

Impact Of Consumer Perception On Demand Of Organic Food Products In India

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Abstract: Global demand for Indian organic food products is increasing rapidly. India exported organic food products worth \$ 516 million in the financial year 2017-2018 from \$ 375 million in 2016-2017 with increase of total 40% in last one year. Organic food and beverages is an emerging niche market in India targeting high-income segment. The total market size for packaged organic food in India in 2016 was INR 534 million, growing at around 17.5% over 2015-16, and is expected to reach INR 874 million by 2020-21. The paper attempts to identify the gap between the perception of consumer and its impact on the demand of organic food products in India. This research paper draws its finding from 500 non-probability samples from India in order to identify consumer perception towards organic food products and the factors responsible for increasing demand. Health Benefits, Income, Status-quo, Education and availability are found to be the drivers of organic food products. There is immense scope for further research in order to understand the reasons of such gaps for a better and healthy living.

Index Terms: Consumer behavior, Demand, Emerging markets, Organic food products, India

1. INTRODUCTION

Natural farming or to state simply organic farming is one of the antiquated practices of agribusiness which has been given to us by our ancestors. Any food product can be termed as organic only when it is free from toxic pesticides, chemical fertilizers or genetically modified organisms and it follows organic farming standards in respect to concerns for soil, water and air. These considerations for environment and awareness on self health as resulted in the increase of food produced organically in India. Organic food products market has shown a massive growth since 1990s. Demand for food products grown organically has shown immense increase in global market. Approximately 162 countries are practicing organic food farming in 37 m Ha of land devoted to organic farming. World of Organic Agriculture has declared India as the biggest producer of food produced organically within the world

1.1 Origin of the term Organic in India

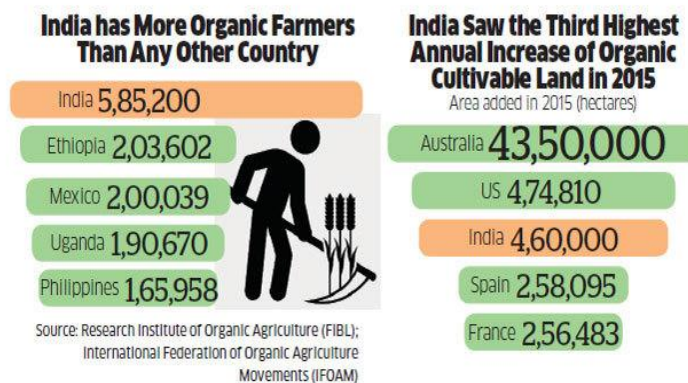
Organic Farming is about 10000-year-old. It has its roots from Neolithic age in Mesopotamia Civilization. Yet another Indian Epic Mahabharata mentions the role of Kamdhenu, the celestial cow on soil fertility. The religious texts of India the "Vedas" too mention the use of organic means in agriculture. Rig Veda (2500- 1500 BC) talks about organic dung and Atharva Veda also mentions the same. Sukra (IV, V, 94, 107-112) mentions, to insure growth in plants, they should be nurtured with dung of various animals like goat, sheep, cow along with water. Kautilya's Arthashastra also mentions the use of several green manure and excretion of animals. The father of modern organic agriculture, Albert Howard (1900-1947) worked on developing the organic composting process at Pusa, Samastipur, Bihar. He also mentioned about his invention in a document "An agriculture Testament". Taking inspirations from his idea J I Rodale, popularized the term sustainable agriculture and came to be known as an early advocate of sustainable agriculture in USA (1942).

1.2 India as Organic Market

India has high demand for organic food growing at compound growth rate (CGAR) of 25% annually. By 2020, it is predicted to extend from present market size of Rs.4000 crore and reach Rs. 10,000-12000 crore- reports by Assoc ham. India reportedly has maximum farmers who have opted for organic

farming. The local market in India is evaluated at INR40, 000 million in the present scenario which by 2020, is expected to grow by INR100,000— INR120, 000 million. India's total market for packed organic food in 2016 was INR 534 million which has grown by 17.5% over 2015-16, and will estimated reach INR 874 million in 2020-21.

Fig1- Indian Market for packed organic food in millions



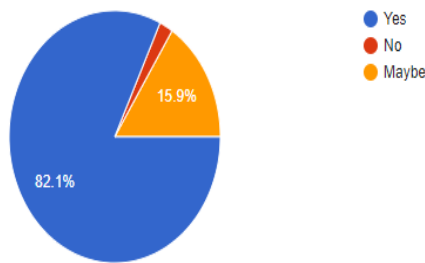
1.3 Factors Affecting Organic Food Products in India

Previous research on organic food products and primary data collected, factors affecting Organic food products in India were identified. Factors having an impact on the potential demand for organic products are listed below:

1.3.1 Awareness on Health

The rapidly increasing health issues because of unhealthy food consumption, imbalance in work and personal life, changes in lifestyle have made the Indian consumer much conscience about what they eat. They are more inclined towards consuming healthy food which is free from chemical pesticides.

Fig 2: Do you consider organic food product safe?



Source: Primary data collected from 270 respondents.

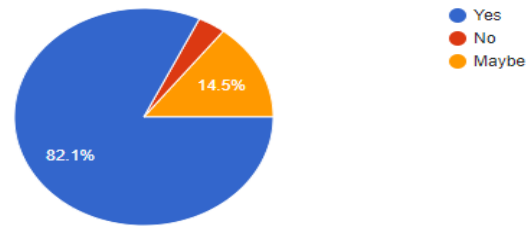
1.3.4 Concern for Environment

Concern for environment has been identified as a determinant for demand of organic food products. Consumers also look for sustainable use of natural resources so that it can be restored for the generations to come.

Fig 5: - Do you believe that food grown organically is environment friendly?

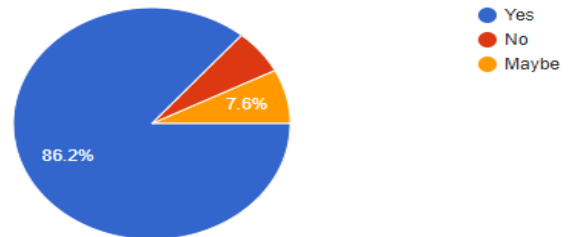
Source: Primary data collected from 270 respondents.

1.3.5 Spirituality



India is a land of rich and varied cultures. Organic means of farming is 1000 years old in India. They have its root from the Indian Epics like Ramayana and Mahabharata, where plants, soil, water and animals were believed to be worshiped. It is even evident from the primary data collected.

Fig 6: You believe in worshiping nature and consider plants, water, air, soil to be a gift of God.



Source: Primary Data collected from 270 respondents

2 REVIEW OF LITERATURE

Indian consumers are in favor of organic products. Demand for organic food products have increased in recent years. India's total market for packed organic food in 2016 was INR 534 million which has grown by 17.5% over 2015-16, and will estimated reach INR 874 million in 2020-21. There are several factors identified that form perceptions of consumer about organic food products in India health, environmental concerns, education, status quo, family income, age being few of them. Chiciudean et al, (2012) identifies women in order to be a part of the trend "Organic" did have price concerns. The researcher also indicates that organic food is demanded as it is environment and animal friendly. Advertisement has been identified as an important tool for creating awareness amongst consumers. Youth is considered to be much influenced by advertisements than other age groups. Shafie and Rennie (2012) identified the factors that have an impact on consumer perception towards organic food products. Taste, nutrition, freshness, appearance of organic products was identified, but higher prices was the only reason identified for lesser demand.

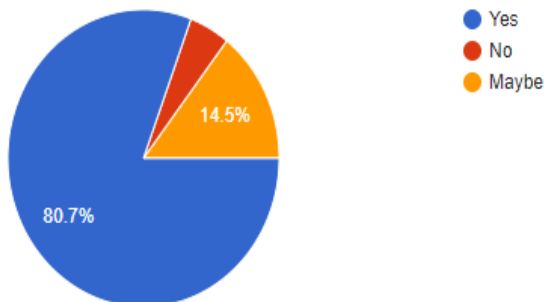
Source: Primary Data collected from 270 respondents.

1.3.2 Paying Capacity

Increased income and willingness to pay towards healthy life is also a factor affecting demand of organically grown food products in India. The per capita income of Indians increased by 8.6% in 2018 and was recorder at Rs 1,13,000 as compared to Rs 1,03,000 in 2015-16. India is expected to achieve the 3rd position as world's largest consumer economy by 2025.

Fig 3: Does paying capacity has a role in buying organic food?

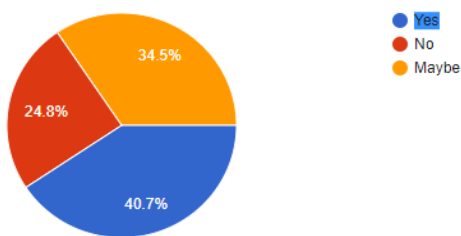
Source: Primary Data collected from 270 respondents.



1.3.3 Education and Awareness

Primary data collected also indicated that education is an important factor that helps create demand for food products grown organically. Educated people have awareness about organic food and therefore prefer them over conventionally grown food.

Fig4: Users of Organic products are generally educated.



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Considering the scenario of 2018, reports by officials say that “State is about halfway towards its ambitious goal of going 100% organic and agriculturally self-sufficient by 2020”. This major change in of the Indian State became possible because of the increasing health problems. Kerala hosts the maximum literacy rate and majority of its citizens were settled abroad. The trend of relying on imported food increased and the fear of raising chances of cancer because of chemical pesticides found in this imported food and this fear created a situation of urgency for shifting toward organic produce. India being a land of culture and tradition promotes the value of family. Dr.H.M. Chandrashekar (2014) found out that price of organic food was a major reason for low demand in the city of Mysore. Moreover, he also identified unavailability of organic products which led to a buyer of organic product buy non-organic product. There were very few shops for organic products in the city and had very little or no variety to offer. Above all the ratio of non-organic buyers was comparatively higher because of lack of awareness about organic produce. Education played an important role in the demand of organic food. Brijesh Sivathanu in 2015, viewed females having more inclination towards organic products than men. He also identified education, income and awareness as key determinants for the demand of organic food.

2.1 Problem Statement

The main problem associated with organically produced food in India is to understand whether personal or social factors affect the demand for food products produced organically? Further understanding the role of demographics on the demand of organically produced food in India is also important.

2.2 Research Questions

The study identifies the drivers that form consumer's perception towards food product grown organically in India. The objectives of the research are listed below:

Objective 1: To study the relationship between usability of organic products role of personal factors.

Objective 2: To study the relationship between the usability of organic products and role of social factors.

Objective3: To study the relationship between the demographic profile of the customer and the awareness towards organic food products.

2.3 Purpose of Study

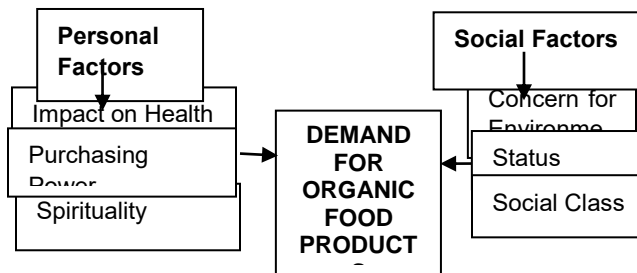
Major developed countries have showed an inclination towards food products grown organically. All the built-up cities in India have also shown increased demand for organically grown food products recently. As per reports more than 85% organic food produce is exported from the states of Uttar Pradesh and Madhya Pradesh in India. India has been the prime exporter of organic tea and many more products are soon expected to join the list. India majorly has demand for organic vegetables, rice, cashew, coffee, wheat and rice. While mangoes, oranges and bananas make the most demanded organic fruits in India. The study aims at identifying the impact of social factors like- economic status, concern for environment, paying capacity and personal factors like- impact on health, inclination towards spirituality, and maintaining a social class on consumer buying behavior towards organic products in India.

3 RESEARCH METHODS

3.1 Conceptual Framework of Study

The factors having an impact on the demand of organically produced food are purchasing power, health, blend towards spirituality, concern for environment, status and social class. Consumer believes that consumption of organically produced food is healthy and will prove to be a step towards sustainable use of natural resources. The Conceptual framework is presented below with the help of a diagram.

Fig 7: Conceptual Framework of study



3.2 Sampling and Data Collection

In order to identify factors affecting the demand of organic food products, primary data for about 270 respondents was collected. Data collection was implemented with the help of structured questionnaire of over 270 respondents. Exploratory research was also conducted with the help of secondary data i.e. available literature.

3.3 Sampling Methods

The type of method used to collect primary data was Convenient Sampling. Primary data was collected by 270 respondents present in the various states of India. Emails were sent to over 550 respondents. Data was also collected by visiting various shopping malls, offices, educational institutes etc.

3.4 Hypothesis

H1: There is relation between the usability of organic food products with respect to the personal factors towards the organic foods.

H2: There is relation between usability of organic food products and food grown organically is environment friendly.

H3: There is relationship between demographic profile of customers and the awareness regarding organic food products.

3.5 Data Analysis and Interpretation

We have applied the frequency test to analyze the demographics profile of the respondents. Analysis covered general information about organic products and the opinion of the respondents with respect to awareness regarding organic food products.

Table01: The table below depicts key information regarding demographic profile of the respondents.

Demographics Profile	Value Labels	Percent

Age	18 to 30 Years	73.9
	31 to 40 Years	20.3
	40 Years or above	5.9
Gender	Female	43.7
	Male	55.9
	Prefer not to say	.5
Education	Elementary Education (Till Class XII)	2.3
	Under Graduate	29.7
	Post Graduate	59.9
Marital Status	Doctorate or others	8.1
	Single	65.8
	Married	34.2
Number of Children	None	77.9
	1 Child	12.2
	2 Children	9.0
Occupation	More than 2 Children	.9
	Service	38.7
	Self Employed	18.9
Monthly Income	Neither	42.3
	Less than Rs 50000/-	23.0
	Rs 50001/- to 1 Lakh	13.5
	1 Lakh to 1.5 Lakh	5.4
	1.5 Lakh to 2.0 Lakh	5.4
	2.0 Lakh or more	13.1
	Not Working	39.6

The table above makes it clear that the 73.9% respondents were between the age group of 18 to 30 Years that means most of the respondents were youth. 55.9 % respondents were male and 43.7% female, hence majority was of male respondents.

Table-02: Information on Usage of Organic Food

General Information Organic Food Products	Value Labels	%
I am a user of organic food products	Yes	51.8
	No	48.2
	May be	0.0
Are organic food products Safe?	Yes	82.0
	No	2.7
	May be	15.3
Are Organic food products easily available in the stores near you.	Yes	30.6
	No	56.8
	May be	12.6
Is non-availability of organic food products a major cause of lesser demand for organic food products?	Yes	71.2

Do you have wide choices of organic food products in your city?	No	10.8
	May be	18.0
	Yes	29.3
	No	55.4
	May be	15.3

From the above table, it is clear that 51.8% respondents agreed using organic food products. 82% respondents considered that organic food was safe. 30.6% respondents positively responded to availability of organic food in stores whereas 56.8% responded about non-availability of organic products in the stores.”

Table- 03: Awareness about Organic Food Product

Awareness about Organic Food Product	Value Labels	Percent
I am aware of organic food products.	Strongly disagree	4.1
	Disagree	1.4
	Neutral	8.6
	Agree	58.6
I feel food free from pesticides are safe and more nutritious	Strongly agree	27.5
	Strongly disagree	3.6
	Disagree	5.0
	Neutral	6.8
I am willing to pay more to buy chemical-free food products	Agree	41.4
	Strongly agree	43.2
	Strongly disagree	2.7
	Disagree	6.8
	Neutral	11.7
	Agree	54.1
	Strongly agree	24.8

The table above makes it clear that majority of respondents 58.6% agreed that they are awareness about organic food products, maximum 41.4% respondents agreed that food free from pesticides are safe and more nutritious, 54.1% respondents agreed that we were willing to pay more to buy chemical-free food products, 49.5% respondents agreed that we considered the environment friendly food products for consumption, 48.2% respondents disagreed that there was not much difference between regular and organic food products and 31.1% of respondents agreed that they do not buy organic food as they find them expensive.

Table- 04: Consumer Buying Behavior towards Organic Food Products

Consumer Buying Behaviour Organic Food Products	Value Labels	%
How Often do you buy Organic Vegetable	Once in a week	49.1
	Once in a month	32.0
	Never	18.9

How Often do you buy Organic Fruits	Once in a week	0.0
	Once in a month	29.7
	Never	70.3
How Often do you buy Organic Pulses	Once in a week	0.0
	Once in a month	50.5
	Never	49.5
How Often do you buy Organic Masalas	Once in a week	0.0
	Once in a month	45.0
	Never	55.0
How much amount do you generally spend in a month on the purchase of any organic food products	Rs 100 to Rs 500	6.3
	Rs 501 to Rs 1000	19.8
	Rs 1001 to Rs 1500	14.4
	Rs 1501 to Rs 2000	11.3
	Rs 2000 or above	14.4
	Can't Say	33.8

The above table shows the trend in purchase of organic food. It can be depicted that 49.1% of respondents buy Organic Vegetable once in a week, 32.0% once in a month and 18.9% never buy Organic Vegetable, 29.7% buy Organic Fruits once in month, 70.3% never buy Organic Fruits, 55.5% buy Organic Pulses once in a month, 49.5% never buy Organic Pulses, 45.0% buy Organic Masalas once in month, 55.0% never buy Organic Masalas and 6.3% respondents said we generally spend Rs. 100 to Rs 500 in a month on purchase of any organic food products, 19.8% spend Rs 501 to Rs 1000, 14.4% spend Rs 1001 to Rs 1500, 11.3% spend Rs 1501 to Rs 2000, 14.4% spend Rs 1501 to Rs 2000 per months on purchase of any organic food products and 33.8% respondents did not give their opinion.

4 FINDINGS

To check the relationship between two nominal variables, Chi Square test at 5% significance level was used for data analysis. We would be confident 95% in our decision making for accepting and rejecting Null Hypothesis. The decision rule states that if significant value (p-value) is less than 0.05, null hypothesis will be rejected whereas if significant value (p-value) is greater than 0.05, null hypothesis will be accepted. Hypothesis 1 studies the relationship between role of personal factors on usability and preference of organic food products. From the chi-square tests table below, it is clear that sig value (p value=0.180) is greater than 0.05, hence it was safe to accept Null hypothesis H01, we can conclude that personal

factors play important role towards usability and preference of organically grown food products over non-organic food products.

Table 05: Role of personal factors on usability and preference towards organic food products.

		Personal Factors		
		No	May be	
Usability of organic products	Yes	32	35	
	No	21	44	
Total		53	79	222
Chi-Square Tests				
		Value	Df	Asymptotic Significance (2-sided)
Pearson chi square		3.424 ^a	2	.180
Likelihood ratio ^b		3.439	2	.179
Linear by linear		1.262	1	.261
No. of valid cases		222		

Further, validating the data related to personal factors it was found that there is positive co-relation between usage of organic food products and paying capacity of the customers as per the table below. It is clear that (p value=0.322 is greater than 0.05, hence it can be concluded that upper and middle-class customers prefer organic food products over non-organic products.

Table 06: Relation between usage of organic food products and paying capacity of Customers

Class		Paying Capacity of the Customers.			Total
		Yes	No	May be	
Upper and Middle	Yes	88	10	17	115
	No	90	5	12	107
Low					
Total		178	15	29	222

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)

Pearson chi square	2.266a	2	.322
Likelihood ratio'	2.300	2	.317
Linear by linear	1.425	1	.233
No. of valid cases	222		

Hypothesis 2 studies consumer perception towards organic food products as being environment friendly. As per chi-square tests table, p value=0.112 is greater than 0.05, hence it can be concluded that consumers perceive organic food products as more environment friendly.

Table 07: Organic food products are environment-friendly

		food grown organically is environment-friendly			Total
		Yes	No	Maybe	
Usability of organic food products	Yes	97	6	12	115
	No	80	5	22	107
Total		177	11	34	222

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson chi square	4.382 ^a	2	.112
Likelihood ratio'	4.423	2	.110
Linearby linear	4.002	1	.045
No. of valid cases	222		

Hypothesis 3 studies the relation between the demographic profile of respondents and their awareness towards organic food products. The chi-square tests table makes it clear that significance value (p value=0.411) is more than 0.05, hence it was concluded that statistically, young respondents are aware about organic food.

Table 09: Awareness towards organic food products

		Awareness towards organic food products					Total
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
18 to 30 Years		6	6	18	93	41	164

Age	31 to 40 Years	0	4	6	24	11	45
	40 Years or above	0	5	2	3	3	13
Total		6	15	26	120	55	222

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson chi square	26.967a	8	.411
Likelihood ratio'	19.350	8	.313
Linear by linear	3.426	1	.264
No. of valid cases	222		

The demographic data was further analyzed to establish relation between the age as a factor towards preferring organic food over regular food products. From the chi-square tests table, validates that significance value (p value=0.221) is more than 0.05, hence it is concluded that young respondents have stronger preference towards organic food products.

Table 10: Age * Preference of regular food products over organic food

Age (In Years)	Feelings about the difference between regular and organic food				Total
	Strongly disagree	Disagree	Neutral	Strongly agree	
18 - 30	20	75	30	6	164
31 - 40	10	27	6	1	45
40-above	3	5	0	0	13
Total	33	107	36	7	222

Chi Square Test

	Value	Df	Asymptotic Significance (2-sided)
Pearson chi square	18.091 ^a	8	.221
Likelihood ratio ^b	23.079	8	.113
Linearby linear	3.831	1	.050
No. of valid cases	222		

Also, to further validate statistical association between nature of job of the respondents and preference towards organic food products for consumption were calculated from chi-square tests table. Significance value (p value=0.337) is more than 0.05, therefore it was concluded that both service and self-employed respondents prefer environment-friendly food products for consumption.

Table 11: Occupation * consider organic food products for consumption

consider environment-friendly food products for consumption		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
		Service	2	2	10	45	27
Self Employed	2	5	5	19	11	42	
Neither	2	0	9	46	37	94	
Total	6	7	24	110	75	222	

Chi Square Test

	Value	df	Asymptotic Significance (2-sided)
Pearson chi square	16.431a	8	.337
Likelihood ratio ^b	15.059	8	.158
Linear by - linear	1.405	1	.236
No. of valid cases	222		

5 CONCLUSION

India is emerging as a strong market for organic food products. By 2020, India is expected to be self-reliant in producing chemical free food products i.e. organic food. It will also emerge as a massive exporter of organic food product in global market. Personal factors play a major role in predicting consumption pattern of consumer in India. Indian consumer prefers organic food as they consider it safe. Using environment sustainably is also identified as factors that derive consumers towards organic produce. Demographics have also been identified to affect the demand of organic food items. Majority of organic food customers are educated youth, have high paying capacity. In India, higher prices prove to be a hurdle for the masses making them unable to afford them. The prevalent government support and various schemes introduced makes India a better market for Organic produce in the years to come.

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