



THE CHANGING CONSUMER ATTITUDE TOWARDS ORGANIC FOODS IN INDIA

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ABSTRACT

The World Health Organization's fact sheet on food safety reveals increasing trend in illness caused by the consumption of contaminated food. Contaminated food containing harmful bacteria, viruses, parasites or chemical substances, causes more than 200 diseases – ranging from diarrhea to cancers. In order to minimize the impact on health due to the consumption of chemicals in food, the consumption of organic food has been on the rise. Organic food ingredients are grown without the use of pesticides, synthetic fertilizers, sewage sludge, genetically modified organisms, ionizing radiation or growth hormones.

Our objective is to understand the factors that motivate consumers to buy organic food for consumption. This research paper collected data through a structured survey. The respondents for this research included the current and potential users of organic food. The vast majority of the respondents are male, in the age group of 21 to 40 years and whose monthly income exceeds Rs. 40,000.

Wilcoxon signed rank test for median was used for analysis since the data was non-parametric. The study revealed the factors that can improve the consumption of organic food are cost of organic food becomes more affordable, the availability becomes easier, the shelf life increases and more importantly, the food should be certified as organic by an agency of repute. The overall analysis from the survey shows that there is a positive trend in organic food consumption.

The “brand” didn't emerge as a significant factor for the consumption of organic food. Organic food market and branding is nascent and is picking up momentum in recent years. There are no dominant players in the market yet across all segment of organic food.

KEYWORDS : Organic Foods, Purchase Intention, Motivation, Consumer

1.0 INTRODUCTION

The World Health Organization's fact sheet on Food Safety [WHO Food Safety N399, 2015] reveals an alarming rise in the illness caused due to consumption of contaminated food across the world. An estimated 600 million, almost 1 in 10 people in the world fall sick after consuming contaminated food every year. Contaminated food containing harmful bacteria, viruses, parasites or chemical substances, causes more than 200 diseases – ranging from diarrhea to cancers. Unsafe food creates a vicious cycle of disease and malnutrition, particularly affecting infants, young children, elderly and the sick.

The Centers for Disease and Prevention Control, in its bulletin titled “CDC 24/7: Saving Lives and Protecting People” has called out that various infections from food are caused primarily from poisonings, caused by harmful toxins or chemicals that have contaminated the food [CDC: Saving Lives, Protecting People].

Organic food consumption has been gaining popularity in the last 5-6 years among urban consumers. The overall belief is that organic food is healthier and tastes better than conventional food that uses pesticides and Genetically Modified Organisms (GMO). With the increasing number of middle class in urban areas, the educated society is becoming more concerned about their own and their family's health, preferring food that has less chemicals and has high nutritional values. This can be easily seen with the mushrooming of organic stores that sell organic products across cities. Online retailers like Big Basket, Amazon have increased their advertising campaigns on organic products. Some of the online retailers are promising a 2-hour delivery, which highlights their focus on gaining the growing organic food market share. Organic food retailers like 24mantra are claiming that their farming products are certified according to the standards laid out by India's National Program of Organic Production, National Organic Program as defined by US Department of Agriculture, and EC 834/2007 as stipulated by the European Commission.

Consumers buy organic food for a variety of reasons like improved health, better taste, environment protection, increased animal welfare and promote reuse. Their goal is a combination of promoting biodiversity, protecting natural resources and following healthy agricultural practices. [Cavdar, Dilek 2015]

1.1 What are Organic foods?

The Agricultural & Processed Food Products Export Development

Authority, Ministry of Commerce & Industry, Government of India, defines organic products as those that are “grown under a system of agriculture without the use of chemical fertilizers and pesticides with an environmentally and socially responsible approach.” [APEDA].

The United States Department of Agriculture defines organic farming as “organic food is produced by farmers who emphasize the use of renewable resources and the conservation of soil and water to enhance environmental quality for future generations. Organic meat, poultry, eggs, and dairy products come from animals that are given no antibiotics or growth hormones. Organic food is produced without using most conventional pesticides; fertilizers made with synthetic ingredients or sewage sludge; bioengineering; or ionizing radiation.” [USDA]

In addition to grains, vegetables, fruits and meat, organic food also include baby food, wine, beer, yoghurt, prepared meals, coffee, tea, cereals and bakery items like biscuits, bread, cakes, and pastries.

1.2 Organic farming in India

Organic farming has been prevalent in India for centuries. Our traditional approach of crop rotation to retain soil fertility, use of composted animal and vegetable manures for natural plant nutrition and using lake or river water for farming reflected the extensive use of organic farming processes.

India ranks 15 in the land area used for organic agriculture in the world. An estimated 5.71 million hectare was used in 2013 for organic farming. 1.49 million hectares constituting to about 26% of the total organic land area was used for cultivation, while the rest 4.22 million hectares were used for collection and storage of minor forest produces. [AEPDA].

2.0 NEED FOR THIS RESEARCH

A number of studies by the South East Asia Regional Office of World Health Organization [SEARO] and Center for Diseases and Prevention Control [CDC: Saving Lives, Protecting People] have established that contaminated food is impacting the health of people in the world. Due to the increasing affordability and awareness of the ill-effects of contaminated food, there is an increase in the consumption of organic food. However, the factors that are motivating this increase in consumption is yet to be empirically established.

3.0 OBJECTIVE OF THE RESEARCH

To analyze the factors that trigger the consumer needs towards adopting organic food and the different attributes that go into the decision making process of purchasing organic foods.

Sub-objectives:

1. To analyze the existing consumer's perception towards organic food compared to the conventional food for health factors.
2. To analyze the existing consumer's perception towards organic food compared to the conventional food for hygiene factors.
3. To analyze the existing consumer's perception towards organic food compared to the conventional food for nutrition.
4. To analyze the existing consumer's perception towards organic food compared to the conventional food for taste.
5. To analyze the existing consumer's perception towards organic food compared to the conventional food as they are not genetically modified.
6. To analyze the existing consumer's perception towards organic food compared to the conventional food for brand reasons.
7. To analyze the potential consumer's perception towards organic food compared to the conventional food for cost factors.
8. To analyze the potential consumer's perception towards organic food compared to the conventional food for availability factors.
9. To analyze the potential consumer's perception towards organic food compared to the conventional food for shelf life.
10. To analyze the potential consumer's perception towards organic food compared to the conventional food if certified from reputed agencies.
11. To analyze the potential consumer's perception towards organic food compared to the conventional food if additional benefits of organic food are made available to them.
12. To analyze the potential consumer's perception towards organic food compared to the conventional food if organic food is better looking than conventional food.

4.0 RESEARCH QUESTION

What do consumers perceive of organic food? Do they consider that organic food consumption has a relative advantage over conventional food consumption for the attributes like health, taste, availability, quality, concern for environment, and cost? Do age, gender, family size, income, education level influence the consumption of organic food? What are the barriers towards consuming organic food?

5.0 RESEARCH HYPOTHESIS

Hypothesis 1: H0: Existing consumers don't perceive organic food different from conventional food for health factors.

Hypothesis 2: H0: Existing consumers don't perceive organic food different from conventional food for hygiene factors.

Hypothesis 3: H0: Existing consumers don't perceive organic food different from conventional food for nutrition.

Hypothesis 4: H0: Existing consumers don't perceive organic food different from conventional food for taste.

Hypothesis 5: H0: Existing consumers don't perceive organic food different from conventional food, even though conventional food is genetically modified.

Hypothesis 6: H0: Existing consumers don't perceive organic food different from conventional food for brand reasons.

Hypothesis 7: H0: Potential consumers don't perceive organic food different from conventional food for cost factors.

Hypothesis 8: H0: Potential consumers don't perceive organic food different from conventional food for availability factors.

Hypothesis 9: H0: Potential consumers don't perceive organic food different from conventional food for shelf life.

Hypothesis 10: H0: Potential consumers don't perceive organic food different from conventional food even if organic food are certified from reputed agencies.

Hypothesis 11: H0: Potential consumers don't perceive organic food different from conventional food even if additional benefits of organic food are made available to them.

Hypothesis 12: H0: Potential consumers don't perceive organic food different from conventional food even if organic food is better looking than conventional food.

6.0 RESEARCH METHODOLOGY

Qualitative study

A qualitative survey carried out among ten selected respondents to determine the factors that influenced them to consume organic food. The important attributes that emerged were health, cost, ease of availability, quality, taste, brands and the shelf life of organic products. These attributes were used in the quantitative survey, which followed the initial qualitative study

Quantitative study

6.1 Research Design

Our study used the primary data collected from the survey for analysis. The survey was done using a structured questionnaire. An online link pointing to a structured questionnaire was sent out to the respondents to submit their responses. An introduction to the topic was provided at the top of the questionnaire to help the respondents understand the scope of survey. The respondents were picked in random, with the respondents residing across different locations, their age group was between 21 and 70, had different backgrounds and spoke different languages.

Our estimated sample size was 30. However, the survey received 71 responses, out of which 70 responses were considered for further analysis.

6.2 Variables

Dependent Variables: Intention to consume organic food

Independent Variables: Attributes of organic food like Health benefits, increased taste, ease of availability, reduced shelf life, cost, quality, concern for environment and manufacturer branding.

6.3 Research Instrument

The questionnaire was divided into two parts, one for those respondents who are already consuming organic food and the other, potential consumers of organic food. Likert's 5-point scale was used in the survey to collect the feedback on motivational factors, ranging from "strongly-disagree to strongly-agree". Wilcoxon signed-rank test for median was in the analysis since the data is non-parametric and the population is not assumed to be normally distributed.

7.0 RESULTS AND DISCUSSION

7.1 Respondents Profile

Over 62% of the respondents are in 31-40 years age group, with another 23% being in the 41-50 years. 80% of the respondents were male, with a family size of 2-4, and about half of them had one child at home, the other half divided between having two children and not having any child. Over two thirds of the respondents have post graduate degrees, while the rest excluding a small minority have undergraduate degrees. 95.7% of the respondents are employed. Over two thirds of the respondents indicated their monthly income as being more than Rs. 1 lakh. The profile of respondents of the sample is shown in the table 1.

Table 1: Respondents Profile (Descriptive statistics)

Respondents Profile	Range / Characteristics	Frequency	Percentage
Age	21-30	10	14.3
	31-40	44	22.9
	41-50	16	62.9
Sex	Male	56	80
	Female	14	20
Family size	Only the respondent	2	2.9
	2-4	58	82.9
	5-7	8	11.4
	>7	2	2.9
Highest education level	Post Graduate	46	65.7
	Under Graduate	23	32.9
	Diploma	1	1.4
Monthly Income	20 – 50 k rupees	2	3.1
	50 – 100 k rupees	17	26.6
	Greater than 100 k rupees	45	70.3

7.2 Inferential statistics

The questionnaire contained two major sections, one to analyze the behavior and motivational factors that drive organic food consumption among the already existing consumers, the other to analyze the factors that motivate potential consumers to start consuming organic food. The latter section also analyzes the factors that will motivate the existing consumers to consume more organic food.

7.2.1: Consumers who already purchase organic food

The hypothesis being tested here are:

Hypothesis 1: H₀: Existing consumers don't perceive organic food different from conventional food for health factors.

Hypothesis 2: H₀: Existing consumers don't perceive organic food different from conventional food for hygiene factors.

Hypothesis 3: H₀: Existing consumers don't perceive organic food different from conventional food for nutrition.

Hypothesis 4: H₀: Existing consumers don't perceive organic food different from conventional food for taste.

Hypothesis 5: H₀: Existing consumers don't perceive organic food different from conventional food, even though conventional food is genetically modified.

Hypothesis 6: H₀: Existing consumers don't perceive organic food different from conventional food for brand reasons.

Applying Wilcoxon signed-rank test for median to each of the motivational factors, the results are analyzed.

Table 2: Wilcoxon signed-rank test. Factors that influences consumers who already purchase organic food

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The median of 6. What is the reason you buy organic food? [They are good for health as there are no pesticides] equals 3.00.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.
2	The median of 6. What is the reason you buy organic food? [They are good for health as they are grown using organic fertilizer] equals 3.00.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.
3	The median of 6. What is the reason you buy organic food? [They are grown in Hygiene conditions using good quality water] equals 3.00.	One-Sample Wilcoxon Signed Rank Test	.002	Reject the null hypothesis.
4	The median of 6. What is the reason you buy organic food? [They have higher nutritional value] equals 3.00.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.
5	The median of 6. What is the reason you buy organic food? [They are tastier as compared to Inorganic food] equals 3.00.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.
6	The median of 6. What is the reason you buy organic food? [They are not genetically modified] equals 3.00.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.
7	The median of 6. What is the reason you buy organic food? [They are made from reputed brands] equals 3.00.	One-Sample Wilcoxon Signed Rank Test	.551	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Among the consumers who are already purchasing organic food, the survey results indicated that there is a positive motivation towards organic food since:

- Organic food is good for health due to absence of pesticides
- Use of organic fertilizer produces healthy organic food
- Organic food is grown in hygiene condition using good quality water
- Organic food has high nutritional value and tastes better compared to conventional food
- Organic food are not genetically modified

However, the results did not show a positive motivation towards reseller's brand. The reason can be attributed to the recent increase in the awareness of consuming organic food, and hence, there are no established reseller's brands of organic food. While there is a splurge in the number of manufacturers and suppliers supplying organic food, there is no domination by any specific set of resellers.

While on liners like BigBasket and Towness are increasing their marketing campaigns on organic food, other large retailers like Amazon, FlipKart are not aggressively marketing organic food. Supermarkets and retail stores like Reliance, Big Bazar are also not pursuing a strong marketing campaign towards organic food. The supply chain process, establishing credibility of the producers, and certification process to ensure that the organic food are authentic are still emerging in India.

7.2.2: Potential consumers and potential to consume more organic food among existing consumers

The hypothesis being tested here are:

Hypothesis 7: H₀: Potential consumers don't perceive organic food different from conventional food for cost factors.

Hypothesis 8: H₀: Potential consumers don't perceive organic food different from conventional food for availability factors.

Hypothesis 9: H₀: Potential consumers don't perceive organic food different from conventional food for shelf life.

Hypothesis 10: H₀: Potential consumers don't perceive organic food different from conventional food even if organic food are certified from reputed agencies.

Hypothesis 11: H₀: Potential consumers don't perceive organic food different from conventional food even if additional benefits of organic food are made available to them.

Hypothesis 12: H₀: Potential consumers don't perceive organic food different from conventional food even if organic food is better looking than conventional food.

Applying Wilcoxon signed-rank test for median to each of the motivational factors, the results are analyzed.

Table 3: Wilcoxon Signed Rank Test - Factors that will influence non-consumers to start buying organic food; and existing consumers to consume more organic food

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distribution of 7. Will you start buying or buy more organic food if: [The cost of organic food becomes cheaper] is normal with mean 4.22 and standard deviation 0.91.	One-Sample Kolmogorov-Smirnov Test	.000	Reject the null hypothesis.
2	The distribution of 7. Will you start buying or buy more organic food if: [The availability of organic food becomes easier] is normal with mean 4.46 and standard deviation 0.68.	One-Sample Kolmogorov-Smirnov Test	.000	Reject the null hypothesis.
3	The distribution of 7. Will you start buying or buy more organic food if: [The shelf life of organic food is better] is normal with mean 3.96 and standard deviation 0.94.	One-Sample Kolmogorov-Smirnov Test	.001	Reject the null hypothesis.
4	The distribution of 7. Will you start buying or buy more organic food if: [There is certification from reputed sources on quality] is normal with mean 4.54 and standard deviation 0.68.	One-Sample Kolmogorov-Smirnov Test	.000	Reject the null hypothesis.
5	The distribution of 7. Will you start buying or buy more organic food if: [There is additional information on the benefits of organic food] is normal with mean 4.00 and standard deviation 0.95.	One-Sample Kolmogorov-Smirnov Test	.000	Reject the null hypothesis.
6	The distribution of 7. Will you start buying or buy more organic food if: [The organic food is better looking and tastier] is normal with mean 3.72 and standard deviation 1.13.	One-Sample Kolmogorov-Smirnov Test	.005	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Since we are rejecting our null hypothesis, it is clear from the results of the survey that there is a positive motivation towards consuming organic products even from those who are not or infrequent consumers of organic food at this time

The top motivating factors for the non-consumers to start buying organic food or the existing consumers to buy more organic food are:

- i. The organic food becomes cheaper
- ii. The availability of organic food becomes easier
- iii. The shelf life of organic food is better
- iv. There is certification from reputed sources on quality
- v. There is additional information on the benefits of organic food
- vi. The organic food is better looking and tastier

8.0 CONCLUSION

Our survey and subsequent analysis indicates that there is a positive motivation towards consumption of organic food. The primary motivational factors for buying organic food include concerns for health, cost, ease of availability, quality, taste and the shelf life of organic products. Consumers are also concerned about the way the organic food are certified by agencies of repute. The comments in the survey predominantly expressed concerns on the authenticity of organic food, calling for more stringent quality control and certification. Manufacturer branding is not a motivating factor, which is due to the market being nascent and lack of established brand by manufacturers and suppliers.

Among the existing consumers, the top motivational factors are higher nutritional value, higher taste, and healthy food as organic food are grown using organic fertilizer and without the use of pesticides.

For potential consumers, who are currently not using organic food, the cost, ease of availability, increased shelf life, better looking food, taste and certification by reputed agencies are motivational factors to buy organic food.

The results of this research are important to the consumers and resellers. The resellers can use the data collected in this survey to understand the changing consumer attitude towards organic food consumption and drive their strategies in production, distribution and costing. The consumers benefit from the survey in understanding the trend of organic food consumption, the reasons for the trends and the benefits of consuming organic food.

8.1 Opportunities for future research

The data is collected across consumers with different profiles. There is an opportunity to analyze the consumer's attitude towards consuming organic food based on consumer demographics like Age, Sex, Family Size, Education Levels, and Monthly Income. The inference based on demographic data will help the resellers to drive targeted marketing campaigns. The data will also help the government promote organic based farming, drive self-sufficiency of organic food products, and improve socio-economic status of the country.

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