WAKEFULNESS OF THE CONSUMERS TOWARDS ORGANIC FOOD PRODUCTS

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ABSTRACT

Organic agriculture is a systems approach to production that is working towards environmentally, socially and economically sustainable production. The food products produced by organic farms are toxic and chemical free. The awareness on the harmful effects of chemicals present in food is increasing among the consumers. The trend towards purchasing organic food is growing among people. The present study is confined to analyse the awareness of the consumers towards organic food products only. There are nine organic food shops in Virudhunagar district. The primary data has been gathered from 282 respondents through well structured and pre tested questionnaire. socio-economic profile of the customers, consumer behavior towards organic food products, problems faced for using organic food and relationship between socio-economic profile of the respondents and their level of satisfaction towards usage of organic food products have been studied by using percentage analysis, Kendall's Concordance test, Mann Whitney U test and Multiple Regression. On the basis of findings of the study, some suggestions are offered.

Keywords: Genetically Modified Organism, Organic agriculture, Organic food products

INTRODUCTION

Organic food is the product of a farming system which avoids the use of man-made fertilisers, pesticides; growth regulators and livestock feed additives. Irradiation and the use of Genetically Modified Organisms (GMOs) or products produced from or by GMOs are generally prohibited by organic legislation. Organic agriculture is a systems approach to production that is working towards environmentally, socially and economically sustainable production.[1] Instead, the agricultural systems rely on crop rotation,

animal and plant manures, some hand weeding and biological pest control. Organic agriculture is about a way of farming that pays close attention to nature. It means fewer chemicals on the land such as artificial fertilizers, which can pollute waterways. It means more wildlife and biodiversity, the absence of veterinary medicines such as antibiotics in rearing livestock and the avoidance of genetic modification. Organic farming can also offer benefits for animal welfare, as animals are required to be kept in more natural, free conditions.[2]

STATEMENT OF THE PROBLEM

According to psychologist Abraham Maslow, humans have needs that are stacked in a pyramid hierarchy. The basic human needs at the bottom of the pyramid are basic physical requirements including the need for food, water, sleep and warmth. The basic needs keep us alive. Among the four basic needs, food occupies a dominant position. Human beings want to eat a variety of food items. Food choice and eating habits have changed dramatically over the last twenty years. The food habits of the people are influenced by many factors such as the technologies in kitchens, by the modes of transport supplying shops, by the media and the government and by trade and migration.[3]

As a result, many diseases such as diabetics, blood pressure, heart attack and kidney failure affect the health of the human beings. The reason behind is adverse and toxic chemicals are the basic ingredients of junk food items. The awareness on the harmful effects of chemicals present in food is increasing among the consumers. The trend towards purchasing organic food is growing among people.

SCOPE OF THE STUDY

The present study is confined to analyse the awareness of the consumers towards organic food products only. It does not take into consider ayurvedic and herbal products.

RESEARCH METHODOLOGY

The present study is based on both primary and secondary data. The primary data has been gathered from 282 respondents through well structured and pre tested questionnaire. There are nine organic food shops in Virudhunagar district. The average arrival of customers to these shops is 1,050 per month which is taken as the population. By using Rao's calculator, the population is fed and the sample size derived at 95 per cent level of significance is 282. The samples are chosen by adopting snowball sampling method. The secondary data has been gathered from magazines and

websites. The primary data has been coded and edited for analytical purpose. Percentage analysis, Kendall's Concordance test, Mann Whitney U test and Multiple Regression have been used to analyse the primary data.

ANALYSIS AND INTERPRETATIONS

In the analysis section, socio-economic profile of the customers, consumer behavior towards organic food products, problems faced for using organic food and relationship between socio-economic profile of the respondents and their level of satisfaction towards usage of organic food products have been studied.

Socio-Economic Profile of the Respondents

In this part, the socio-economic variables viz., age, gender, education, occupation, marital status, family size, type of the family and monthly income are taken into consideration.

Table 1
Socio-Economic Profile of the Respondents

Socio-Economic Profile		No. of Respondents	Percentage
Age (in years)	Below 25	18	6.38
	25-35	39	13.83
	35-45	104	36.88
	45-55	98	34.75
	Above 55	23	8.16
Gender	Male	180	63.83
	Female	102	36.17
Education	School level	88	31.21
	College level	113	40.07
	Others	81	28.72
Occupation	Businessmen	85	30.14
	Employees	70	24.82
	Home makers	94	33.33
	Others	33	11.70
Marital status	Married	161	57.09
	Unmarried	121	42.91
Family size	Below 4	162	57.45
	4-8	87	30.85
	Above 8	33	11.70
Type of the family	Joint family	87	30.85
	Nuclear family	195	69.15
Monthly Income	Below 10,000	42	14.89
	10,000-20,000	67	23.76
(in Rs.)	20,000-30,000	82	29.08
	30,000-40,000	63	22.34
	Above 40,000	28	9.93

Age wise classification

Out of 282 respondents, 104 (36.88%) are in the age group of 35-45 years, 98 (34.75%) belong to the age group of 45-55 years, 39 (13.83%) come under the age group of 25-35 years, 23 (8.16%) are in the age group of above 55 years and 18 (6.38%) fall under the age group of below 25 years.

Gender wise classification

Out of 282 respondents, 180 (63.83%) are male and the remaining 102 (36.17%0 are female.

Education wise classification

Out of 282 respondents, 113 (40.07%) completed their education upto college level, 88 (31.21%) finished their education upto school level and 81 (28.72%) belong to others category.

Occupation wise classification

Out of 282 respondents, 94 (33.33%) are home makers, 85 (30.14%) are businessmen, 70 (24.82%) are employees and 33 (11.70%) come under others category.

Marital status wise classification

Out of 282 respondents, 161 (57.09%) are married and the remaining 121 (42.91%) are unmarried.

Family size wise classification

Out of 282 respondents, 162 (57.45%) have below 4 members in their family, 87 (30.85%) have 4-8 members in their family and 33 (11.7%) have above 8 members in their family.

Type of the family wise classification

Out of 282 respondents, 195 (69.15%0 belong to nuclear family and the remaining 87 (30.85%) come under joint family.

Monthly income wise classification

Out of 282 respondents, 82 (29.08%) have earned a monthly income of Rs. 20,000-Rs. 30,000, 67 (23.76%) have earned a monthly income of Rs.10,000-Rs. 20,000, 63 (22.34%) have earned a monthly income of Rs. 30,000-Rs. 40,000, 42 (14.89%) have earned below Rs. 10,000 per month and 28 (9.93%) have earned above Rs. 40,000 per month.

Consumer Behaviour towards organic food products

In this section, frequency of buying organic food, place of buying organic food, organic products preferred, amount spent for buying organic food products and description of organic food products are studies.

Table 2

Consumer Behaviour towards organic food products

Consumer Behaviour towards organic food products		No. of Respondents	Percentage
Frequency of buying organic food	Daily	48	17.02
	Weekly	99	35.11
	Fort nightly	135	47.87
Place of buying organic food products	Super markets	56	19.86
	Organic shop	82	29.08
	Organic farm	96	34.04
	Specialized shop	48	17.02
Organic products preferred Note: As the respondents prefer more than on product, the total exceeds 282.	Vegetables	84	18.67
	Fruits	19	4.22
	Dry fruits and vegetables	35	7.78
	Cereals	13	2.89
	Milk and milk products	17	3.78
	Herbs and species	35	7.78
	Oil	11	2.44
	Pulses	48	10.67
	Beverages	56	12.44
	Bakery and sugar products	86	19.11
	Meat and meat products	29	6.44
	Baby products	17	3.78
Amount spent for buying organic food products	Below 500	60	21.28
	500-1,000	34	12.06
	1,000-1,500	83	29.43
	1,500-2,000	93	32.98
	Above 2,000	12	4.26
Description of organic food products	Certified	29	10.28
	Genetically Modified Organism (GMO) free	96	34.04
	Environment/animal friendly	39	13.83
	Chemical free	28	9.93
	Natural	44	15.60
	Nutritional	24	8.51
	Healthy	22	7.80

Source: Primary data

Frequency of buying organic food

Out of 282 respondents, 135 (47.87%) bought organic food fortnightly, 99 (35.11%) bought organic food weekly and 48 (17.02%) bought organic food daily.

Place of buying organic food

Out of 282 respondents, 96 (34.04%) have bought organic food from organic farm, 82 (29.08%) have bought organic food from organic shop, 56 (19.86%) have bought

organic food from super markets and 48 (17.02%) have bought organic food from specialized shop

Organic products preferred

It is understood that 86 (19.11%) preferred bakery and sugar products, 84 (18.67%) preferred vegetables, 56 (12.44%) preferred beverages, 48 (10.67%) preferred pulses, 35 (7.78%) preferred dry fruits and vegetables, another 35 (7.78%) preferred herbs and species, 29 (6.44%) preferred meat and meat products, 19 (4.22%) preferred fruits, 17 (3.78%) preferred milk and milk products, another 17 (3.78%) preferred baby products, 13 (2.89%) preferred cereals and 11 (2.44%) preferred oil.

Amount spent for buying organic food products

Out of 282 respondents, 93 (32.98%) have spent Rs. 1,500-Rs. 2,000 per month,

83 (29.43%) have spent Rs. 1,000-Rs. 1,500 per month, 60 (21.28%) have spent below Rs. 500 per month, 34 (12.06%) have spent Rs. 500-Rs. 1,000 per month and 12 (4.26%) have spend above Rs. 2,000 per month for buying organic food.

Description of organic food products

Out of 282 respondents, 96 (34.04%) felt that organic foods are Genetically Modified Organism (GMO) free, 44 (15.60%) felt that it is natural, 39 (13.83%) felt that it is environment/animal friendly, 29 (10.28%) considered that it is certified, 28 (9.93%) felt that it is chemical free, 24 (8.51%) felt that it is nutritional and 22 (7.80%) felt that it is healthy.

Opinion of the consumers towards organic products

Table 3 illustrates the opinion of the consumers towards organic products.

Table 3
Opinion of the consumers towards organic products

	Strongly Agree	Agree	No opinion	Disagree	Strongly Disagree	Total
Healthy	118	56	28	54	26	282
High quality	96	82	34	31	39	282
Tasty	83	53	96	28	22	282
Support small farmer	109	44	52	48	29	282
Popularity	72	52	71	44	43	282
Positive image	92	56	57	32	45	282
Freshness	81	35	84	51	31	282
Animal welfare	80	78	42	52	30	282
Environment production	85	71	10	67	49	282
Food safety	78	67	49	32	56	282

Source: Primary data

Kendall's concordance test has been used to analyse the attitude of the respondents towards organic food products.

The null hypothesis framed is that the opinion of the respondents towards organic food product does not differ significantly.

Table 4

Opinion of the consumers towards organic products – Kendall's Concordance Test

	Strongly Agree	Agree	No opinion	Disagree	Strongly Disagree	Total
Healthy	1	2	4	3	5	
High quality	1	2	4	5	3	
Tasty	2	3	1	4	5	
Support small farmer	1	4	2	3	5	
Popularity	1	3	2	4	5	
Positive image	1	3	2	5	4	
Freshness	2	4	1	3	5	
Animal welfare	1	2	4	3	5	
Environment production	1	2	5	3	4	
Food safety	1	2	4	5	3	
Sum of ranks	12	27	29	38	44	Average = 30
(Sum of ranks – average sum of ranks)^2	$(12-30)^2 =$ 324	$(27-30)^2$ = 9	$(29-30)^2$ =1	$(38-30)^2$ = 64	$(44-30)^2$ = 196	Total = 594

Source: Primary data

$Kc = 12 \, S / K^2 \, (N^3 - N) = 7128 / (10)^2 \, (5^3 - 5)$

$= 7128 / 100 \, (120) = 7128 / 12000 = 0.594$

There is a moderate level of opinion among the respondents about organic food products as Kc lies between (0.5 < 0.594 < 0.6).

Significance formula = K (n-1) w = 10 (5-1) 0.594 = 23.76

Degrees of Freedom = n-1 = 10-1 = 9

Table value at 5 per cent level of significance = 16.919

As the calculated value of Kendall's concordance test (23.76) is more than the table value (16.919), the null hypothesis is rejected. Hence, it is proved that the opinion of the respondents towards organic food product differ significantly.

Problems faced while using organic food

The problems faced by the respondents while using organic food are displayed in Table 5.

Table 5

Problems faced while using organic food

Problems	Ranks										Total	Man Whitney U test – Mean score
	I	II	III	IV	V	VI	VII	VIII	IX	X		
sky-scraping price	44	33	55	41	21	41	17	19	7	4	**282**	**193.8**
Lack of accessibility	25	45	63	27	29	7	41	33	8	4	**282**	**184**
Seasonality	15	19	11	18	65	82	45	9	6	12	**282**	156.6
Durability	26	58	2	6	13	38	35	69	2	33	**282**	149.2
Lack of media information	14	31	28	18	25	46	49	44	11	16	**282**	151.5
Unaware about cooking conditions	23	15	10	81	55	28	31	15	20	4	**282**	169.5
Packaging	31	19	13	42	9	16	13	55	4	80	**282**	131.8
Less regional origin	42	18	17	16	8	5	12	1	66	97	**282**	118.3
Less taste	37	26	61	30	5	4	20	16	80	3	**282**	164.3
Unattractive appearance	25	18	22	3	52	15	19	21	78	29	**282**	
Total	**282**	**282**	**282**	**282**	**282**	**282**	**282**	**282**	**282**	**282**		

Source: Primary data

Most of the respondents gave I rank to 'Sky -scraping price' with the mean score of 193.8 followed by Lack of accessibility with the mean score of 184.

Socio-Economic Profile of the Respondents and their level of satisfaction towards usage of organic food products

Multiple Regression analysis is used which predicts the change in dependent variable when there is a change in any independent variable keeping all other independent variables constant. The regression equation is as follows:

$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + e$

Y = Dependent variables – Level of satisfaction towards usage of organic food products

X – Independent variables

X_1 - Age X_2 - Gender

X_3 - Education

X_4 - Occupation

X_5 - Marital status

X_6 - Family size

X_7 - Type of the family

X_8 - Monthly income

e - error term

The null hypothesis framed is that the independent variables (X_1, X_2, X_3, X_4, X_5, X_6, X_7 and X_8) does not influence the dependent variable (Y- level of satisfaction of the respondents towards the usage of organic food products).

Table 6

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.992	0.813	0.510	0.1574

Source: Primary data

Table 6 shows that the multiple correlation coefficient is 0.992 and it measures the degree of relationship between the actual values and the predicted values of the level of satisfaction towards the usage of organic food products. Because the predicated values are obtained as linear combination of age, gender, education, occupation, marital status, family size, type of the family and monthly income, the coefficient value of 0.992 indicates that the relationship between dependent and independent variables are positive.

The Coefficient of Determination or R-square measures the goodness-of-fit of the estimated Sample Regression Plane (SRP) in terms of the proportion of the variation in the dependent variables explained by the fitted sample regression equation. Thus, the value of R-square is 0.813 simply means that about 81.3% of the variation in level of satisfaction of the respondents towards the usage of organic food products is explained by the estimated SRP as the independent variables and R square value is significant at 5 per cent level.

Table 7

Multiple Regression Analysis

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	7.512	0.398		21.980	
Age	0.867	0.075	0.919	3.976	0.000[*]
Gender	0.556	0.039	0.762	11.615	0.001[*]
Education	0.793	0.259	0.697	9.632	0.003[*]
Occupation	0.627	0.198	0.937	4.605	0.066
Marital status	0.418	0.375	0.856	5.923	0.395
Family size	0.309	0.067	0.837	8.937	0.257
Type of the family	0.862	0.214	0.711	8.614	0.159
Monthly income	0.987	0.039	0.822	5.687	0.000[*]

Source: Primary data

The multiple regression equation is

$$Y = 7.512 + 0.867X_1 + 0.556X_2 + 0.793X_3 + 0.627X_4 + 0.418X_5 + 0.309X_6 + 0.862X_7 + 0.987X_8$$

The regression equation points out:

Here the coefficient of X_1 is 0.867 which represents the partial effect of age on level of satisfaction towards usage of organic food products, holding the other variables as constant. The estimated positive sign implies that such effect is positive that the level of satisfaction towards usage of organic food products would increase by 0.867 for every unit increase in age factor and this coefficient value is significant at 5% level.

Here the coefficient of X_2 is 0.556 which represents the partial effect of gender on level of satisfaction towards usage of organic food products, holding the other variables as constant. The estimated positive sign implies that such effect is positive that the level of satisfaction towards usage of organic food products would increase by 0.556 for every unit increase in gender factor and this coefficient value is significant at 5% level.

Here the coefficient of X_3 is 0.793 which represents the partial effect of education on level of satisfaction towards usage of organic food products, holding the other variables as constant. The estimated positive sign implies that such effect is positive that the level of satisfaction towards usage of organic food products would increase by

0.793 for every unit increase in education factor and this coefficient value is significant at 5% level.

Here the coefficient of X_4 is 0.627 which represents the partial effect of occupation on level of satisfaction towards usage of organic food products, holding the other variables as constant. The estimated positive sign implies that such effect is positive that the level of satisfaction towards usage of organic food products would increase by 0.627 for every unit increase in occupation factor and this coefficient value is significant at 5% level.

Here the coefficient of X_5 is 0.418 which represents the partial effect of marital status on level of satisfaction towards usage of organic food products, holding the other variables as constant. The estimated positive sign implies that such effect is positive that the level of satisfaction towards usage of organic food products would increase by 0.418 for every unit increase in marital status factor and this coefficient value is significant at 5% level.

Here the coefficient of X_6 is 0.309 which represents the partial effect of family size on level of satisfaction towards usage of organic food products, holding the other variables as constant. The estimated positive sign implies that such effect is positive that

the level of satisfaction towards usage of organic food products would increase by 0.309 for every unit increase in family size factor and this coefficient value is significant at 5% level.

Here the coefficient of X_7 is 0.862 which represents the partial effect of type of the family on level of satisfaction towards usage of organic food products, holding the other variables as constant. The estimated positive sign implies that such effect is positive that the level of satisfaction towards usage of organic food products would increase by 0.862 for every unit increase in type of the family factor and this coefficient value is significant at 5% level.

Here the coefficient of X_8 is 0.987 which represents the partial effect of monthly income on level of satisfaction towards usage of organic food products, holding the other variables as constant. The estimated positive sign implies that such effect is positive that the level of satisfaction towards usage of organic food products would increase by 0.987 for every unit increase in monthly income factor and this coefficient value is significant at 5% level.

SUGGESTIONS

On the basis of findings of the study, some suggestions are given.

1. Organic farms and organic shops have to create awareness among the consumers about the benefits of using organic food products through advertisement.

2. While fixing prices for organic products, the organic farms have to consider the ability of the consumes to pay as monthly income influence the level of satisfaction of the respondents towards organic food products.

3. More number of branches of organic shops have to be opened to enhance the accessibility of organic food products.

CONCLUSION

Organic foods have been a huge player in this decade. They have transformed the way people look at the environment and encouraged greater social responsibility. Organic foods can still make a big difference in the future of food industry. It is a highly profitable sector of the industry, since organic foods are typically priced higher and some people readily pay the premium for this line of commodities. Surprisingly to many farmers, organic farming methods came out on top. Specifically, they have the potential to be more profitable, consume less energy, release fewer emissions, are operate more efficiently, require less land, are more adaptable to new regions, and provide greater employment to the community. Hence, organic farming has great potential to help rural communities because this organic approach can boost the economy and feed the populace.

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