 529	<ul style="list-style-type: none"> • Environment-friendly, healthy, quality and taste, knowledge and awareness • Price premium and inadequate availability 	<p>Major influences for consumption</p> <p>Barriers in consumption</p>
(Kuhar & Juvancic, 2010)	Slovenia	1027	<ul style="list-style-type: none"> • Availability, concern for health and environment, visual attractiveness • Awareness & knowledge 	<p>Influence purchase</p> <p>Can increase demand</p>

Studies conducted across the globe suggest that attributes like healthiness, safety, taste, and trust are more dominant in some regions. In certain others, factors like environment-consciousness, price, knowledge, and awareness significantly affect consumers' attitude and purchase behaviour for organic food products. In a country like India, where the concept of organic food is paradoxical, as in both traditional and modern, a number of other factors may also have a significant impact on consumers' attitudes towards it.

3.2. Types of organic food consumers

In the previous studies, researchers have identified different types of consumers on the basis of lifestyle, food-related lifestyle, price sensitivity and willingness to pay, attitude, attitude towards organic labelling, knowledge, demographics, and consumption pattern. The findings of these studies are presented in [Table 2](#).

The Indian organic food market is an emerging one, but it is still scattered and in the infancy stage. So, it was decided to study consumers' types based on the basis of attitude. Attitude helps to explain consumers' preferences and is the predecessor of consumers willing to accept and adopt organic products (Sarabia et al., 2020).

4. Method

4.1. Survey

To achieve the objectives of the study, a primary data-based survey was conducted in Delhi—National Capital Region (NCR). A survey was undertaken with a self-designed questionnaire near grocery stores and markets selling organic food products (fruits and vegetables). Data was collected using the Area Sampling Technique.

The sample size was determined based on the following formula given by Cochran (Cochran, 1963, p. 75).

$$n_o = \frac{Z^2 pq}{e^2}$$

Where, n_o is the sample size, Z is the abscissa of the normal curve, p is the degree of variability, q is the confidence level, and e is the desired level of precision. For the present study, value of Z is 1.96, which is derived from the statistical table that contains the area under the normal curve, p is 0.5 (maximum degree of variability), confidence level 95% i.e., q is 0.5, and precision level, $e \pm 0.05$

$$n_o = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2} = 385$$

On the basis of the above formula, the sample size determined for the present study was 385. In the pilot study, it was found that approximately 120 stores were selling organic food products in 23 districts of NCR (including NCT-Delhi). All these districts were divided into four zones. It was assumed that more the number of stores, higher will be the numbers of consumers in the area, and vice-versa. To have a good representation of the population, and reduce the sampling errors it was decided to have a sample size that is five times the number of stores in the each zone. Therefore, data was collected from a sample size of 600 respondents, who were aware of organic food products. 556 questionnaires were complete and thus were used for the study.

4.2. Survey instrument

The questionnaire included questions on socio-demographics, purchase frequency, and thirty-four statements designed to study consumers' attitudes towards organic food. Respondents were asked to rate their agreement level with the statements on a five-point Likert Scale, ranging from strongly disagree to strongly agree.

Table 2. Segments of organic food consumers

Author (s) and Year of Publication	Country	Sample Size	Basis of Segmentation	Segments
(Huy et al., 2019)	Vietnam	203	Food-related lifestyle	<ul style="list-style-type: none"> • Conservatives • Trendsetters • Unengaged
(Denver et al., 2019)	Denmark	505	Price sensitivity and willingness to pay	<ul style="list-style-type: none"> • Organically-locally committed favouring direct sales • Price-insensitive locally minded • Vaguely locally minded • Uninterested and price-sensitive • Organically-locally inclined to favor small producers
(Oroian et al., 2017)	Romania	568	Attitude	<ul style="list-style-type: none"> • Gourmand • Environmentally concerned • Health concerned
Ghosh et al. (2016)	India	693	Knowledge, attitude, and demographics	<ul style="list-style-type: none"> • Price ignorant • Environmentally cognizant • Environment affable • Organic motivator • Nonchalant • Certification skeptic
Zander et al. (2015)	European Union- Estonia, France, Germany, Italy, Poland, and UK	3000	Attitude towards Organic food and European labelling	<ul style="list-style-type: none"> • Committed organics • Pragmatic organics • Organic sceptics • Organic disinterested
Rong-Da Liang (2014)	Taiwan	753	Food-related lifestyle based on attitude towards online organic food purchase	<ul style="list-style-type: none"> • Traditional Food consumers • Uninvolved Food Consumers • Enthusiastic food consumers

(Continued)

Table 2. (Continued)

Author (s) and Year of Publication	Country	Sample Size	Basis of Segmentation	Segments
Sondhi (2014)	India	618	Attitude	<ul style="list-style-type: none"> • Urban health and safety conscious consumer • Food indifferent consumer • Sensitized and cautious consumer
(Nasir & Karakaya, 2014)	European City	316	Attitude	<ul style="list-style-type: none"> • Favorable attitudes • Neutral attitudes • Unfavorable attitudes
(Diaz et al., 2012)	Spain	361	Consumption and knowledge	<ul style="list-style-type: none"> • Non-consumers/Little knowledge • Habitual consumers/well-informed • Occasional consumers/well-informed
Zopeda and Nie (2012)	US	956	Lifestyle	<ul style="list-style-type: none"> • Rational • Conservative/Uninvolved • Adventurous • Careless
Bartels and Berg (2011)	The Netherlands	492	Consumption pattern	<ul style="list-style-type: none"> • Non-users • Light users • Heavy users
Stanton and Guion (2010)	US	31 through Q-sorts	Attitude	<ul style="list-style-type: none"> • Health enthusiasts • Organic idealists • Hoban's hog washers • Unengaged shoppers • Bargain shoppers • Cynical/Distrustful

4.3. Reliability and validity of the instrument

Thirty-four statements were designed to study the attitude of consumers. To check reliability, that is, accuracy, consistency, and predictability of scale, Cronbach Alpha was used. The value obtained was 0.908, which is considered a good reliability score (Chawla & Sondhi, 2011). The instrument's validity, that is, to see if it measures what it is supposed to, was ascertained by discussions with experts during pilot testing. Construct validity was checked and confirmed with Confirmatory Factor Analysis, which was performed after applying Exploratory Factor Analysis.

4.4. Data analysis

After the data was collected in the form of filled up questionnaires, the next step was to prepare it for statistical analysis, so that meaningful results and inferences could be drawn. The data was coded and entered into the computer using Microsoft Excel software. Statistical techniques like exploratory factor analysis and cluster analysis were used with the help of Statistical Package for Social Sciences (SPSS) for studying consumer's attitude towards organic food and to segment consumers into homogeneous groups respectively. Same statistical techniques were used by (Nikoli et al., 2014) in Bosnia, by (Oroian et al., 2017) in Romania and Herzegovina, (Dumortier et al., 2017) in US to study consumer perceptions and attitudes and to segment them in homogeneous groups.

4.5. Sample description

The characteristics of the sample are presented below in [Table 3](#).

5. Results and discussion

5.1. Factors affecting consumers' attitude towards organic food

Exploratory Factor Analysis was performed on 34 statements/variables using the Principal Component Method with Varimax Rotation to draw the factors that affect consumers' attitudes. The Kaiser-Meyer-Olkin (KMO) measure was 0.889, which meant that the sample size was adequate. Bartlett's Test's chi-square was 13,216.717, degree of freedom was 561, and the p-value was 0.000, which is less than 0.05, the level of significance, suggesting that the variables had significant correlation between themselves.

The extracted communalities of all the variables were more significant than 0.5, indicating the goodness of fit. Therefore, all the variables were included in the study. Principle Component Analysis was performed to estimate the Eigenvalue of principle components.

Six components having Eigenvalue more than 1, which were explained by 69.713 percent of variance, were selected for the study. It was found that all the variables had significant factor loadings (greater than 0.7) to only one factor. Hence, the structure of the extracted factors from the variables satisfy the assumptions of convergent and discriminant validity. The reliability of variables in each factor was checked with Cronbach Alpha, which was more than 0.8 in each factor.

The results of factors with factor loading, Eigenvalue, percentage of variance explained, and Cronbach Alpha are presented in [Table 4](#).

The six identified factors are:

Health, Humanity, and Environment: Organic food is considered a healthier option than regular, conventional food. It is produced without the injection of growth hormones. It helps to protect the well-being and health of animals. It is free from artificial flavours, colours, additives, and chemical pesticides and fertilizers. Organic farming is done in an environment-friendly manner, and it helps in reducing water and soil pollution. It supports small farmers and the community too.

Table 3. Sample description

Variable	Categories	Percentage
Age	18 to 24 years	4.9
	25 to 34 years	50.4
	35 to 44 years	24.8
	45 to 54 years	11.9
	Greater than 54 years	8.1
Sex	Male	49.1
	Female	50.9
Education	Undergraduate	8.8
	Graduate	28.6
	Postgraduate	42.6
	Professional	20.0
Background	Urban	79.5
	Migrated from Rural	14.7
	Migrated from Abroad	5.8
Occupation	Home maker	11.7
	Professional	33.6
	Retired	1.8
	Service	35.1
	Business	13.1
	Student	4.7
Income	Less than Rs. 50,000 pm	9.2
	Rs. 50,001—Rs. 1,00,000 pm	35.4
	More than Rs. 1,00,000 pm	55.4
Children in Family	No Child	32.2
	Presence of Children	67.8

Obstacles in buying: Organic food is considered as routine food sold at premium prices. Another obstacle in buying organic food is availability—it is not easily accessible and its variety is less than conventional food. Also, there is a lack of information about organic food and its availability. Moreover, consumers are unwilling to spare time and travel extra miles just to buy organic food.

Trust and Confidence: Certification of organic food products is significant as consumers gain confidence from certification logos and labels. They do not mind if organic food products have odd shapes, sizes, marks, or blemishes. They trust farmers and sellers when they claim and promote their products as organic.

Fundamental Knowledge: Organic food is produced using natural methods without the utilization of chemical fertilizers and pesticides. It is nutritious and helps in preventing diseases. Organic farming is done in an environmentally safe way. The fields organic food is sourced from should be certified by authorized bodies.

Tradition and Culture: Organic food is related to India's ancient traditions and it promotes Indian culture and heritage. It has an authentic taste, which is better than regular food.

Table 4. Factors with factor loadings, Eigenvalue, percentage of variance explained, and Cronbach Alpha

	Factor Loading	Eigenvalue	Variance Explained (%)	Cronbach Alpha
Factor 1 (Health, Humanity, and Environment)		8.81	25.9	0.91
Organic food: Does not contain artificial flavours, colours, and additives	.807			
Helps in decreasing water and soil pollution	.783			
Is environmentally safe	.782			
Grown without injecting hormones	.782			
Is a better and healthier alternative for my family	.771			
Is safe, as regular food may affect health because of residue of chemical pesticides and fertilizers	.768			
Helps to protect wellbeing and health of animals	.720			
Helps small farmers and community	.719			
Factor 2 (Obstacles in Buying)		4.26	12.5	0.93
Organic food is like routine food sold at premium price	.894			
I cannot travel extra miles to buy organic food	.884			
Is not easily accessible	.879			
Variety of organic food is unavailable	.878			
Information about organic food and its availability is limited	.867			
I cannot spare time to go to buy organic food	.815			
Factor 3 (Trust and Confidence)		3.38	9.96	0.89
I trust certification labels on organic food	.790			

(Continued)

	Factor Loading	Eigenvalue	Variance Explained (%)	Cronbach Alpha
I trust farmers when they claim their produce to be organic	.778			
I trust sellers when they promote products as organic	.772			
Certification of organic food products is significant	.758			
I don't mind buying organic food if it has blemishes and marks	.744			
I don't mind buying organic food if it has an odd size and shape	.740			
Organic certification logos give me confidence	.719			
Factor 4 (Fundamental Knowledge)		2.88	8.49	0.9
Organic food is produced through natural farming methods	.844			
Organic food is nutritious and helps in preventing diseases	.843			
Organic food is grown without using chemical fertilizers and pesticides	.833			
Organic farming is done in an environmentally safe way	.813			
Organic food is sourced from certified fields	.799			
Factor 5 (Tradition and Culture)		2.26	6.65	0.89
Organic food is related to Indian traditions	.850			
Organic food promotes Indian culture and heritage	.831			
The taste of organic food is authentic	.821			

(Continued)

Table 4. (Continued)

	Factor Loading	Eigenvalue	Variance Explained (%)	Cronbach Alpha
I like Organic food as it has better taste than regular food	.801			
Factor 6 (Social Acceptance and Status)		2.08	6.13	0.87
People in developed countries are adopting organic food, we should do the same	.845			
Consuming organic food is considered a status symbol	.828			
Buying organic food is trendy	.802			
My family and friends think highly of me when I buy and consume organic products	.740			

Social Acceptance and Status: People in developed countries adopt organic food and buy organic food products as it is trendy and considered a status symbol. Consumers believe that their family and close friends will think highly of them if they buy and consume organic food.

5.2. Types of consumers and their purchase pattern

To identify and understand different types of consumers, Hierarchical Clustering was applied to the extracted factors. Five types of consumers were identified with the help of the Agglomeration Schedule. To study the attitude of these consumers, the K-means Clustering Method was applied. The difference between average factor scores of different types of consumers was checked with one-way ANOVA. The p-value of F-statistics was less than 5 percent of significance; hence, all types of consumers are significantly different.

Based on factor scores, the five types of consumers are: Incognizant Consumers, Critical Consumers, Conservative Consumers, Unconcerned Consumers, and Congruent Consumers.

The cluster scores of types of consumers are presented in [Table 5](#) and [Figure 2](#).

5.3. Profile of consumers and their purchase pattern

To identify the profiles of different types of consumers, a Chi-Square Test of association was applied. It was found that socio-demographic variables like gender, education, background, occupation, and income were significantly associated with types of consumers. In contrast, variables like age and number of people in the household were not statistically significant.

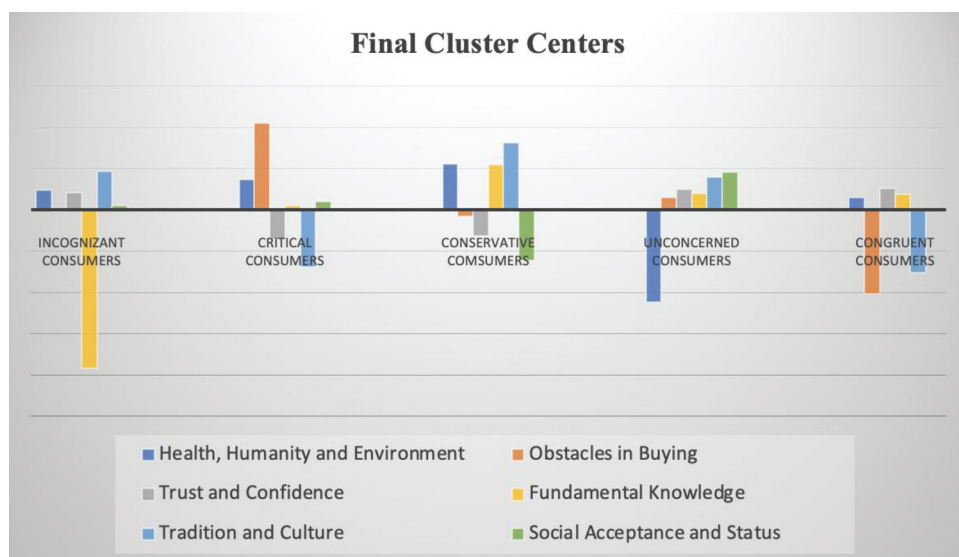
The attitude, purchase pattern, and profile of different types of consumers are as follows:

Incognizant Consumers: These made up 11.34 percent of consumers who participated in the survey. These consumers showed a shallow level of fundamental knowledge about organic food

Table 5. Cluster scores

	Incognizant Consumers	Critical Consumers	Conservative Consumers	Unconcerned Consumers	Congruent Consumers
Health, humanity, and environment	0.23963	0.36467	0.55378	-1.11516	0.14642
Obstacles in buying	-0.02133	1.05512	-0.07456	0.14739	-1.01526
Trust and confidence	0.20666	-0.35347	-0.31245	0.25337	0.25617
Fundamental knowledge	-1.91918	0.04912	0.54653	0.1994	0.18685
Tradition and culture	0.47004	-0.68857	0.81521	0.39975	-0.76536
Social acceptance and Status	0.05001	0.09692	-0.61511	0.4571	0.00706

Figure 2. Average of extracted factors of different clusters.



and farming. They scored slightly negative on ‘obstacles in buying’, and flattering on factors like “tradition and culture”, “health, humanity, and environment”, and “trust and confidence”.

This group constituted a more-than-expected number of males over females; graduates and undergraduates over post-graduates and professionals; urban consumers; service-class people with income less than Rs. 50,000 per month. It was observed that these consumers bought organic grocery occasionally, and more than the expected number of consumers had never purchased organic fruits, vegetables, and milk.

Critical Consumers: 20.86 percent of consumers in this cluster marked a high score on “obstacles in buying” and a negative score on “trust and confidence” and “tradition and culture”. This indicated that these consumers felt obstacles in buying organic food and did not think organic food to be related to Indian tradition and culture. They did not have trust and confidence in organic certification, farmers, and sellers. They scored low, albeit positive, on factors like “health, humanity, and environment”, “fundamental knowledge”, and “social acceptance and status”.

This group constituted more-than-expected number of males; graduates; urban and those migrated from rural areas; professionals; and consumers with income less than Rs. 50,000 per month. It was observed that they bought organic grocery, fruits, vegetables, and milk occasionally.

Conservative Consumers: 21.58 percent of consumers in this cluster scored positive on factors like “tradition and culture”, “health, humanity, and environment”, and “fundamental knowledge”. This indicated that these consumers believed organic food to be traditional Indian food, produced using traditional and natural farming methods, and thus favourable for health, humanity, and environment.

The negative score of the factors “social acceptance and status”, “trust and confidence”, and “obstacles in buying” indicated that these consumers did not believe that consuming organic food was trendy or a status symbol. Interestingly, they did not feel any obstacles in buying organic food. They had few doubts about the genuineness of organic food.

This cluster was dominated by females, professionals, and post-graduates; consumers migrated from abroad and urban consumers; those engaged in business and service; with monthly income between Rs. 50,000–1,00,000. It was also observed that, in this cluster, more than expected consumers bought organic fruits, vegetables, and milk occasionally and organic grocery on a monthly or fortnightly basis.

Unconcerned Consumers: 23.02 percent of consumers in this group marked a negative score on the factor ‘health, humanity, and environment, low but positive score on factors like “obstacles in buying”, “fundamental knowledge”, and “trust and confidence”, and a high positive score on “tradition and culture” and “social acceptance and status”. This reflected that these consumers had a low level of fundamental knowledge and trust in organic food. They did not believe these food products to be beneficial for health, humanity, and environment. Also, they found obstacles in buying organic food and considered it a status symbol.

This group constituted more female than male consumers. Although post-graduates dominated this group, under-graduate and graduate consumers were more than expected. Home-makers and students, and consumers with income between Rs. 50,000–1,00,000 per month were also more than expected. It was observed that, in this cluster, there was an occasional dominance of consumers buying organic grocery. Interestingly, more than the expected number of consumers bought organic grocery once a month. Similarly, most consumers in this category bought fruits, vegetables, and milk occasionally but a marginally more than the expected number of consumers made this purchase weekly, fortnightly, and monthly. This indicated that societal and social trends influenced these consumers.

Congruent Consumers: 23.2 percent of consumers were Congruent Consumers. A stimulating observation about these consumers was they marked a negative score on “obstacles in buying” and “tradition and culture”. This suggested that these consumers did not encounter any hurdles in buying organic food, availability, premium prices, and information and variety. Similarly, they did not find organic food to be classical which tasted fare that better than regular food. On the other hand, they valued factors like “trust and confidence”, “fundamental knowledge”, “health, humanity, and environment”, and “social acceptance and status”. This reflected that they trusted organic food, its certification, and the sellers. Also, they considered organic food to be healthy, nutritious, and safe for their families, the environment, and animals.

More males, high-income, that is more than Rs. 1,00,000 per month, post-graduates, professionals, and job holders constituted this type of consumer. Although urban consumers were more in number, consumers who had migrated from abroad and rural areas were considerably more than expected. They consumers bought organic grocery, fruits, vegetables, and milk, more frequently than expected.

6. Implications

An increasing number of food-related diseases, scandals, and the outbreak of COVID-19 pandemic—all of these have enhanced consumers’ concerns regarding their food habits. They are all the more conscious and careful now about the food products they choose and select to buy. Besides safe and healthy food, they look for alternatives to boost immunity. This study throws light on the different types of organic food consumers based on their attitude towards this food. Organic food

producers, growers, marketers, and policymakers should work at creating appropriate strategies to address the different needs of these consumers.

6.1. Implications for organic food producers, growers, and marketers

In the present study, five different consumer segments have been identified. These are: Incognizant Consumers, Critical Consumers, Conservative Consumers, Unconcerned Consumers, and Congruent Consumers.

Congruent consumers have the most favourable attitude towards organic food and are the most regular buyers. Conservative consumers also hold a positive attitude towards organic food, but they have apprehensions about the genuineness of organic food products. Critical consumers feel there are many hurdles in buying organic food, like inadequate availability, less variety, and high prices, and their trust regarding genuineness is low. Unconcerned consumers feel that organic food and farming do not benefit health, humanity, and environment. They believe it to be a social trend. Their level of knowledge and awareness, and trust regarding organic food is low as well. Incognizant consumers lack a basic understanding of the fundamentals of organic food and farming.

Considering the beliefs, perceptions, attitudes, and buying patterns of different segments of consumers, organic food producers, growers, and marketers must target congruent and conservative consumers. Congruent consumers have the most favourable attitude towards organic food products and they don't feel obstacles in buying these food products. Conservative consumers have a positive attitude towards organic food; however, they are sceptical about these products' genuineness.

Congruent consumers can be won over in two ways: a) by highlighting the history of organic food and farming in India; and b) by offering more services and conveniences. Organic food is traditional Indian food. In ancient times, farming practices followed in India were completely natural, using compost and other organic sources of plant nutrients, and without any use of chemical fertilizers (Gopinath, n. d).

Across the globe, "going back to the basics" has become a trend. Consumers believe that everything that comes naturally and is rooted in the basics is superior in quality (Chan, 2001). Marketers and growers must make "going back to the basics" a part of their promotion strategy so as to communicate clearly the quality of food while promoting Indian culture and heritage and the taste of these products. Moreover, by being offered environmentally-safe packaging, steady supply, and free home delivery, these consumers have the potential of becoming not only loyal consumers, but also ambassadors/promoters of organic food. Their recommendations, stories, and testimonials can serve as useful sources for crafting communication strategies.

To address the concerns of conservative consumers, more information, especially regarding certification, standards, and step-by-step procedure of certification should be included in the communication strategy. Third-party certification, like PGS, can also help to gain the trust of these consumers. Organic farm visits can be offered and arranged for consumers to see and evaluate the organic farming practices by themselves. If these consumers get assurance about the genuineness of organic products, they can be converted to congruent ones.

6.2. Implications for policymakers

Organic farming and food consumption are closely related to ecological and economic sustainability. The present study has drawn pertinent information such as the level of fundamental knowledge and awareness about organic food, consumers' attitudes, obstacles faced while buying, and the buying patterns of consumers. A large number of consumers have a low level of knowledge and awareness about organic food and its benefits towards health, humanity, and environment.

To create awareness about organic food and bring it into the mainstream, informational messages by the government should be broadcast using mass media, such as television, newspaper, radio, and social media. Organic farming techniques, health benefits offered, and environmental benefits derived from organic farming must be highlighted. The high prices of this type of food can be justified by presenting the benefits and procedures of organic farming.

To overcome obstacles in buying, like erratic supply and availability, and addressing trust issues regarding the issue of genuineness, policymakers can make special provisions for the promotion of organic food, such as community-supported farming, contract farming, and farmers' markets. Through community-supported farming, farmers can come into direct contact with consumers, and both can understand each other's needs and requirements. For economic sustainability and support of small farmers, certain provisions must be made for contract farming, wherein the government can make an agreement with the farmers for the purchase of organic produce. Special weekly farmers' markets can help in overcoming the hurdle of availability. These markets can serve as a platform where consumers and farmers can contact each other.

7. Conclusion and future research direction

This study attempts to understand the characteristics, attitudes, and buying patterns of different organic food consumers. Health, humanity, and environment; obstacles in buying; trust and confidence, fundamental knowledge; tradition and culture; social acceptance and status are factors that influence consumers' attitudes.

Based on these factors, consumers were classified into five segments: Incognizant Consumers, Unconcerned Consumers, Critical Consumers, Conservative Consumers, and Congruent Consumers. Marketers and organic food producers must target congruent and conservative consumers on the basis of their characteristics and buying patterns.

Organic food products must be positioned as traditional and safe, as quality products having health benefits and being environmentally safe. Marketers and producers must work at building consumers' trust regarding the genuineness of food products and the certification process. To promote organic farming and organic products, policymakers should make provisions for community-supported farming, contract farming, and farmers' markets. To bring organic food into the mainstream, consolidated efforts are required from everyone—farmers/producers, sellers, marketers, policymakers, and consumers.

The present study provides insights to marketers and policymakers regarding the types of consumers, their characteristics, such as education, occupation, sex, income, and background, their attitudes, and buying patterns. In the future, research studies can be undertaken on the personality types of consumers so that marketing strategies which are even more focused can be designed. Besides studying the types of consumers and their buying patterns, it is essential to learn their satisfaction level too, which can be taken up in future research. Lastly, the present research has been conducted in the Delhi-NCR area, which is a conglomerate of various cultures and backgrounds; and a more focused study in other regions can supplement this study.

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