

“A Study on Acceptance of Functional Foods With Reference To Pune City Consumers”

Mr.Arvind L. Burande

Research Student

Dr. Joe Lopez

Research Guide

Research Centre: Sinhgad Institute of Management, Pune

Abstract: This study carried with the purpose of identifying the acceptance level of Customers of functional foods in Pune city. To understand the awareness of it and relation between demographic factors buying behaviour data has been collected. Literature review was carried out with the help of previous few research papers. Hypotheses were developed and were tested after collection of the data. Descriptive research methodology was used. Total 140 respondents were approached to collect the information. Structured questionnaire was utilised. After the analysis both the hypotheses were tested and subsequently both were accepted.

Key Words: -Health claim, Perceived knowledge, Enhanced foods, Anti-oxidant, Benefit claim etc.

Introduction:-

All foods are functional foods because they provide nutrition, taste, and healthiness. But from last two decade the word “Functional food” becoming buzz word as consumers are giving more attention towards the food which are healthier in nature and its consumption does not have any side effect. According to various definition on functional foods Functional foods can be considered to be those whole, fortified, enriched or enhanced foods that provide health benefits beyond the provision of essential nutrients (e.g., vitamins and minerals), when they are consumed at efficacious levels as part of a varied diet on a regular basis.

Today both the word i.e. health and food go parallel. Consumers want those products which will gives better opportunity to lead healthy and qualitative life. Indian consumers becoming more health conscious so, increasing interest for functional foods in India gives more opportunities for

the marketer to enter in this segment. Functional foods which are already available in the Indian market include those with removal of an allergic protein (gluten free Atta), those containing live bacteria (probiotics, prebiotics) such as Yakult health drink and Amul's butter milk or those containing some health nutrients such as energy bars, juices and soy based products.

Pune city has been chosen for this research paper as Pune is the India's biggest IT Hub, Automobile Hub and Oxford of the east i.e. Educational Hub. Here mixed as well as diversified crowd would be observed. So this study attempts to identify the acceptance of functional foods amongst these diversified demographics.

Objectives:-

Changes in life style have a great effect over consumer's food choices. Health Conscious consumers are paying more attention towards the healthier and nutritional food products. The objectives behind this study are as follows.

- I. To understand the concept of Functional foods and its potential in Indian Market
- II. To study the awareness of Functional Foods in Pune Market.
- III. To identify the acceptance level of consumers in Pune City.
- IV. To study the relation between different demographic factors of consumers and their role in purchase of functional food.
- V. To understand the demand of different functional foods.

Scope: -Current study has been conducted in Pune city only. Hence geographical scope for the current study is Pune City.

Functional scope for the given study is as follows

- I. Indian Functional food market

- II. Major players in Functional food market
- III. Strategies adopted by the functional food companies to aware and attract the customers
- IV. Buying decision process of the customers in Functional food products

Literature Review:-

To bridge the gap between the earlier research and current research an extensive literature review carried out by using earlier research papers, research thesis, books and reports. That is as follows.

Gasto´ n Ares (2007)¹:Researcher conducted a study on influence of demographic factors like age, gender on willingness to buy functional food. Carrier products observed as the most influencing factor for consumers perception of healthiness and willingness to try and evaluate functional foods concepts. Study reveals that age, gender, and motives are significantly related with the choice or preference of functional food. But at the same time it is dependent on carrier and enrichment considered. Result shows that functional food may not be accepted by all type of customers hence customized products should be introduced to serve certain groups of the customers.

Azzurra Annunziata (2013)²:Researcher conducted a study on probiotics functional foods on 600 respondents. Researcher conducted a study on four attributes. They were Base product, Health claim, price and brand. Conjoint analysis has been done. Result shows that customers give more importance to base product while they purchase the functional food. The study also identified that there is no relationship between the price of the product and evaluation of

¹Gasto´ n Ares(2007), *Influence of gender, age and motives underlying food choice on perceived healthiness and willingness to try functional foods*, www.elsevier.com/locate/appet.

² Azzurra Annunziata, “*Consumer perception of functional foods: A conjoint analysis with probiotics*”,www.elsevier.com/locate/foodqual

perceived healthiness of the functional foods. Most of the respondents whose age group was 35 and above were found more conscious with their healthiness and quality life. Consumers were observed unaware and misunderstanding the concept of functional foods.

Tino Bech-Larsen(2003)³:The purpose of the study was to understand the American consumers perception towards the healthiness of the functional foods with various factors. Here researchers described the genetically modified foods and functional food. Customers perception towards genetically modified and functional foods were tested and it has been observed that customers shows negative attitude towards genetically modified foods. Study also shows positive relation between mastery dimension and functional foods. Result reveal that price differences have the modest effect on perceived healthiness of functional foods amongst the American customers.

Brian Roe(2013)⁴:It's an mall intercept study which studies how the effect of health claims on consumers information search and processing behavior. Result shows that the appeal and information mentioned on functional foods package truncate them to get the more information on the front panel of package. Study shows that customers give more weightage to the information mentioned in the claim. Researcher observed that there is relation between factor presences of information claim with halo effect i.e. rating the product higher on the basis of not mentioned attributes of the product.

Deepananda Herath(2008)⁵: Current study was taken place in Canada. This study undertaken to understand the profile of the consumers who consume or purchase the functional food. There were different customer segment observed on the basis of receptivity of functional food and

³Tino Bech-Larsen, "The perceived healthiness of functional foods A conjoint study of Danish, Finnish and American consumers' perception of functional foods", www.elsevier.com/locate/appet

⁴Brian Roe, " The Impact of Health Claims on Consumer Search and Product Evaluation Outcomes: Results from FDA Experimental Data", *Journal of Public Policy & Marketing*, Vol. 18, No. 1, Pricing and Public Policy(Spring, 1999), pp. 89-105

⁵Deepananda Herath, "Who consumes functional foods and nutraceuticals in Canada?", *D. Herath et al. / Appetite* 51 (2008) 256–265

neutraceuticals. The study result shows that there was an association between receptivity of functional foods and attitude, motivation and knowledge related to food/diet or health. A key driver observed towards the acceptance of functional food was perception of disease threat which tends to increase with the age. Most of the customers using functional foods were observed with the age 35 and above.

Hypothesis:-

The Hypotheses were formulated based on the objectives of the study and literature review conducted.

H1: “Consumers demographic profile impacts on acceptance of functional foods in Pune city”

H2: “Taste of the product and health claim affects the decision of the buying functional food”

Research Methodology

To conduct the current study explorative as well as Descriptive research methodology was used. Through the explorative approach new concepts were studied and used to highlight the problem. To understand existing situation of the market descriptive approach was utilized.

Both, Primary as well as Secondary data was utilized. Primary data was collected by interaction with the customers and by giving questionnaire. Secondary data was collected through various research papers, Magazines, Earlier thesis etc.

Area sampling technique as used to select the samples. Sampling area was Pune city. A structured questionnaire was. Total 140 respondents were approached. Google form as well as hard copy of the questionnaire was distributed amongst 200 customers. 14 questionnaires found ok for further analysis. Data was analyzed with the help of SPSS software and Microsoft Excel. Chi-square test and descriptive statistics was utilized to test the hypothesis.

Data analysis

Data analysis was done and data was presented in the form of tables and Charts as follows.

Sr. No.	Demographic Factor	Frequency	Percentage
1	Gender	Male	91 65%
		Female	49 35%
2	Age	Below 25	23 17%
		25-35	32 23%
		35-45	67 47%
		45 and Above	18 13%
3	Income Level	Below 1 Lakhs	21 15%
		1 to 3 Lakhs	56 40%
		3 to 5 Lakhs	44 31%
		5 Lakhs and More	19 14%
4	Occupation	Salaried	93 67%
		Businessman	22 16%
		Farmer	10 7%
		Student	7 5%
		Other	7 5%

Interpretation: -From the above table it has been observed that 140 respondents responded correctly in which 65% were male and 35% were female respondents. Most of the respondents were belongs o the age group of 35 to 45 (47%) followed by the age group 25 to 35(23%) and below 25 were 17% . Respondents of middle age were found maximum in the survey.

56(i.e.40%) of the respondents were fall under the income group of 1 to 3 lakhs and 44 respondents (31%) of the respondents were observed in 3 to 5 lakhs income group. It observed that lower and middle income group were more in number that higher income group.

In the respondents almost 67% of the respondents were salaried and were working in government as well as private sectors. Subsequently 22(16%) of the respondents were businessman, 10(7%) were farmer and followed by students and other category 5% respectively.

Knowledge about the Functional Foods among the respondents

Knowledge about the Functional Foods	Frequency
1) Functional Foods are enhanced foods	67
2) Have Dietary Components	97
3) Reduces risk of Chronic Diseases	54
4) Provide healthy life	127
5) Gives low Cholesterol Foods	110

Interpretation: - From the above table it can be inferred that Functional food concept is a known concept to the customers. Most of the consumers believe that “Functional food provides a healthy life “as well as it gives “it is a low cholesterol food”.

Functional Food Tried by Respondents

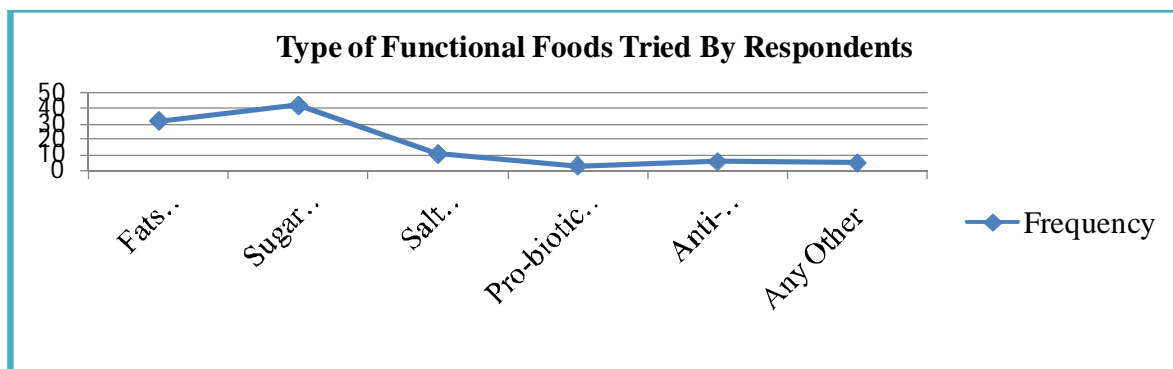
Functional Food Tried	Frequency
Yes i tried many times	32
Very rarely Tried	66
No i Didn't tried yet, just heard	42



From the above table it has been observed that only 32 respondents out of 140 respondents were observed regular user as they tried it many times and 42 respondents had never tried functional food. 66 respondents tried this food but very rarely they use it. Though the awareness is good amongst the customers still acceptance of this product is still remains far behind.

Type of Functional Foods Tried By Respondents

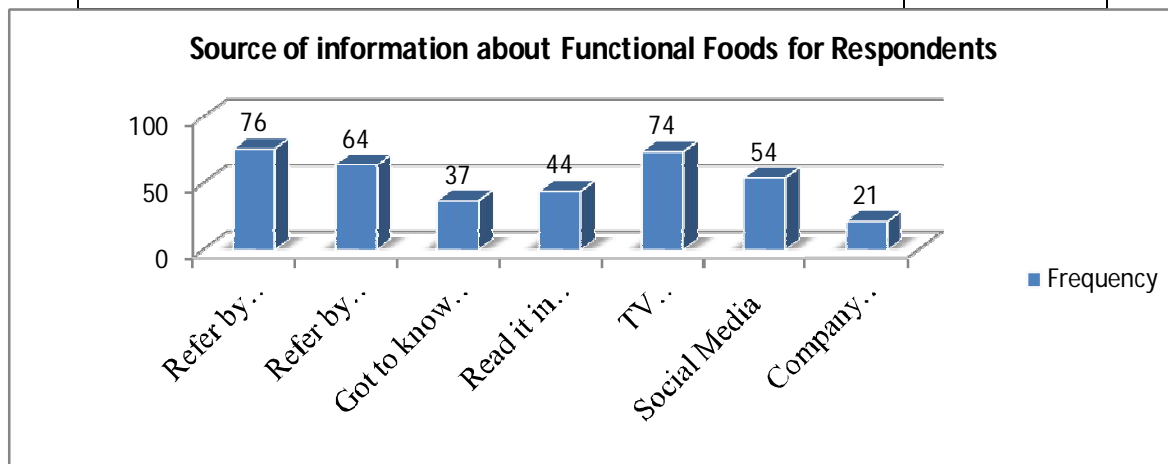
Type of Functional Foods Tried	Frequency
Fats Reduced Foods	32
Sugar Reduced Foods	42
Salt Reduced foods	11
Pro-biotic Foods	3
Anti-oxidants	6
Any Other	5
Total	99



Interpretation: Respondents who tried the functional foods, when inquired more it has been observed that they tried the functional foods which were low fat food and low sugar food. It was followed by Low salt food, Anti-oxidant, Probiotics foods.

Source of information about Functional Foods for Respondents

Source of information about Functional Foods	Frequency
Refer by Doctor	76
Refer by Friends/relatives	64
Got to know it by Medical Store	37
Read it in News paper	44
TV Advertisement	74
Social Media	54
Company Website	21



Interpretation:-Above graph reflects the information that respondents get to know about functional foods from various sources. Amongst them Referred by doctor and TV Advertisements were observed most influencing sources as most of the respondents aware because of these factors. It was followed by suggestion given by relatives/friends, Social Media, Newspaper and Medical store keeper.

Factors impacting on buying decision of Functional Foods among the respondents

Following factors impacts on buying decision of Functional Foods	Fully Agree	Agree	Partially Agree	Disagree	Fully Disagree
Taste of the product	87	36	2	12	3
Perceived knowledge	44	21	16	47	12
Food/Drink Category	55	51	3	23	8
Health Claim	106	27	0	5	2
Wording of claim	54	23	16	32	15
Benefit Claimed	72	32	2	20	14
Familiarity and Experience	67	54	13	3	3

Interpretation: From the above table various factors impacting on buying decision were observed and studied. Health claim(106) and taste of the product (87) respondents were fully agree that these impacts on their buying behaviour. It was followed by benefit claimed, familiarity and experience, food/drinks category, wording of claim and perceived knowledge.

Hypothesis Testing

Hypothesis 1

H1: “Consumers demographic profile impacts on acceptance of functional foods in Pune city”

Test:- Cross tabulation (Descriptive Statistics) & Chi-Square Test

Demographic Factors		Consuming functional food products could have a positive impact on my health	I am willing to make sacrifices to keep myself healthy	I am interested in taking measures for preventing the occurrence of some diseases	Healthiness and nutritional content have a high impact on my food choices	I am willing to consume Functional products that have a positive impact on my health
Gender	Male	32	34	56	46	32
	Female	23	24	27	23	22
Age	Below 25	21	22	23	22	21
	25-35	27	26	25	23	27

	35-45	54	55	56	61	54
	45 and Above	12	13	18	16	18
Income Level	Below1 Lakhs	12	19	21	9	16
	1 to 3 Lakhs	49	43	47	42	41
	3 to 5 Lakhs	34	32	33	39	43
	5 Lakhs and More	14	16	18	19	16
Occupation	Salaried	47	53	72	63	82
	Businessman	11	19	22	20	21
	Farmer	7	6	9	5	10
	Student	7	7	7	7	7
	Other	3	6	7	5	5

Demographic Factors	Chi-Square Value	df	Asymp. Sig. (2-sided)
Gender* Acceptance of FF	2.976	4	.032
Age* Acceptance of FF	7.54	12	.029
Income Level* Acceptance of FF	3.52	12	0.0016
Occupation* Acceptance of FF	4.37	16	0.034

Interpretation:-From the above tables it has been observed that respondents demographic factor and respondents acceptance level were tested within each other. Chi-square test was used to analyse the hypothesis. With 95% confidence level, 5% significance level and respective degree of freedom chi-square test applied. From the test the result for Demographic factors were observed as follows. From the Gender male respondent’s acceptance observed more than femal. But this may observed by chance as female respondents were less in number. But in Age factor the respondents having moddle age i.e. 35 or more than 35 were observed with greater acceptance level as compare to other. In income factor, respondents having income below 1 lakh were not very much interested in functional food as compare to other strata of income. In occupation also Salaried and Businessman shown good acceptance of functional food as compare to farmer or students.

P-Value of all the factors i.e. Gender (0.032), Age(0.029), Income (0.0016) and Occupation (0.034) which were less than 0.05. Hence all the values support the alternative hypothesis. Hence Hypothesis 1 i.e. **H1: “Consumers demographic profile impacts on acceptance of functional foods in Pune city”** is accepted.

HYPOTHESIS-II

H2: “Taste of the product and health claim affects the decision of the buying functional food”

Test:- Chi-square Test and Cross Tabulation

	Taste of Functional food impacts on buying decision of Functional Foods					Health Claim in Functional foods impacts on buying decision of Functional Foods				
	Fully Agree	Agree	Partially Agree	Disagree	Fully Disagree	Fully Agree	Agree	Partially Agree	Disagree	Fully Disagree
In future i will use as well recommend the functional foods to others										
Yes I will	67	31	1	7	1	94	10	0	2	1
Depends on Situation	17	3	0	5	1	9	15	0	2	0
No i wont	3	2	1	0	1	3	2	0	1	1

Demographic Factors	Chi-Square Value	df	Asymp. Sig. (2-sided)
Buying Behaviour*Taste	16.51	8	.023
Buying Behaviour*Health Claim	14.73	8	.027

Interpretation:

From the above tables, taste of the product and Health Claim affects on buying decision of functional foods. Chi-square test was applied to test the hypothesis separately for both the factors. 95% of confidence level and 5% of significance level was considered. Degree of freedom for both the factors was 8. P-value for Taste of the product and buying decision was 0.023 and p-value for Health claim and buying behaviour was 0.027 was observed. Both the P-Value was less than 0.05. Hence these values support the alternative hypothesis. Therefore Hypothesis 2 i.e. **H₂: “Taste of the product and health claim affects the decision of the buying functional food”** is accepted.

Findings & Suggestion:-

Collected data was analysed with SPSS software and various statistical tools were used to do the analysis. Hypotheses were tested and from the analysis and hypothesis testing following observations were made.

Findings:

In the current study Pune city was considered as geographical scope. Majority of male respondents observed as compare to female respondents. In the age group middle age respondents responded more. Majority of the respondents were from the middle income level having income between 1 to 3 lakhs. Salaried respondents were observed more in number. Most of respondents were aware with the advantages of functional foods like it provides healthy life, low cholesterol, and reduces the chronic diseases. Only 32 of the respondents observed as regular user of the product though larger part of the population was aware the benefits of functional foods. That means acceptance level was observed low. Fats reducing and sugar reducing foods were tried by the customer. From the analysis it observed that there were various medium through which respondents get aware about the functional foods. Doctors' advice, TV Advertisements, Social media friends/relatives reference, newspaper advertisements were observed the influencing medium for functional foods. Health claim, experience, Food category and taste of the food impacts more on the buying decision of the functional food.

From the hypothesis it has been observed that all the demographic factors had the impact on buying decision of the functional foods. As well as health claims and product taste had effect on buying decision of the functional foods.

Suggestions:-

Respondents were aware about the functional food concept but that awareness was not observed in actual trying of the functional food. So the companies should reach the target market by effective promotional techniques. As well as from the analysis it has been observed that maximum middle age respondents were regular user. So in promotion they should promote the products for young generation too.

Conclusion:-

Study reveals the there were differences about the functional food preferences observed amongst demographic factors like Age, Gender, Income, Occupation and buying behaviour of respondents. Study suggest that though it has been marketed with focussing on particular customer group but still companies should bring more variety of products and promote it for more target customer so its scope can be increased. Customers were observed giving more attention to Health claims and taste of the product so the companies should claim and provide whatever they promised and should bring tasty product so it can attract larger segments of population.

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