

CONSUMER INSIGHTS INTO THE ORGANIC FOOD MARKET: PERCEPTIONS, PREFERENCES AND PURCHASE DRIVERS

Abstract

The study employed a random sampling technique. Primary data was obtained from a sample of 120 consumers for understanding the consumer perceptions, preferences and buying motives for organic food products in Bangalore city of Karnataka State. Factor analysis and cross tabulation are employed for analysing the data. The findings of the study indicated that consumers predominantly perceive organic food as healthy yet expensive. Core product factors influencing purchase of organic products include healthiness and quality, while augmentation factors include preservative-free, nutritional properties and certification. Branded organic stores are preferred place of purchase while social media and influencers are primary information sources. Purchase frequencies vary, from daily for fruits and vegetables to occasional for juices. Food safety ranks highest followed by influential and personal factors are major purchase drivers for organic food products. The study findings led to the development of consumer buying behaviour model for organic food products.

Key Words: Organic food products, perception, preferences, product factors, purchase drivers.

1. Introduction

Over time, the excessive and indiscriminate use of inorganic compounds in pursuit of greater agricultural yields and profits has resulted in significant negative consequences for both human health and the environment. These adverse effects encompass various aspects, including soil and groundwater contamination, damage to aquatic ecosystems, depletion of soil fertility due to the loss of beneficial microorganisms, disruption of natural pest control mechanisms in plants, the release of greenhouse gases that contribute to ozone layer depletion, and increased exposure of individuals to harmful ultraviolet rays. Profound health repercussions have been observed primarily among individuals who have been consistently exposed to these chemicals without adhering to proper safety measures while applying pesticides in agricultural settings.

Many farmers are grappling with a range of health issues, including respiratory problems, eye conditions, skin ailments, and fertility issues, stemming from their regular exposure to these harmful chemicals. Furthermore, consumers who have been consuming foods containing pesticide residues over extended periods face heightened health concerns. These may manifest as an increased risk of developing various health conditions, including cancer, weakened immune systems, elevated blood pressure, hormonal imbalances, and heart disease, among others.

Growing of crops without usage of the inorganic (chemical) compounds is organic farming. Organic farming in India evolved about 4000 years ago. Food obtained from the crops grown organically are rich in antioxidant levels and micronutrients status and devoid of toxic chemicals, fertilizers and pesticides. These organically derived food maintains a healthy environment and ecological balance. Organic food products are expected to reach US\$ 4602 million by 2028, up from US\$ 1278 million in 2022, with a CAGR of 23.8%. (IMARC report, 2023). The market size of organic food was worth of USD1238 million in fiscal year 2022 and is expected to grow up to USD 4082million by 2028.(EMR report, 2023) India ranks first in terms of the number of producers and fifth in terms of total amount of land used for organic agriculture worldwide. (Willer *et al.*, 2023). The total area under organic certification in India as on March 31, 2023 according to the National Program for Organic Production, accounted to 10.17 million hectares and produced around 2.9 million metric tonnes of certified organic products, including all types of food products in 2022-23 (APEDA,2022-23).

The demand for organic food products and organically derived foods has been steadily on the rise. In recent years, there has been a notable increase in the consumption of these organic foods and beverages. This surge can be attributed to heightened awareness among consumers, economic growth, increased purchasing power, and a growing interest in organic products. Moreover, reports indicated that consuming organic foods has positive effects on health and enhances resistance against lifestyle-related diseases when compared to conventionally grown foods. In India, consumers are increasingly prioritizing food safety and quality. The COVID-19 pandemic has played a significant role in shaping public perceptions of organic food, placing a strong emphasis on food safety and nutrition as essential components of a robust immune system. Consequently, the primary motivation for Indian consumers to purchase organic food products is their perception of these products as safe, healthy, and nutritious. As a result, organic foods are experiencing a surge in popularity.

Against this backdrop, this study aims to gain insights into consumer behaviour and preferences within the organic food market, with the following objectives.

1. To analyze the consumer perception for organic food products
2. To analyze the consumer preferences for organic food products
3. To analyze the buying motives of consumers for organic food products

II. Materials and Methodology

Karnataka is the fourth largest producer of organic foods and ranks first among southern states in organic food production in India. Bangalore city, a fast-flourishing metropolitan city of Karnataka State is identified for the study. The list of organic retail stores in the city was obtained and six stores were randomly chosen. 20 customers visiting each store were selected randomly constituting a sample size of 120. Primary information pertaining to their perception, preferences and buying motives for various organic food products were obtained. Statistical Package for Social Science (SPSS.13) trial version was used to analyse the data. Percentage analysis, cross tabulation and factor analysis are used to analyse the data obtained.

Statistical Technique:

Factor analysis is a statistical tool used to describe variability among observed correlated variables in terms of a potentially lower number of unobserved variables called factors. Factor analysis is a data reduction technique. Variables that have a high correlation between them and are largely independent of other subsets of variables are combined into factors. The observed variables are modelled and linear combinations of the potential factors, plus error terms. The information gained about the interdependencies between observed variables can be used later to reduce the set of variables in a data set. Thus, factor analysis was adopted to analyse factors influencing respondents' for buying organic food products. Factor loadings indicate the correlation of each variable with the underlying factor and is given as

$$X_i = \lambda_{i1}F_1 + \lambda_{i2}F_2 + \dots + \lambda_{ip}F_p + \epsilon_i$$

Here, X_i is the observed variable, λ_{ij} is the factor loading for variable X_i on factor F_j , F_j is the extracted factor, and ϵ_i is the error term.

While **eigenvalues** measure the variance of each factor in. While varimax rotation aims to maximize the variance of factor loadings within a factor.

3. Results and Discussion

3.1 Consumer perception towards organic food products

The information pertaining to the consumer perception towards various organic food products were analysed through 12 statements on a three-point rating scale with scale agreements of agree, neutral, disagree and accordingly scores of 3, 2 and 1 were assigned respectively to the scale agreements. The results are shown in Fig 1



Fig 1: Consumer perception towards organic food products

The findings presented in Figure 1 showed that most customers view organic food products primarily as healthy, followed by being expensive and these results coincide with studies of Salleh et al., (2010) and Radhika et al., (2012). Additionally, organic foods are perceived as superior in quality, but their availability in the market is limited, making them somewhat challenging to find everywhere. Moreover, they are recognized for their high nutritive value. On the other hand, statements regarding whether organic foods provide good value for the money spent, are preferred for their freshness, taste good, have an aesthetic appearance, and the consumer sentiment towards labels on organic foods appear to be more neutral.

3.2 Consumer Preferences Towards Various Organic Food Products.

The preference of sample respondents was analyzed by collecting the data pertaining the reasons for purchase of organic food products based on core product factors and augmentation factors, preferred sources of information, preferred place of purchase and frequency of purchase of organic food products.

The data presented in Tables 1 clearly demonstrate that consumers prioritize core product factors as health and quality, augmentation factors being preservative-free, possessing nutritional properties and having certification when choosing organic products and align with findings of Bourn and Prescott (2022)

Table 1. Preference of consumers towards organic food products based on core and augmentation product factors

S.No.	Core product factors	Agree	Neutral	Disagree	Mean score	Rank
1	Healthy	84	31	5	2.66	I
2	Quality	66	45	7	2.46	II
3	Freshness	16	69	35	1.84	III
4	Tasty	20	60	40	1.83	IV
5	Appearance	0	30	90	1.25	V
S.No	Augmentation factors	Agree	Neutral	Disagree	Mean score	Rank
1	Preservative free	71	45	4	2.56	I
2	Nutritional properties	64	47	9	2.46	II
3	Certified	66	35	19	2.39	III
4	Cruelty free	22	60	38	1.87	IV
5	Properly labelled	0	51	69	1.43	V

Preferred place of purchase for organic food products by sample consumers

Table 2. Preferred place of purchase of the sample respondents

S. No.	Place	Frequency	Percentage (%)	Rank
1	Branded organic store	119	99	I
2	Online	114	95	II
3	General organic store	58	48	III
4	Super market	21	18	IV
5	Local shops	6	5	V
6	Any others	5	4	VI

Table 2 indicated that out of 120 sample respondents 119 choose to shop from branded organic store contributing 99 per cent, followed by online platform contributing 98 per cent (114 out of 120 sample respondents) then general organic stores as they are scoring

48 per cent (58 out of 120 respondents) then comes super market scoring with 18 per cent (21 out of 120 respondents) then least preferred is local shop as it scored 5 per cent (6 out of 120 respondents)..

3.3 Preferred source of information for organic food products by sample consumers

Table 3 results indicate that social media (whatsapp, you tube, facebook) followed by influencers are the major preferred source of information regarding organic food products followed by traditional media (television, radio), mela/exhibition, print media (newspaper, magazine, journals). While, product trails, nutritionist recommendation were the low preferred sources of information regarding organic food products.

Table 3 Preferred source of information of the sample respondents

S.No.	Source	Frequency	Per cent (%)	Rank
1	Social media (WhatsApp, YouTube, Facebook)	105	87.50	I
2	Influencers	102	85.00	II
3	Traditional media (Television, radio)	95	79.17	III
4	Mela/ Exhibitions	79	65.83	IV
5	Print media (Newspaper, Magazines, journals)	66	55.00	V
6	Product trials	60	50.00	VI
7	Nutritionist	10	8.33	VII

3.4 Frequency of consumption of organic food products by sample respondents

Table 4 Frequency of purchase of organic food products by sample respondents

Frequency of purchase											
S.No.	Particulars	Daily		Weekly once		Once in fortnight		Monthly once		Occasionally	
		N	%	N	%	N	%	N	%	N	%
1	Fruits and vegetables	35	29.17	34	28.33	29	24.17	14	11.67	8	6.67
2	Egg	19	15.83	50	41.67	48	40.00	12	10.00	10	8.33
3	Heat and Eat	21	17.50	23	19.17	54	45.00	19	15.83	3	2.50
4	Staples	0	0.00	8	6.67	30	25.00	72	60.00	10	8.33
5	Milk and Dairy products	29	24.17	25	20.83	21	17.50	23	19.17	22	18.33
6	Meat and Meat products	1	0.83	48	40.00	21	17.50	24	20.00	26	21.67
7	Tea & Beverages	5	4.17	3	2.50	29	24.17	63	52.50	1	0.83
8	Snacks	5	4.17	5	4.17	21	17.50	56	46.67	33	27.50
9	Condiments and spices	8	6.67	9	7.50	12	10.00	48	40.00	43	35.83
10	Juices	6	5.00	8	6.67	17	14.17	28	23.33	61	50.83

Based on the data in Table 4, it's evident that the top three daily purchased products are fruits and vegetables (29.17%), milk and dairy products (24.17%), and heat and eat products (17.50%). For weekly purchases, the top three products are meat and meat products (40.00%), fruits and vegetables (28.33%), and milk and dairy products (20.83%). When buying once in a fortnight, consumers prefer heat and eat products (45%), eggs (40%), and staples (25%). On a monthly basis, staples (60%), tea and beverages (52.5%), and snacks (46.67%) are the top choices. For occasional purchases, the top three products are juices (50.83%), condiments and spices (35.83%), and snacks (27.50%).

3.5 Factors influencing the consumer buying behaviour towards organic food products.

To assess the factors influencing buying intentions for organic food products, we gathered responses from a sample of consumers using a five-point scale, where "strongly agree" was assigned a score of 5, "agree" a score of 4, "can't say" a score of 3, "disagree" a score of 2, and "strongly disagree" a score of 1. There were a total of 24 statements in the survey. The data was then subjected to factor analysis for analysis.

Kaiser-Meyer-Olkin & Bartlett's Test

Table 5 Kaiser-Meyer-Olkin & Bartlett's test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.635
Bartlett's Test of Sphericity	Approx. Chi-Square	972.404
	DF	276
	P-value	<.0001*

*Significant at 1 %

According to the Table 5, the KMO value is 0.635, indicating that the sample size is adequate to proceed with factor analysis. The approximate chi square value of 972.404 with 276 degrees of freedom, as determined by Bartlett's test of sphericity, is significant at the 0.001 level. As a result, factor analysis is valid.

Principal Component Analysis

By using of SPSS software, the principal component analysis is used to extract the factors from the following 24 variables and the results are shown in the table 6.

Table 6 Principal component analysis

Comp onent	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.881	16.170	16.170	3.881	16.170	16.170	3.195	13.311	13.311
2	2.598	10.825	26.995	2.598	10.825	26.995	2.156	8.984	22.295
3	2.329	9.705	36.700	2.329	9.705	36.700	1.998	8.324	30.620
4	1.974	8.224	44.924	1.974	8.224	44.924	1.982	8.260	38.879
5	1.626	6.777	51.701	1.626	6.777	51.701	1.973	8.221	47.100
6	1.469	6.122	57.824	1.469	6.122	57.824	1.912	7.969	55.069
7	1.248	5.201	63.024	1.248	5.201	63.024	1.909	7.955	63.024
8	1.118	4.657	67.681						
9	.988	4.117	71.798						
10	.882	3.675	75.473						
11	.779	3.248	78.721						
12	.669	2.786	81.507						
13	.641	2.672	84.179						
14	.572	2.384	86.563						
15	.535	2.229	88.792						
16	.457	1.903	90.695						
17	.429	1.787	92.482						
18	.363	1.514	93.996						
19	.342	1.424	95.420						
20	.305	1.270	96.690						
21	.264	1.098	97.788						
22	.198	.825	98.613						
23	.179	.746	99.359						
24	.154	.641	100.000						

Extraction Method: Principal Component Analysis.

After applying varimax rotation, the analysis revealed seven factors with varying degrees of variance explained. Factor one accounted for 13.311% of the variance (eigenvalue: 3.811), followed by factor two at 22.295% (eigenvalue: 2.598), and factor three at 38.879% (eigenvalue: 2.329). Factor four accounted for 38.879% (eigenvalue: 1.974), factor five for 47.100% (eigenvalue: 1.626), factor six for 55.069% (eigenvalue: 1.469), and factor seven for

63.024% (eigenvalue: 1.248). These factors, post-rotation using the varimax method, collectively account for 63.024% of the total variance in the data.

Rotated Component Matrix and Grouping of Factors

The rotated component matrix illustrates the factor loadings obtained for each variable and the factors that were extracted. Our criteria for grouping variables into seven factors ensured that these variables not only had the highest factor loadings within their respective rows but also exceeded the threshold of 0.500. To categorize the variables within each factor, we assigned unique names to these groups based on their factor loadings. Specifically, factor one was labelled the "Health and Wellness Factor," while factors two through seven were categorized as follows: "Environment Factor," "Influential Factor," "Promotional Factor," "Trust Factor," "Food Safety Factor," and "Personal Factor." These names were chosen based on the statements grouped under each factor. The results of this process are presented in Tables 7, 8, and 9.

The food safety factor has the highest mean score of 4.03 followed by influential factor, personal factor, trust factor, health and wellness factor, promotional factor with mean scores 3.70, 3.47, 3.43, 3.31, 3.06 respectively. The environmental factor has the lowest mean score for 3.05. Thus, the study indicates that food safety factor is very important factor influencing the buying motives of sample consumers preferring organic food products, followed by influential factors and personal factors. The findings align with studies of Rimal et al.,2005; Voon et al.,2011; Basha and Ramesh, 2014; Basha et al.,2015; Kalaivani, 2017)

Table 7: Rotated Component Matrix

Particulars	Component						
	1	2	3	4	5	6	7
Considering my age factor	.883						
Consuming organic food products promotes to stay healthy	.762						
Consuming organic food products gives me mental satisfaction	.649						
All of my body's nutrients are obtained from organic food.	.620						
Organic food products will help me to stay fit	.521						
Helps to reduce carbon foot print							
Growing of these foods fosters healthy ecosystem		.732					
Influenced by community groups			.798				
To support local farmers							
Influenced by peer groups			.614				
Recommended in campaigns emphasizing benefits of organic foods				.708			
Recommended by stores personnel				.684			
Recommended by influencers through their feed back				.514			
Trust In Informative Labeling							
Trust In certification					.737		
Influenced by personal experience							
Trust In Nutritional Attributes					.557		
I need not stress too much about what I eat							
Organic foods are safe than conventional foods						.728	
Organic foods are free from food additives						.712	
Organic foods are free from pesticide residues						.567	
Recommended by nutritionists/doctors							
Helps to improve soil health							
To reflect my economic status							.574

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Table 8: Grouping of the extracted factors

Factor number	Factor name	Variables under factor	Factor loadings
1	Health and wellness	Consuming organic food products promotes to stay healthy	0.883
		Organic food products will help me to stay fit	0.762
		Consuming organic food products gives me mental satisfaction	0.649
		All of my body's nutrients are obtained from organic food.	0.62
		Considering my age factor	0.521
		I need not stress too much about what I eat	0.000
2	Environment factor	Growing of these foods fosters healthy ecosystem	0.732
		Helps to improve soil health	0.000
		Helps to reduce carbon foot print	0.000
3	Influential factor	Influenced by community groups	0.798
		Influenced by peer groups	0.614
		Influenced by personal experience	0.000
4	Promotional factors	Recommended in campaigns emphasizing benefits of organic foods	0.708
		Recommended by stores personnel	0.684
		Recommended by influencers through their feed back	0.514
		Recommended by nutritionists/doctors	0.000
5	Trust	Trust In certification	0.737

	factors	Trust In Nutritional Attributes	0.557
		Trust In Nutritional Attributes	0.0000
6	Food safety factor	Organic foods are safe than conventional foods	0.728
		Organic foods are free from food additives	0.712
		Organic foods are free from pesticide residues	0.567
7	Personal factors	To support local farmers	0.000
		To reflect my economic status	0.574

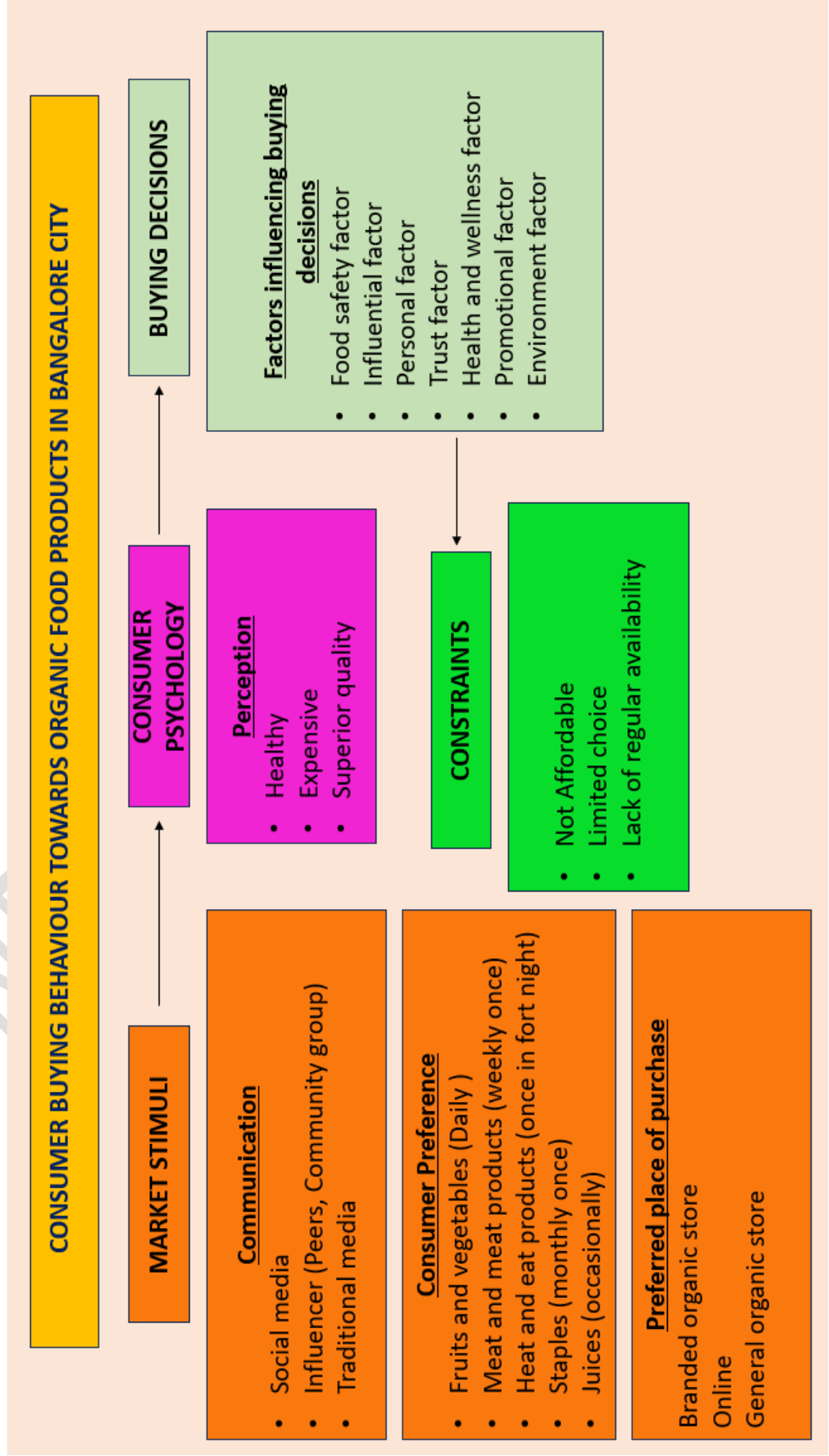
Table 9. Factors influencing the buying behaviour of the sample respondents

S.No.	Factors	Mean score	Rank
1	Food Safety Factor	4.03	I
2	Influential Factor	3.70	II
3	Personal Factor	3.47	III
4	Trust Factor	3.43	IV
5	Health And Wellness Factor	3.31	V
6	Promotional Factor	3.06	VI
7	Environmental Factor	3.05	VII

Conclusion:

Majority of consumers have a perception of organic food products as both healthy and expensive. The core product factors driving the preference for organic food products include their perceived healthiness and quality, while the augmentation factors that play a significant role are their preservative-free nature, nutritional properties and certification. When it comes to purchasing, most preferred place for purchasing organic food products include branded organic stores with local shops being the least preferred option. In terms of information sources, social media takes the top spot followed closely by influencers, while nutritionist recommendation is the least favoured. The frequency of purchase varies, with daily purchases of fruits and vegetables, weekly purchases of meat and meat products, fortnightly purchases of heat and eat products, monthly purchases of staples, and occasional purchases of juices. Among the seven factors influencing consumers' decisions to buy organic food products, the food safety factor emerges as the most influential, followed by influential factors and personal factors. These findings shed light on the complex dynamics that drive consumer preferences and choices in the organic food market.

Fig 2.



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