



## **A Study on the Consumer Perception towards Organic Food Products in Punjab**

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### **Authors' contributions**

*This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.*

### **Article Information**

DOI: 10.9734/AJAEES/2022/v40i830934

### **Open Peer Review History:**

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/85563>

**Original Research Article**

**Received 31 January 2022**

**Accepted 30 March 2022**

**Published 26 April 2022**

### **ABSTRACT**

As the population is increasing all around the world, and to have good quality food is now becoming a challenge for everyone. On another side food that is grown with unhealthy practices is also paving the way towards an unhealthy body prone to diseases. There is a huge gap between customers' expectations and market supply, especially in terms of quality and their price. This study aims to investigate the influence on buying decisions and challenges towards healthy food accessibility. We have used cross-sectional survey data and analytical methods used in the study were Pareto analysis and Garret ranking method. Descriptive statistical analysis was used for the study, and to segment the organic consumers, we have used factor analysis. The study found that Demand and supply have a massive gap and this gap is an opportunity for other farmers that is why new producers can serve and cash benefits.

**Keywords:** *Organic food; branding; price; consumer perception; consumer attitude; certification; availability.*

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## 1. INTRODUCTION

Race of development has today brought us to a time where even access to good quality food is a challenging task in itself [1]. In the world, around 9.2% of people are living in extreme poverty [2] and if anyone does not belong to the extreme poverty criteria it doesn't mean that they have access to good quality food. Awareness and attraction for organic food are rapidly increasing around the world nowadays [3]. Most of the people in developed and developing countries have turned out to be more health-conscious [4], and they have started spending more on a healthy and happy life [5]. Food grown in natural conditions is also one of their priority; that's why farmers are also turning their cultivation to natural or organic farming. Organic food articles are produced without using chemicals, like pesticides, herbicides, hormones, antibiotics, etc. That's why they not only preserve the environment but also help in making public health safe [6].

Global Organic Food Market is dynamically changing and growing [7]. In today's world, the latest cutting-edge technology makes everything possible, farmers are heralding again to age-old practices in agriculture for the higher precision of humankind on this planet. Organic food has been necessitated by a new generation of health-conscious consumers increasingly aware of the harmful effects of artificial chemicals and other additives in food [8], and farmers are now signaling back to ancient farming practices to get a yield that is acknowledged as organic food. From the seed to the soil, water, and the end product, everything that energies into bringing organic food to the table is herbal and free from pesticides, artificial chemicals, and fertilizers. As per the Tech Sci Research report [9], the global organic food market stood at \$110.25 billion in 2016 and is expected to grow at the rate of 16.15%, during 2017 – 2022, to reach \$ 262.85 billion by 2022. Increasing awareness about

health benefits of organic food consumption, rising of disposable income per capita on natural food products, a growing trend of fitness, and concerns due to a growing number of chemical poisoning cases expected to force to develop global organic food market in the coming years [10]. These emerging market development opportunities will also initiate product innovations (in terms of form utility) and hostile marketing strategies adopted by major players and e-retailers would positively affect the global organic food market throughout the forecast period.

Indian farming was based on organic agriculture from ancient times. Still, from the last 6 to 7 decades, farmers are motivated to use pesticides and chemicals for more production, and this gave so many diseases and harmed farmers as well as consumers [11]. Farmers, as well as consumers of Punjab, are engulfed by dangerous diseases like cancer due to the production and consumption of conventional food articles [12]. And, due to this alarming situation, a new era has emerged towards organic food consumption and production. According to a recently published TechSci Research report [9] "India Organic Food Market Forecast and Opportunities, 2020", the organic food market in India is expected to grow at a CAGR of over 25% during 2015-20.

We can see the data published by (fiabl.org) in tabular form that shows continuous growth since 2013; organic farming has covered about 1% of total cultivating land in India.

With the phenomenal growth in the area under organic cultivation and growing demand for natural harvest products, India has emerged as the largest nation with the highest arable cultivated land under ecological management. India has also achieved the status of the single largest country in terms of the total area under certified organic wild harvest collection.

**Chart 1. Growth in Organic Farm Practices Since 2013**

Country	Item		Area under organic cultivation of total farmland [%]	Number of organic producers (in'000)	Organic retail sales [Million €]
	Element	Organic area (farmland) [ha]			
India	Year				
	2013	510'000.00	0.28	650	69.5
	2014	720'000.00	0.4	650	101.32
	2015	1'180'000.00	0.66	585	144.2
	2016	1'490'000.00	0.83	835	171.65
	2017	1'780'000.00	0.99	1'093	185.89

(Source: Research Institute of Organic Agriculture)

The Indian government is also promoting organic farming in many ways. Paramparagat Krishi Vikas Yojana (PKVY) is introduced by the Government of India to promote organic agriculture under which two lac hectares have been reserved for organic farming, thereby benefiting 5 lac farmers. Such steps will improve organic agriculture and related industry in the future. India has an opportunity to serve the potential customer at the world level. The demand for Indian organic food products is increasing rapidly at the global level as we have exported organic products worth \$ 515 million against \$370 million in 2016-17. Agricultural and Processed food products Export Development Authority (APEDA) has registered an increase of 39% of the total volume of the organic export during 2017-18 amounting to 4.58 lac tons [13].

### 1.1 Organic Food and Chandigarh

Chandigarh is the fastest developing city in India because it's a union territory and capital of Punjab and Haryana state and that's why people who live in Chandigarh have good opportunities as an employee and employer.

If we talk about the quality of life in Chandigarh, without the unusual hustle and bustle, Chandigarh can be categorized as a city with a pleasing atmosphere. That is the reason why this metropolis is desired by people due to its nonviolent and calm atmosphere.

If we talk about food habits, Chandigarh has lots of organic product shops (approximately 50) because customers here are well aware of health. They usually prefer quality food (free of artificial additives) to consume [14].

Among all these already existing shops, one of the oldest organic markets is serving customers differently. There were many challenges along the way as per Raman Mann, a farmer, and activist, and Dr. Upendra Nath Roy, professor, and Head of, the Department of Rural Development, NITTTR, who together with a handful of farmers, started this intermediate free organic market initiative. This market is located near the *sukhna lake sports complex in Chandigarh*. This market is running since 2015. Organic Farmers in this Market comprises people of the farming community, researchers, professors, poets, and young, educated local volunteers. The group organizes organic mandis on Saturday, to provide a better exchange

between producers and consumers without intermediaries. "With vegetables, fruits, honey, mustard oil. The beauty of this market is "A market without intermediate" in this market; farmers are serving customers directly with reasonable prices. This market is an idol for all other food markets throughout the county because if these farmers can operate a market without an intermediary, then others can also make this possible.

### 1.2 Significance of the Study

The present study is conducted from a point of view as it tries to study the factors influencing consumers to purchase organic food. This mainly focuses on the organic market in the study area. There is a future scope as this study would be helpful to provide information on attributes that are highly recommended by customers to buy organic food or their processed product. The total outcome of the study will help in knowing the perception of the consumer about branding, certification, and quality. It can also be used for future ideas for the marketing of organic food in a way that farmers will be able to provide organic food to the vast population. With a constant increase in organic food demand, it is an emerging opportunity for farmers to grab it and this study helps in finding the possible and effective way to serve this emerging market.

### 1.3 Objectives of the Study

- To identify the factors which influence consumers to purchase organic products.
- To analyze the consumers' satisfaction towards the purchase and consumption of organic products.
- To study the challenges faced by consumers in buying organic products.

### 1.4 Review of Literature

A review of past research helps in evaluating the objectives of the study and the methods adopted to identify the conceptual issues relevant to the study. This chapter tries to present a brief review of the relevant research literature related to the present study.

Prince (2018) [14] suggests that consumption of Organic food products should become a habit of life among people. There should be regular demand and consumption of organic food among

consumers. For this, proper awareness about the health benefits of organic food products and the harmful consequences of consuming inorganic food products must be made famous among the people. Consumer behavior plays a significant role in the organic food products segment. Krishnakumare and Niranjana (2017) [15] found that the marketers of organic foods must be advanced and active to meet the changing purchase behavior for organic food products among urban residents. The main reason for buying an organic food product was health consciousness. Though organic food product was regarded as healthy, the lack of trust in the originality of organic food products was another reason for not buying organic food products. And, Prince found that high Prices and Less availability are the main problems faced by the consumers. The main reason for the premium price is the limited supply concerning the demand for organic food. Chiciudean, Harun, Chiciudean, and Arion (2019) [16] also found that perishability is another barrier to consumption. Shaveta (2019) [17] found that consumers prefer non-perishable products. To increase the consumption of organic products, marketers need to bridge the gap between retailers and consumers by promoting them. Regarding marketing, Chiciudean, Harun, Chiciudean, and Arion (2019) [16] observed that consumers mostly prefer ready-to-use food, non-perishable and in the case of organic food, both personas became barriers in consumption. Three main influencing factors which marketers should look at because they frequently show barriers in the consumption of organic food products are followed by Influence and marketing, mistrust (not perceiving advantages of organic food consumption), and financial (high prices and personal financial status). Patnaik (2018) [18] found that the salesperson & customer could show some horrifying picture. Just at last, after a keen survey upon organic food products, researchers could find that lack of authenticated labeling creates distrust among the customer. High pricing for some organic produce is out of reach of the common man. healthy food safety, human health, and environmental concern, along with sensual attributes such as nutritive value, taste, freshness, and appearance, influence organic food preferences. Sharma and Shinghvi (2018) [19] and Shafie and Rennie (2009) [20]. Demographic variables are deciding factors of organic consumers, but the correlation is not very significant. Sivathanu (2015) [21] observed that females have more preference for organic food products as compared to male. More educated

respondents prefer to buy organic food products. Also, people of higher-income groups prefer to buy organic food. Consumers prefer to buy organic food products because of their perception that organic food products are healthy and safe, nutritious, and environmentally friendly.

## **2. RESEARCH METHODOLOGY**

### **2.1 Research Design**

#### **2.1.1 Description of the Study Area**

The study was conducted in Chandigarh. There is a growing concern about organic food trends in the city. Chandigarh is one of the busiest union territories in India. It is the capital of the neighboring states Punjab and Haryana. Chandigarh encompasses an area of 114 square kilometers. People who are living in Chandigarh are well educated and understand what healthy food brings to us. However, with the changing lifestyle, a lot of people can be observed ordering food online without knowing whether is made up of healthy ingredients or not. On another side, many customers are so concerned about diet. There are lots of organic stores in Chandigarh and they are serving in different segments but no one is a big brand, all of them are local players. Kartar asra road organic market is one of the oldest organic markets in Chandigarh and serves at a premium price without any certification. It is thus beneficial to identify the factors which influence consumers to purchase organic products.

#### **2.1.2 Nature and Source of Data**

The study was based on primary and secondary data. The primary data was collected by using a structured questionnaire. The data was collected from 100 respondents. The secondary data was collected from various research papers and journals and APEDA. The target respondents were specifically the consumers of organic products from the study area.

#### **2.1.3 Sampling Procedure and Data Collection**

Sample: 100 respondents

The data was collected by convenience sampling, and details on demographic characteristics, awareness, and knowledge, perception, attitude, and barriers in purchasing decisions of the sample respondents towards organic food products were included in the questionnaire.



Fig. 1. Map of Study Area

#### 2.1.4 Analytical Tools Employed

The analytical methods used in the study were Pareto analysis (differentiate between major-minor things in consumer basket), Garret ranking method, and factor analysis (appropriateness of factors and indicators). Descriptive statistical analysis was used for the study, and to segment the organic consumers, we used factor analysis. SPSS software was employed for analyzing the data. A factor analysis was performed using Principal axis factoring, and Varimax rotation was used. Bartlett's test of Sphericity was significant at the 0.000 level, and the Kaiser–Meyer–Olkin (KMO) value was higher than 0.6.

Henry Garrett's ranking technique:

$$\text{Percent position} = 100(R_{ij} - 0.5) / N_j$$

Where

$R_{ij}$  = Rank given for the  $i$ th variable by  $j$ th respondents

$N_j$  = Number of variable ranked by  $j$ th respondents

Factor analysis technique: (Principle Component Analysis):

$$Y = \alpha_1 F_1 + \alpha_2 F_2 + \dots + \alpha_n F_n$$

Where

$Y$  = Dependent variable

$\alpha$  = A constant

$F$  = Independent variable

$n$  = Number of independent variable

### 3. RESULTS AND DISCUSSION

Keeping because of the objectives, the data related to the present study was collected and drawn from direct customer responses and analyzed using appropriate techniques. The results of the present study are presented below keeping in view the objectives of the study.

1. Factors that influence consumers to purchase organic products.
2. Challenges faced by consumers in buying organic products.

#### 3.1 Factors which Influence Consumers to Purchase Organic Products

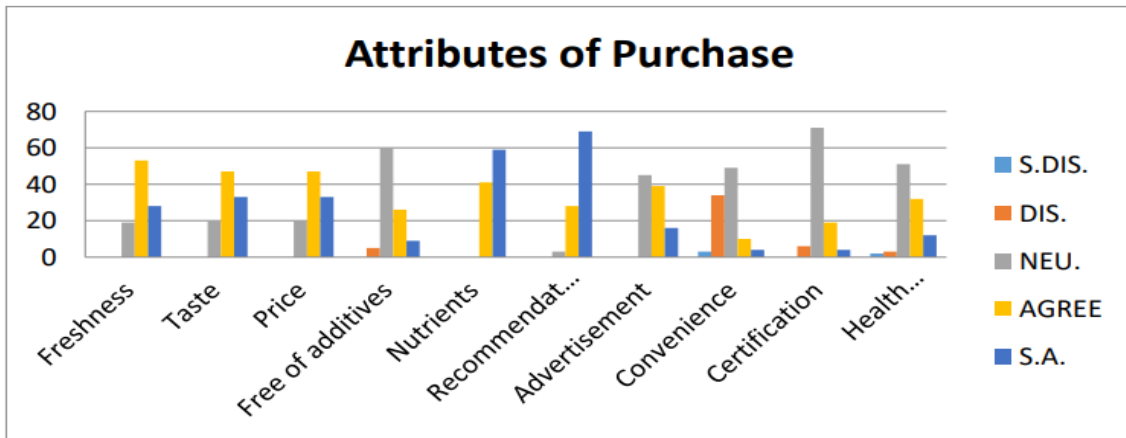
Everyone wants to eat healthy food and also make efforts to make it possible. In the Kartar asra road market customers are well educated and ready to buy uncertified organic products. Customers have willing to pay a good amount for these products because according to the present study most of the customers in this market are recommended by their near and dear ones on that they can trust. Customers have a perception that organic food is good for their health. It's better than conventional food because it is free of artificial chemicals.

It's a good approach that people are spending more on their health. That why most customers said that it's their family decided to have good quality goods and around 70 percent of customers are having organic food for the last 2.5 years.

### 3.1.1 Responsible attributes for organic product purchase

Fig.2 represents the attributes responsible for organic product purchase. Responses highlighted that recommendations for the market and its product were the most important factors to consume the organic product. Whereas recommendation and nutrient value was the second strongly accepted factor to consume

organic products. The convenience factor was rated neutral by most of the customers to buy organic products because they were ready to travel anywhere in the city to purchase organic products. The present study is in line with Krishnakumare et al, (2017) [22] reported that health, freshness, the quality was the main attributes of purchase but in the present study recommendation by friends or family members was the most important attribute.



**Fig. 2. Responsible attributes for organic product purchase**  
 Source: Author's own computation from primary data

**Table 1 (a). Descriptive statistics**

	Mean	Std. Deviation	Analysis N
Freshness	4.090	.6831	100
Taste	4.130	.7199	100
Price	3.390	.7233	100
Free of additives	4.590	.4943	100
Nutrients	4.660	.5360	100
Recommendations on	3.710	.7288	100
Advertisement	2.780	.8236	100
Convenience	3.210	.6079	100
Certification	3.490	.8226	100

Source: Author's own computation from primary data

**Table 1 (b). KMO and Bartlett's Test**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.636
Bartlett's Test of Sphericity	Approx. Chi-Square	238.193
	Df	36
	Sig.	.000

Source: Author's own computation from primary data

**Table 1 (c). Communalities**

	Initial	Extraction
Freshness	1.000	.584
Taste	1.000	.750
Price	1.000	.457
Free of additives	1.000	.774
Nutrients	1.000	.790
Recommendation	1.000	.600
Advertisement	1.000	.567
Convenience	1.000	.646
Certification	1.000	.645

*Extraction Method: Principal Component Analysis.  
Source: Author's own computation from primary data*

**Table 1 (d). Total Variance Explained**

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	Percentage of Variance	Cumulative percentage	Total	percentage of Variance	Cumulative percentage	Total	Percentage of Variance	Cumulative percentage
1	2.8629	31.79	31.799	2.8629	31.799	31.799	2.122	23.578	23.578
2	1.9308	21.44	53.247	1.9308	21.448	53.247	1.966	21.846	45.423
3	1.0208	11.33	64.585	1.0208	11.338	64.585	1.725	19.162	64.585
4	.878	9.754	74.339						
5	.618	6.862	81.202						
6	.548	6.093	87.295						
7	.482	5.361	92.656						
8	.420	4.667	97.323						
9	.241	2.677	100.000						

*Extraction Method: Principal Component Analysis.  
Source: Author's own computation from primary data*

**Table 1 (e). Rotated Component Matrix**

	Component		
	1	2	3
Recommendation	.745		
Taste	.729		.404
Freshness	.721		
Price	.612		
Certification		.798	
Convenience		.767	
Advertisement		.721	
Free of additives			.865
Nutrients			.864

*Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.  
a. Rotation converged in 6 iterations.*

*Source: Author's own computation from primary data*

Table 1(a) presents the descriptive analysis calculated using spss. The mean of the data, followed by the standard deviation for all the variables' is present in this table.

Table 1(b) presents KMO, and Bartlett's test values show the value of 0.636 is acceptable (mediocre level) as a value above 0.6 is acceptable in the case of the KMO test. Bartlett's test of sphere city has a significant value of 0.000, which is acceptable as a value below 0.001 is acceptable. The value is statistically significant for Bartlett's test of sphere city.

Table 1(c) explains the commonalities in the variables. The extraction value tells us the proportion of each variable that can be explained by the factors. The extraction values for nutrients, free of additives, taste are preferably high, which thus can be explained well by these factors.

Table 1(d) explains the total variance, and it can be inferred that spss has extracted three components, which can be used to explain 31.79, 21.44, 11.33 percent of the variance of the various components under consideration.

Table 1(e) presents the component matrix explaining the strength of the relationship between the various items and the components being extracted in the solution. These values were the Pearson correlation values of the items with component 1, 2, and 3. which was being extracted. The factor loadings were very

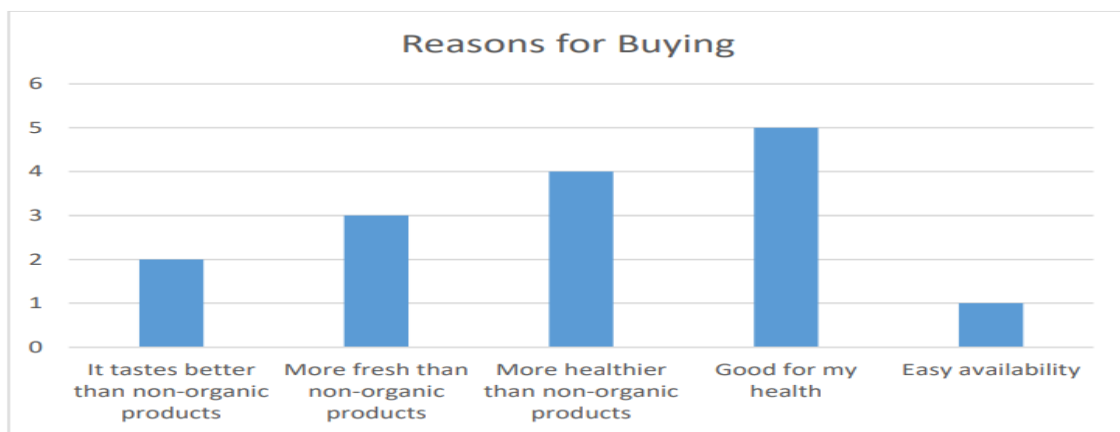
high for free of additives followed by the nutrients and then recommendation. All the factor loadings were loading quite highly on the component, thus giving a clean solution.

### 3.1.2 Reasons for buying organic products

Fig.3 represents the reasons for organic product purchase. Figures have been prepared as per the garret ranking method. Garret's method helped to decide ranking for the different factor which is responsible for buying. According to the Garret method F4-good for health got the first rank among all factors. And F3, F2, and F5 got 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> rank. F5- easy availability got 5<sup>th</sup> rank because it was not tough for customers to go to a market and purchase. In a study conducted by Viotoris et al, (2016) [23], Chandrashekar, (2014) [24], Bashaa, et al, (2015) [25] highlighted that consumers were more concerned about health and nutrient values. Similar results are highlighted in the present study as customers are health conscious and found organic food more nutrient.

### 3.1.3 Buying decision for organic food

Fig.4 represents the buying decision of the respondents. Around 73 respondents said that it was their family decision which is 73 percent of the respondents. Whereas 27 respondents said that it was their individual decision because somehow they were living without their family or their children were not able to decide on this thing.



**Fig. 3. Reasons for buying organic products**

*\*(Based on Garret Ranking Method)*

Source: Author's own computation from primary data



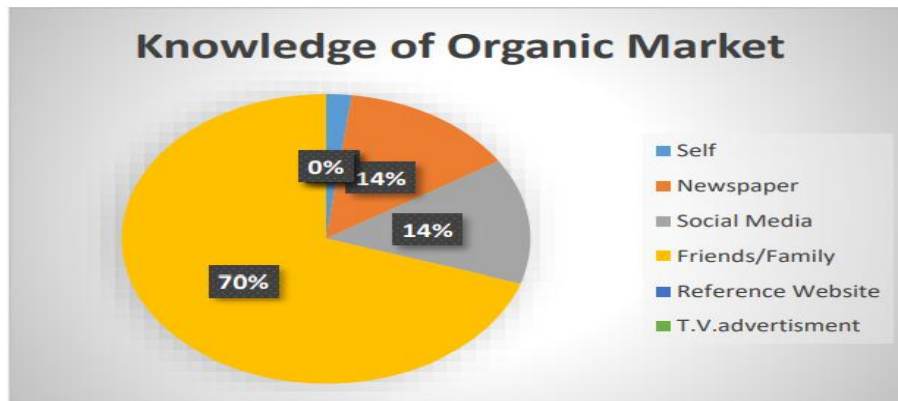


**Fig. 4. Buying decision for organic food**  
 Source: Author's own computation from primary data

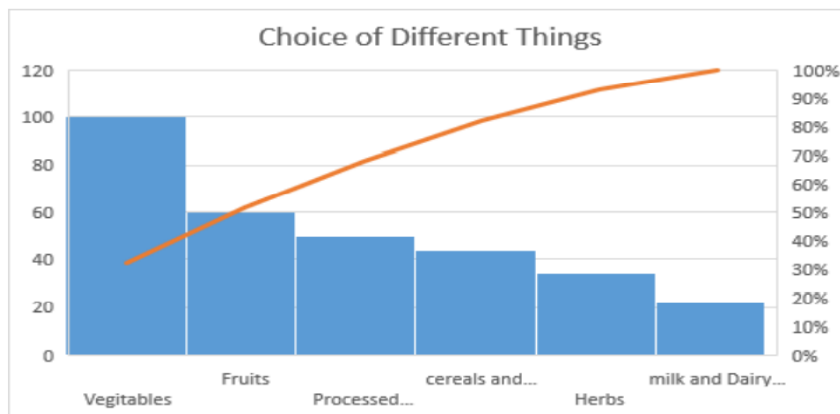
**3.1.4 Source of knowledge about this market**

Fig. 5 represents a source of knowledge about the market. Most of the customers around 70 percent said they got to know about this market

from their friends or family members. Whereas the second-largest source of knowledge was social media which was around 14 percent. A reference website was, however, not useful to attract people towards this market.



**Fig. 5. Source of knowledge about the market**  
 Source: Author's own computation from primary data



**Fig. 6. Choice of different things during the purchase**  
 Source: Author's own computation from primary data

### 3.1.5 General choice of different things during the purchase

Fig.6 represents the choice of different organic items during purchase. Around 80 percent of customers in this market preferred to buy vegetables and fruits, these two were traffic generators in this market. After these two processed bakery products were the most preferred item in this market. The present study is in line with Iqbal (2105) [26], Chandrashekar (2014) [27], Shafie, et al, (2009) [28] reported that vegetables and fruits were the most preferred items among all available organic products. The present study is also in line with Nandi (2017) [29] who reported that the majority of customers were ready to pay a premium price for fruits and vegetables except for other products.

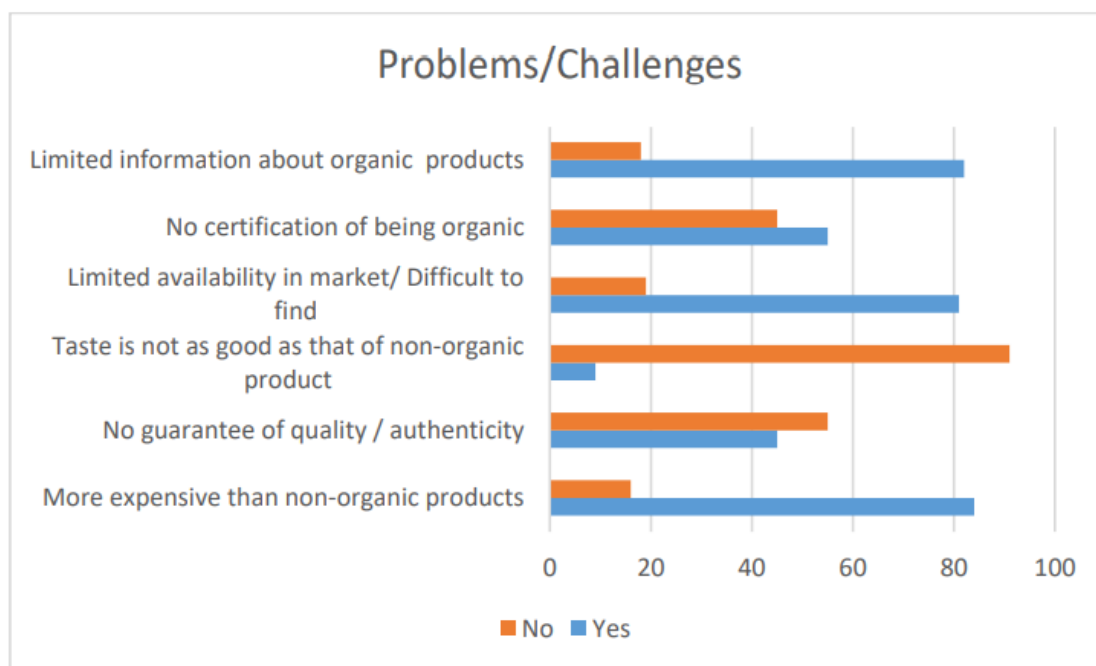
### 3.2 Challenges Faced by Consumers in Buying Organic Products

Challenges are everywhere, every people has to face some challenges in his life. Here farmers and customers both face different-different challenges to serve and to get served. This market is serving in a good manner that new customers every day come and want to be a part

of it but it's so costly because this is a premium market, everyone can't afford it. Another challenge is the limited availability of products because it opens ones in a week and when it's open first come first serve policy works to deal with customers and early customers bought almost everything. That's is why some customer tries to find out a new market like this so they can get quality food and it is laying the foundation of competitors in the same geographical area.

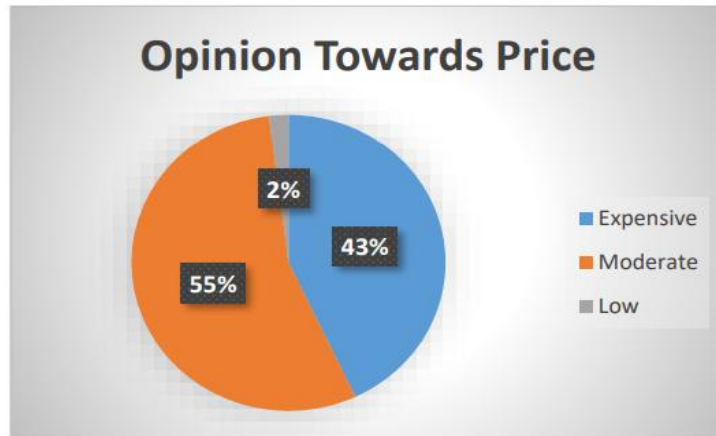
#### 3.2.1 Problems or challenges faced in buying organic products

Fig.7 highlighted the problems/challenges that were affecting the buying process (more expensive than, limited information about products, and limited availability). It was because organic produce yield was less and to cover all expenses, the final price was kept high. The present study is in line with (Fillion and Arazi, 2002) [30] reported numerous claims were made about the goodness of organic food, to justify the premium price that consumers have to pay. The present study is also in line with (Nandi R. et. al, 2017) [31] reported that premium price and lack of availability were major obstacles in purchasing organic products.



**Fig. 7. Problems faced / challenges in buying organic products**

Source: Author's own computation from primary data



**Fig. 8. Opinion towards the price of Organic Products**  
 Source: Author's own computation from primary data

### 3.2.2 Opinion towards the price of Organic Products

According to the above figure, it seems that the price of products was moderate for 55 percent of customers and 2 percent said that they can easily spend money. According to the new customer/middle-class customers (43 percent), it was expensive to bought organic products. The present study is in line with the study of (Whitehead and Nicholson, 2001) [32,33] reported that consumers simply assume that they cannot afford organic food and some feel that the market often charges more for healthier food.

## 4. CONCLUSION

The present study has found that peoples are aware of the term organic and its benefits. In this market (Kartar ashra road) customers come together not only to bought food items but to make their day more joyful and happy. Results show that awareness and trends among people about organic food are increasing, here farmers are feeling glade to have more customers. According to farmers every month they welcome 2-3 new families in their market.

Now if we discuss the problems that customers are still facing in this well-serving market and these are limited information about products, limited information about the availability of products, and its premium price. These problems are occurring because day by day customers are increasing and on the other side, farmers are the same those are serving from the beginning of

this market. That's why product availability is limited because farmers have limited farmland.

The suggestion for this problem is farmers should encourage other farmers to participate in this market and earn good profit. Or if farmers in this market are not interested in joining other farmers due to fear of completion so in this condition, other farmers should learn from this market and try to serve in the same manner with good quality products. So that more willing people can purchase organic products.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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