

# Factors Influencing Purchase of Organic Food Products: An Empirical Estimation

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## Abstract

The major purpose of the present study is to empirically identify the factors which significantly influence the purchase of organic food products. Factor analysis helps to identify the component which is a combination of factors. Accordingly, the principle component analysis has been used in the present work. Twelve factors (like, taste, safety.....) have been considered for the study and data collected from 220 respondents which is in Likert scale. It is found from the analysis that in the first place, naturally grown, safety and health issues have jointly and significantly determined the demand for organic food. In the second place, children and elderly issues are dominant in determining the demand for organic food. In the third place, taste and fashion issues are important in deciding the demand for organic food. Lastly, GMO free (Genetically Modified Organism) is also found significant in determining the demand for organic food product. Hence, to market and promote the purchase of organic food products, sellers and farmers should give more importance to nature, safety and health issues.

**Keywords:** organic food, naturally grown, health, safety, factor analysis.

## I. Introduction

Endless use of artificial composts, low-quality nourishment with unsafe implications on human health has forced consumers to find an alternative solution, which is healthy and natural. Hence many consumers are going 'organic'. Organic food products are products which are free from harmful chemical fertilizers, artificial pesticides and are not genetically modified.

The increase in the consumption of organic food has increased its demand globally (FiBL & IFOAM, 2019). Over a few years, organic food products are gaining more importance and Indian organic market is also growing at a flashing rate. The reasons responsible for the surge of this market may be increased awareness of chemical effects among consumers, increase in the disposable income, the growth of e-commerce, favourable governmental regulations and increase in the export of Indian organic food (APEDA & India, 2019). Domestic demand for organic food is penetrating in cities apart from metropolitan cities too. The present empirical study attempts to examine the factors that significantly and largely influence the purchase of organic food products. This study can be useful especially for retailers, marketers and farmers who are into the business of organic food products particularly in a developing nation like India.

## II. Review of Literature

There is good number of research carried out on organic food. Most of the previous studies have analysed the issues related to price, quality, health, safety etc. Majority of the researches carried out to understand the relationship between health and organic food showed that health is one of the primary reasons that consumers buy organic foods (Fotopoulos & Athanasios, 2002). Health is the dominating factor which is central to the decision of purchasing organic food (Zanoli & Naspetti, 2002). Consumers consider organic food as healthier alternative, more enjoyable, tasty, safe and better when compared to non-organic products (Lockie, Lyons, & Lawrence, 2002). A positive relationship has been identified between health consciousness and price (Molyneaux, 2007). Another study reveals that health, education and availability have a positive influence on the attitude of consumer while procuring organic food (Justin & Jyoti, 2012). Health, quality, price and food safety are the four important factors responsible for the purchase of organic food (Nihan, 2012).

Majority of customers opined that they buy organic products because they maintain good health, tastes good and are of good quality (Chandrashekar, 2014). Among the five attributes, health aspect ranked 1<sup>st</sup> followed by local origin, environment, food safety and animal welfare in the purchase of organic food by the Thai customers (Pittawat & Santiteerakul, 2016 ). Many studies revealed that health had a positive impact on consumer's purchase intension; on the contrary a study revealed that health factor had the least significant impact on the same (Michaelidou & Louise, 2008).

However, the previous studies have not analysed the influence of the factors like healthy, tasty, ecofriendly, safety, chemically free, naturally grown, clean and fresh, free from GMO (genetically modified organisms), ideal for children and elders, fashion to consume and support to local farmers together particularly in Karnataka specifically in Mysore. Hence the present study will help in decision making process of promoting organic food products.

### III. Methodology

The current paper has used primary data collected from 220 sample respondents in Mysore city. The simple random sampling method is used for selection of respondents and statistical formula with minimised error at 5% has been followed to fix the sample size. Sample respondents are the buyers of organic food products, who provided information in 5 point Likert scale where 1 is for strongly disagree and 5 is for strongly agree. Hence the collected data is suitable for factor analysis. Accordingly principle component factor analysis can be adopted to determine the factors which influence the purchase of organic food.

### IV. Results and Discussion

The present study empirically identifies the factors which significantly influence the purchase of organic food products. Factor analysis helps to identify the component, which is the combination of variables. Accordingly, the principle component analysis has been used in the present work. Twelve factors (like, taste, safety.....) have considered for the study and data collected from 220 respondents which is in Likert scale. Since the data is in scale the factor analysis can be applied.

#### Average Score for Attributes:

The five-point Likert scale was administered to enumerate the opinion from respondents (consumers of organic food products) about why do they purchase organic food products. The respondents have given opinion on the scale from 1-5 (1 for strongly disagree and 5 for strongly agree) for the entire twelve factors. The score for each factor given by all the respondents are summarized and presented in the following descriptive table.

**Table 1: Descriptive Statistics for Factors**

Source: Field study data, computed by researchers

Factors	Mean	Std. Deviation	Analysis N
Chemical Free	4.718	.4509	220
Naturally Grown	4.500	.5011	220
Safe	4.345	.5310	220
Healthy	4.355	.5162	220
Tasty	3.809	.8600	220
Clean and Fresh	4.055	.5545	220
Free GMO	4.018	.4270	220
Eco-Friendly	3.909	.4787	220
Ideal for Children	3.718	.5257	220
Ideal for Elders	3.709	.5119	220
Fashion to Consume	1.909	.9121	220
Support Farmers	4.627	.5382	220

The above table presents the average score for attributes. It is found the table that the highest score is given to chemical free factor, followed by support farmers, naturally grown and others. The lowest score was given to fashion to consume.

## Extraction of Components

The components (factors) have extracted by using principle component analysis. The extraction of **components is based on initial eigenvalue** which is greater than one.

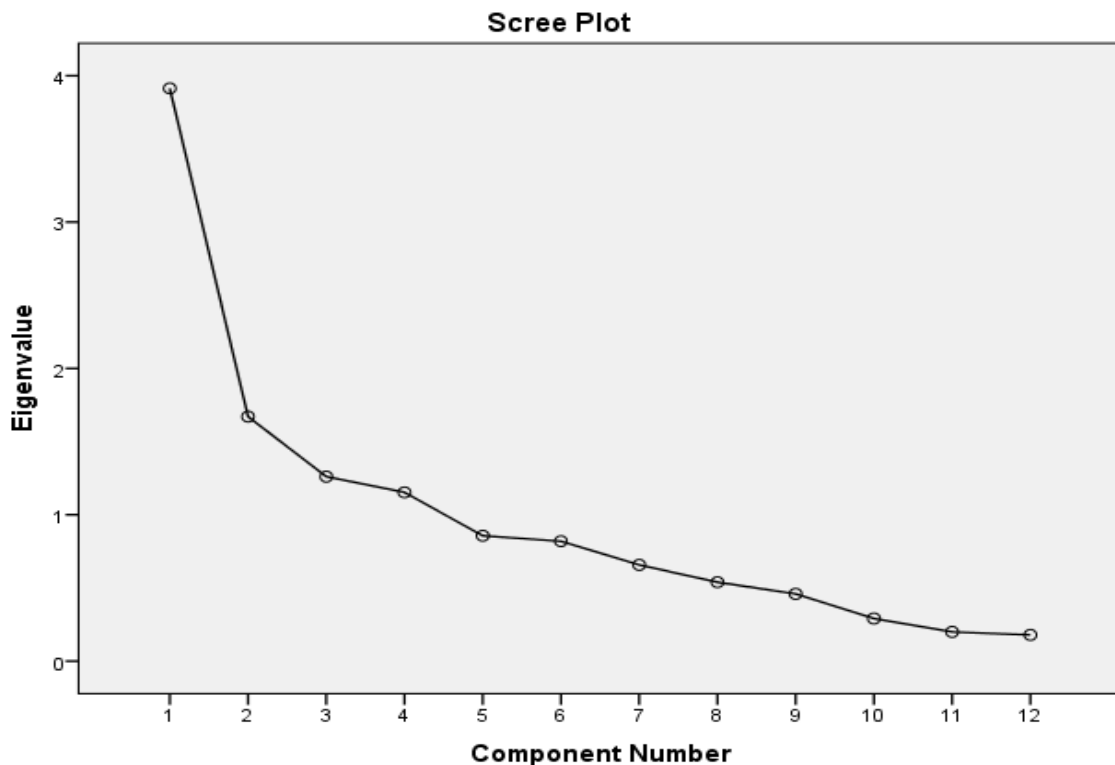
**Table 2: Total Variance Explained**

Source: Field study data, computed by researchers.

Component	Initial Eigen values		
	Total	% of Variance	Cumulative %
1	3.914	32.614	32.614
2	1.671	13.922	46.536
3	1.261	10.505	57.041
4	1.153	9.611	66.651
5	.857	7.140	73.791
6	.819	6.827	80.618
7	.658	5.479	86.097
8	.539	4.493	90.590
9	.459	3.827	94.418
10	.291	2.428	96.845
11	.200	1.664	98.509
12	.179	1.491	100.000

Extraction Method: Principal Component Analysis.

Based on the Eigen value, four components are extracted. The first component explains 32.614 percent of variation in total variation explained by all the variables. Second component explains 13.922 percent of variations. Third component explains 10.505 percent of variation. Fourth component explains 9.611 percent variation. Together, four components explained 66.615 percent of variation. The following scree plot also presents the identification of factors for which Eigen value is greater than one.



### Identification of factor for Each Component

Using rotated component matrix, the factors (variables) are identified under each component for which values is greater than 0.7 (A factor loading approximately 0.7 is considered to be sufficient).

**Table 3: Rotated Component Matrix**

Factors	Component			
	1	2	3	4
Chemical Free	.645	.425	-.188	.083
Naturally Grown	<b>.844</b>	.220	-.001	-.036
Safe	<b>.810</b>	.184	.189	.082
Healthy	<b>.803</b>	.085	.348	-.076
Tasty	.002	.144	<b>.801</b>	-.089
Clean and Fresh	.322	.065	.417	.232
Free GMO	.099	.092	-.227	<b>.791</b>
Eco-Friendly	.298	.599	.007	.400
Ideal for Children	.237	<b>.900</b>	.079	.045
Ideal for Elders	.149	<b>.882</b>	.071	-.120
Fashion to Consume	.133	-.059	<b>.732</b>	.026
Support Farmers	-.133	-.066	.314	.637
Extraction Method: Principal Component Analysis.				
Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 6 iterations.				

With the help of principle component analysis and varimax rotation method factors under each component are identified and found that Naturally grown, safety and health issues have jointly determined the demand for organic food product under component one. Issues of ideal for children and elders are representing the second component. Tasty and fashion to consume are identified under the third component. Free GMO represents the fourth component. At the same time, Chemical Free, Clean and Fresh, Eco-Friendly and Support Farmers are not important in determining the demand for organic food products.

### Conclusion:

The present study has analyzed the issues in purchase of organic food product in Mysuru. It is found from the analysis that in the first place naturally grown, safety and health issues have jointly and significantly determined the demand for organic food. In the second place, children and elderly issues are dominant in determining the demand for organic food. In the third place, taste and fashion issues are important in deciding the demand for organic food. Lastly, GMO free (Genetically Modified Organism) is also found important in determining the demand for organic food product. Hence, to promote the behavior of purchasing organic food products, sellers and farmers should give more importance to nature, safety and health components.

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