Mysore J. Agric. Sci., 57 (4) : 344-352 (2023)

Organic Food Market in Bengaluru City: A Comprehensive Analysis of Stores and Market Competitiveness

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Received : September 2023
Accepted : October 2023

Abstract

The study presents a comprehensive analysis of the organic profile of food products in the Bengaluru city. Based on the data from 40 organic outlets, it was observed that the majority of retailers belongs to the middle age group (30-50 years), constituting 60.00 per cent of the total sample size. The market was dominated by male retailers, accounting for 77.50 per cent followed by female retailers (22.50%). Most of the retailers had a graduation degree (75.00%), followed by post-graduation (22.50%). About 62.50 per cent of the sample stores were exclusively selling organic certified products, while 80.00 per cent of stores sold natural products, 7.50 per cent of stores had privately labelled/ self-claimed products and 30.00 per cent of stores had both organic certified and other products. The study investigated the year of establishment of the organic outlets, revealing a gradual increase in store openings between 2017 and 2021. Oils, fruits and vegetables, emerged as the major demanded organic food products accounting for about 97.50 and 80.00 per cent of the shelf space, respectively. To promote organic food products, word of mouth was found to be the most effective strategy. Herfindahl-Hirschman Index (HHI) value of 0.24 revealed moderate market concentrations of organic outlets in Bengaluru city, which indicated significant presence of a few firms, but the market was not overly dominated by a single entity. According to the study findings organic food market in Bengaluru is witnessing steady growth, with a diverse range of products. The moderate concentration observed in the market indicates the presence of healthy competition among firms, fostering a favourable environment for both consumers and suppliers. It can serve valuable insights for organic food retailers, marketers and policy makers to understand the market competitiveness, demand patterns and effective promotional strategies in this promising market.

Keywords : Organic food products, Market concentration, Demand, Promotional strategies

Organic Food Products (OFPs) are produced through methods abiding by the procedures of organic farming. Organic farming is a system of growing the produce with natural and traditional methods which avoids or minimises the use of synthetic chemicals. Thus, organic food products are nutrient rich, chemical and pesticide free. Globally there are 191 countries which are involved in organic activities. A survey result of FiBL (Research Institute of Organic Agriculture) revealed that the organic agricultural land has recorded highest growth in terms of organic farmland in the year 2021 (Anonymous, 2023). The share of the world's agricultural land that is organic was 1.60 per cent. In 2021, Worldwide 76.40 million hectares of land contributed to organic cultivation which was 74.90 million hectares in 2020. This remarks a sizeable increase of 1.3 million hectares or 1.70 per cent when compared to 2020. In terms of organic agricultural land, Australia (35.69 million hectares) occupies first place followed by Argentina (4.07 million hectares) and France (2.78 million hectares) whereas India occupies 6th position with 2.66 million hectares of organic agricultural land. In Asia, India ranks 2nd after China. (Anonymous, 2023).

The organic food market is also witnessing tremendous increase in the number of organic producers. There are 3.7 million farmers worldwide practicing organic farming in 2021 out of which 48.60 per cent of them are from Asia, India stood first with 15,99,010 producers in the year 2021 (Anonymous, 2023). The great number of small and marginal farmers present in India can be a major growth factor in light of the fact that small holdings are found to be more productive especially in organic farming practices. In the near future, organic agriculture and other sustainable farming along with organic food enterprises can become increasingly important in the development of Indian economy.

The demand for local organic food products have increased significantly in the past thereby offering a big market potential for producers Indian traders, retailers, entrepreneurs etc. The economic growth of the country will also push the demand for the organic food products. According to the Agricultural and Processed Food Products Export Development Authority (APEDA), India produced around 3.43 MT (2021-22) of OFP as against 2.67 MT in 2019 which includes different varieties of cereals, pulses, millets, oil seed, beverages, medicinal plants, fruits, vegetables, sugar cane, organic cotton fibre etc (https://apeda.gov.in). Hence, it holds significant importance to conduct the study on the market structure of organic food products in Bengaluru. This particular city, is known for its sizable population, serves as a valuable focal point for understanding the market potential of organic food products. Additionally, such an analysis aids in gaining insights into the marketing efficiency of firms involved in the organic food product sector within Bengaluru city. The objectives of the study were :

1. To examine the profile of organic food products marketed in Bengaluru City
2. To assess the market structure and potential of organic food products

Study Area

The study was conducted in Bengaluru City of Karnataka State. The primary data was collected from the 40 organic food product firms. The information collected from the respondents include age, gender, literacy level, product certification, types of organic food products, established year, promotional activities, frequency of demand and supply, market share etc., were acquired from the sample respondents and market intermediaries via personal interview using pre-tested schedule prepared for the purpose.

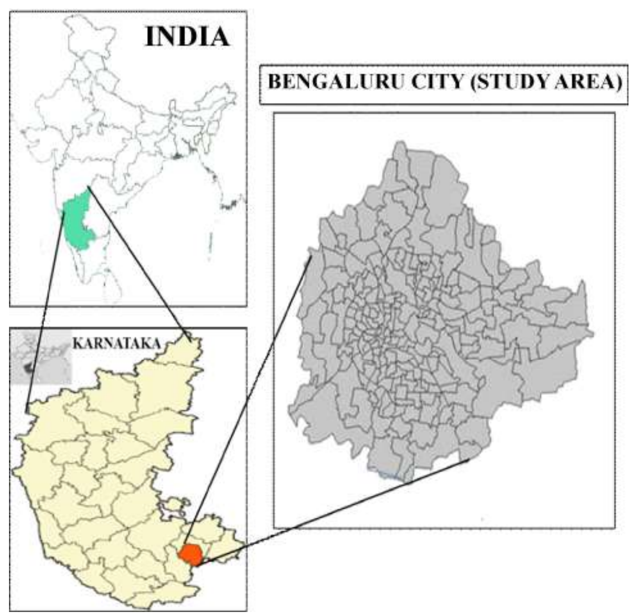

Fig. 1 : Map showing study area (Bengaluru City)

Analytical Tools Used

To achieve the objectives of the study, by the nature and extent of information, appropriate quantification techniques were used and computed with the aid of averages, frequency and percentage to obtain meaningful results (Santhosha *et al.,* 2022). For the comprehensive analysis of stores Likert Scale was employed:

Likert Scale Analysis

A Likert scale is composed of a series of four or more Likert-type items that represent similar questions combined into a single composite score / variable. Likert scale data can be analyzed as interval data, *i.e.,* the mean is the best measure of central tendency. Likert items are used to measure respondent's attitudes to a particular question or statement. The scales used were dichotomous, ranking order of preferences and a 5-point Likert scale to obtain the responses.

Ranking Order of Preferences

Rank order preferences, also known as preference ranking or preference ordering, is a method used to determine the relative preferences of items or options based on individual or group preferences.

Herfindahl-Hirschman Index of Concentration

Herfindahl-Hirschman Index (HHI) is a commonly accepted measure of market concentration. It is calculated by squaring the market share of each firm / retailer and then summing the resulting number. The HHI is expressed as:

$$HHI = \sum_{1}^{n} S_i^2$$

Where 'S_i' is the market share.

The threshold levels for the market characterization are as follows (Praveena & Samsai, 2014 and Sinha, 2023):

TABLE 1

HHI threshold range for the market characterization

HHI Range	Market Characterization
<0.01	Highly Competitive
<0.1	Not concentrated
0.1 to 0.18	Low concentration
0.18 to 0.30	Moderate concentration
>0.30	High concentration

RESULTS AND DISCUSSION

Profile of Organic Food Products Retailers

The socio-economic characteristics of sample respondents like age, gender, literacy level, product certification, types of organic food products, established year are discussed in this section. A comprehensive profile of organic food product stores in Bengaluru, focusing on various aspects such as age, gender, educational status, certification of products, types of organic food products, type of delivery and year of establishment of the store are discussed in this section.

Age

The study comprised of 40 organic food product retailers spread over Bengaluru City. Table 2 shows the distribution of store owners by age, it revealed that the majority fall within the middle age group (30-50 years), accounting for 60.00 per cent of the total. Those below 30 years constituted 35.00 per cent, while individuals over 50 years made only up to 5.00 per cent of the sample. The results showed a significant trend among the organic food product retailers in Bengaluru, where the majority of store owners fall within the middle-aged group. This group,

TABLE 2

Profile of organic food product store owners in Bengaluru

Particulars	Number	Percentage of Total
I. Demographic Profile of Proprietors		
Age		
Young (<30)	14	35.00
Middle (30-50)	24	60.00
Old (>50)	2	5.00
Total	40	100.00
Gender		
Male	31	77.50
Female	9	22.50
Total	40	100.00

Table 2 Contd...

Particulars		Number	Percentage of total
Educational Status			
Graduation		30	75.00
Post Graduation		9	22.50
Diploma		1	2.50
Total		40	100.00
II. Store Profile			
*Certification of Products**			
Certified Organic Products		25	62.50
Private Labelled/ Self		3	7.50
Claimed Organic Products Both		12	30.00
Natural Products		32	80.00
*Types of Organic Food Products**			
Cereals		39	97.50
Millets		34	85.00
Oils		40	100.00
Fruits and Vegetables		32	80.00
Milk and Milk Products		30	75.00
Pulses		35	87.50
Type of Delivery of Organic Food Products			
Door Delivery	Yes	36	90.00
	No	4	10.00
Total		40	100.00
Online Delivery	Yes	15	37.50
	No	25	62.50
Total		40	100.00

* Multiple responses were given

ranging from 30 to 50 years, appeared to be combining their experience with a clear enthusiasm towards the retailing of organic food products.

Gender

Results pertaining to gender highlighted that 77.50 per cent of store owners were male, while the remaining 22.50 per cent were female (Table 2). The results indicated that substantial representation of male store owners could potentially reflect various factors, each contributing to the observed gender disparity. The prominence of male ownership could be influenced by pre-existing gender norms and societal perceptions regarding entrepreneurship and business ownership. Traditional roles and expectations might have contributed to a higher proportion of male representation in this sector.

Educational Status

The results pertaining to education indicated that as high as 75.00 per cent of the store owners/ retailers hold a graduation degree, 22.50 per cent possessed post-graduation and a minimal amount of *i.e.,* 2.50 per cent of the respondents had a diploma (Table 2). The results revealed high percentage of retailers with a graduation degree which suggested that a solid educational foundation is prevalent among those involved in this sector. This could have implications for decision-making, operational strategies and customer interactions, as a certain level of formal education often contributes to a well-rounded business approach.

Certification of Products

The study unveiled that 62.50 per cent of stores offer certified organic products. Private label /self-claimed organic products constituted 7.50 per cent and an intriguing 30.00 per cent of stores provided both certified and self-claimed organic products. Moreover, 80.00 per cent of stores offered natural products (Table 2).

From the results it was observed that there is the presence of diverse range of product certifications and labelling among organic food stores, which reflected the complexity of the organic market landscape. The presence of certified organic products is a positive sign, indicating adherence to recognized standards. This diversity also reflected the industry's efforts to accommodate various customer demands and the need for clear and transparent labelling practices to maintain consumer trust and choice.

Types of Organic Food Products

Table 2 shows the diversity of products offered by the Organic Food Product stores. Categories such as cereals (97.50%), millets (85.00%), oils (100.00%), fruits and vegetables (80.00%), milk and milk products (75.00%) and pulses (87.50%) collectively catered to a wide range of consumer preferences.

The results indicated that the presence of various categories with high coverage rates indicated a promising market potential for organic products. This variety not only catered to different consumer tastes but also showcased the commitment of these stores towards promoting healthier and sustainable dietary choices. The availability of such a diverse range of organic options suggested a growing consumer interest in these products therefore encouraging the future growth of the organic food market in the area. The results are in line with the findings of Naveena and Arunkumar (2016).

Type of Delivery of Organic Food Products

Results pertaining to delivery methods revealed that 90.00 per cent of the stores offered door delivery services, while 37.50 per cent provided online delivery options (Table 2). The results indicated that the door delivery mode is particularly popular among consumers, as it offered the advantage of receiving their organic products at their doorstep, enhancing convenience and saving time. Additionally, online delivery options highlight the growing influence of e-commerce and digital platforms in the organic food market. Thus, reflecting the adaptability of Organic Food Product stores to changing consumer preferences and technological advancements. The emphasis on convenience and accessibility through these delivery methods not only catered to modern consumer expectations but also fostered the expansion and sustainability of the organic food market.

Year of Establishment of the Organic Food Products Stores

The results from Table 3 shows that the year 2017 witnessed the highest number of new store establishments, accounting for 25.00 per cent of the total stores followed by 20.00 per cent in the year 2021.

This result indicated that there was a significant expansion of the organic food market during the years 2017 and 2021, potentially influenced by increased consumer awareness, changing dietary preferences and a growing demand for organic products. Overall, the distribution of store establishments across the years showcased the growing popularity and potential of the organic food market in Bengaluru City. The increasing number of stores over time reflects the evolving consumer preferences and the rising demand for organic products.

TABLE 3

Three year of establishment of store

(n = 40)

Year of establishment	Number	Percentage of total
2007	1	2.50
2013	1	2.50
2015	2	5.00
2016	5	12.50
2017	10	25.00
2018	3	7.50
2019	5	12.50
2020	4	10.00
2021	8	20.00
2022	1	2.50
Total	40	100.00

Promotional Activities / Strategies followed by the Organic Food Products Stores

Data depicted in Table 4 reveals that 'Word of Mouth' received the highest total score of 194 and ranked I, making it the most influential source of information among consumers followed by social / digital media and stalls at exhibitions / trade with ranks II and III, respectively.

TABLE 4

Ranking based on the effectiveness of promotions for organic food products

Particulars	Total Score	Rank
Word of Mouth	194	I
Print Media	95	IV
Visual Media	54	V
Social/ Digital Media	149	II
Stalls at Exhibitions/ Trade	108	III

TABLE 5

Frequency of demand for organic food products in Bengaluru

(n = 40)

Particulars	Frequency of demand	Number	Percentage of Total
Cereals	Do not Deal	1	2.50
	Occasional	2	5.00
	Moderate	9	22.50
	Frequent	21	52.50
	Very Frequent	7	17.50
	Total	40	100.00
Millets	Do not Deal	6	15.00
	Occasional	2	5.00
	Moderate	8	20.00
	Frequent	10	25.00
	Very Frequent	14	35.00
	Total	40	100.00
Oils	Moderate	1	2.50
	Frequent	8	20.00
	Very Frequent	31	77.50
	Total	40	100.00
Fruits and Vegetables	Do not Deal	8	20.00
	Frequent	12	30.00
	Very Frequent	20	50.00
	Total	40	100.00
Milk and Milk Products	Do not Deal	10	25.00
	Frequent	14	35.00
	Very Frequent	16	40.00
	Total	40	100.00
Pulses	Do not Deal	5	12.50
	Occasional	1	2.50
	Moderate	22	55.00
	Frequent	11	27.50
	Very Frequent	1	2.50
	Total	40	100.00

The results implied that personal recommend ations and experiences shared by friends, family, or acquaintances play a pivotal role in shaping consumer's perceptions and decisions regarding organic food products. This information is crucial for businesses and marketers in the organic food sector to effectively target their communication strategies and leverage the most influential sources to reach and engage consumers.

Frequency of Demand for Organic Food Products in Bengaluru

The results (Table 5) indicate that majority of retailers / firms (52.50%) expressed a frequent demand for cereals, while a significant percentage (22.50%) found moderate demand. Millets also exhibit a varied demand pattern. While 35.00 per cent of retailers said millets are very frequently demanded, 25.00 per cent believed they are frequently demanded. On the other hand, Oils had a clear trend towards high demand, with 77.50 per cent of retailers felt oils are demanded very frequently and 20.00 per cent of them said oils are frequently demanded. While fruits and vegetables witnessed a substantial demand, with 50.00 per cent of firms believing that fruits and vegetables are very frequently demanded, followed by 30.00 per cent expressing frequent demand. Among the surveyed, 20.00 per cent do not deal with fruits and vegetables. Milk and its products had a balanced demand distribution. A significant proportion (40.00%) very frequently demanded these products, followed by 35.00 per cent with frequent demand. Pulses showed diverse demand pattern. The highest percentage (55.00%) of retailers expressed moderate demand for pulses, followed by 27.50 per cent with frequent demand. The results are in line with Sadia, 2020.

The results of the frequency of demand analysis provide insights into the preferences of consumers in Bengaluru City for different organic food product categories. It is evident that certain categories, such as oils and milk products, have high and balanced demand, respectively. On the other hand, products like cereals, millets and fruits and vegetables experience varying degrees of demand, reflecting the diversity of consumer preferences. This information is valuable for producers, marketers, and retailers in tailoring their

TABLE 6

Frequency of supply for organic food products in Bengaluru

(n = 40)

Particulars	Frequency of supply	Number	Percentage of total
Cereals	Do not Deal	1	2.50
	Moderate	2	5.00
	Frequent	13	32.50
	Very Frequent	24	60.00
	Total	40	100.00
Millets	Do not Deal	6	15.00
	Frequent	14	35.00
	Very Frequent	20	50.00
	Total	40	100.00
Oils	Frequent	4	10.00
	Very Frequent	36	90.00
	Total	40	100.00
Fruits and Vegetables	Do not Deal	8	20.00
	Frequent	11	27.50
	Very Frequent	21	52.50
	Total	40	100.00

Table 6 Conti....

Particulars	Frequency of supply	Number	Percentage of total
Milk and Milk Products	Do not Deal	10	25.00
	Frequent	6	15.00
	Very Frequent	24	60.00
	Total	40	100.00
Pulses	Do not Deal	5	12.50
	Moderate	11	27.50
	Frequent	21	52.50
	Very Frequent	3	7.50
	Total	40	100.00

offerings and strategies to align with consumer demands, ultimately contributing to the growth and sustainability of the organic food market.

Frequency of Supply for Organic Food Products in Bengaluru

Data in Table 6 illustrates the frequency of supply for different categories of organic food products in Bengaluru City. The results revealed that majority of cereals (60.00%) are very frequently supplied to the market, followed by a significant proportion (32.50%) that is frequently supplied. Millets exhibited a balanced supply pattern, with 50.00 per cent being very frequently supplied and another 35.00 per cent frequently supplied. Oils were highly supplied in the organic food market, with 90.00 per cent being very frequently supplied. Whereas a minor percentage (10.00%) was frequently supplied. Fruits and Vegetables are also supplied extensively. The majority (52.50%) are very frequently supplied, while 27.50 per cent are frequently supplied. The majority of milk and its products (60.00%) are very frequently supplied, followed by 15.00 per cent that is frequently supplied. A quarter (25.00%) does not deal with milk products. While Pulses showed a varied supply pattern. The highest percentage (52.50%) is frequently supplied, followed by 27.50 per cent that is moderately supplied. Sadia, 2020, in her study found the similar results.

The results of the study frequency of supply showcased the robust availability of organic food products in the Bengaluru market. Certain categories such as cereals, millets, oils, fruits and vegetables witness substantial and steady supply, meeting consumer demands effectively. The results also unveiled the efforts of suppliers and retailers to ensure consistent accessibility to a diverse range of organic products. Stake holders in the organic food industry can utilize this information to make informed decisions and strategies to sustain the market's growth and cater to consumer preferences effectively.

Category-wise Market Share of Organic Food Products among the Sample Firms in Bengaluru

The distribution of market share for different categories of organic food products among the sample firms in Bengaluru City. Fruits and vegetables capture a significant market share of 34.00 per cent, positioning them as a major driving force in the organic food industry, followed by oils and milk and milk products accounting for 31.00 per cent and 13.00 per cent respectively Fig. 2.

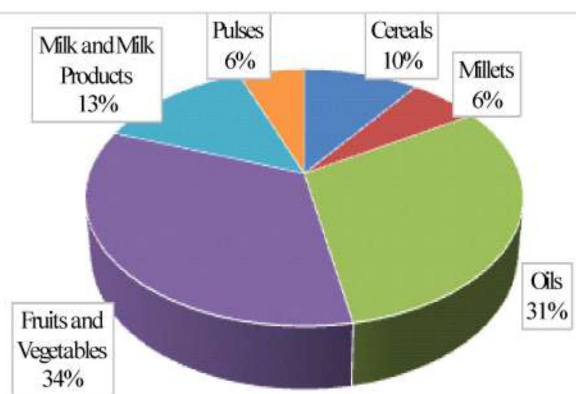

Fig. 2: Category-wise market share of Organic Food Products among the sample firms in Bengaluru

TABLE 7

Market concentration of organic food products firms in Bengaluru

Market Characterization	HHI Thresholds	HHI Value
Highly competitive	<0.01	
No concentration	<0.1	
low concentration	>0.1 to 0.18	
Moderate concentration	>0.18 to 0.30	0.238
High concentration	>0.30	

The results indicated the consumer's growing interest towards health-conscious and environmentally friendly food options. The varying market shares of different categories signify the unique preferences and demands of consumers, driving the need for a diverse range of organic products. The organic food industry firms can focus on these results to make decisions on product offerings that align with consumer preferences and contribute to the sustainable growth of the market.

Market Concentration of Organic Food Products Firms in Bengaluru

The results from Table 7 reveals that the Herfindahl Hirschman Index (HHI) value of 0.238 falls within the 'Moderate concentration' threshold range of >0.18 to 0.30. This indicates that the organic food market in Bengaluru City is moderately concentrated. The market concentration is a crucial factor in understanding the competitive dynamics and potential barriers to entry within the industry.

The results suggested that while there is a level of competition in the market, there might also be a certain degree of market power held by a few key players or brands. This balance between competition and concentration can influence pricing strategies, product differentiation and overall market dynamics. The results also implied that the organic food market in Bengaluru City is diverse and competitive enough to foster innovation and provide consumers with a range of choices while also warranting attention to ensure a healthy competitive environment.

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