Factors Affecting the Purchase of Staple Goods: An Empirical Study of Edible Oil Purchase in Tripura

*** Manish Das***

Abstract

Edible oil is the most important type of cooking medium in India and Tripura is no exception. The present paper is an attempt to find out the underlying factors that are actively considered by the consumers in Tripura while purchasing edible oil. The paper also seeks to find out whether there is any significant difference in the selection of the underlying factors by the husband and the wife of the same family. The paper concludes that Visible Brand, Healthy Brand, Brand Communication, Packaging Design, Price of the Oil, and Taste of the oil were the most important underlying factors considered by the consumers while purchasing edible oil. This paper also concludes that there is no significant difference among the selection of variables while purchasing edible oil by the husband and the wife of the same family.

Keywords: **factor analysis, wilcoxon signed-rank test, visible brand, healthy brand, brand communication, packaging design, price of the oil, taste of the oil**

Historically, India is one of the major importers of edible oil, with almost 30- 40% being imported since 1980. The Government of India established Technology Mission on Oilseeds and Pulses (TOMP) in the year 1986 for enhancing the production of oilseeds and pulses. The demand for edible oil in India has shown a steady growth at a CAGR of 4.3% in the period from 2001-2011. India approximately accounts for 10.2% of the global edible oil consumption, with 7% of oilseeds production, 5% of global edible oil production, and 13.6% of edible oil import for the oil year (OY) 2009-2010. India's per-capita consumption of edible oil has grown from a mere 4 kg in 1970s to 10.2 kg in late 1990 to approximately 14 kg in the year 2010. The world average of per-capita consumption of edible oil is around 24kg (including consumption of bio-energy), which is way above the Indian consumption. Thus, in India, there is a great opportunity for edible oil producers. A study conducted by Business World (2012) on spending on cooking oil and vanaspati revealed that both have witnessed a decrease in monthly consumption expenditure from 2008-2010. Proportion of population spending on cooking oil has remained approximately the same over years, whereas the spending on vanaspati has witnessed a significant decline. The Table 1 shows the expenditure per household per month (in ₹) for cooking oil and vanaspati. The Table 1 represents the expenditure per household per month regarding the spending on cooking oil and vanaspati by the consumers in India. The Table 2 represents the expenditure by Indian consumers in the income segments less and above ₹10, 000/- per month for cooking oil and vanaspati.

Table 1: Expenditure per Household per month (Data in ₹ per thousand per month)

Spending on	2007	2008	2010
Cooking Oil	233	330	292
Vanaspati	46	82	66

Source: IMRB wallet monitor study

Table 2: Expenditure by segments having income below and above ₹ 10,000 per month on cooking oil (Data in ₹ per household per month)

Expenditure on Cooking Oil	2007	2008	2010
Household income less than 10,000 pm	215	302	265
Household income more than 10,000 pm	285	361	311

Source: IMRB wallet monitor study

**Assistant Professor,* Department of Business Management, Tripura University, Surjyamaninager, West Tripura - 799022.
E-mail : das_maddy_23@yahoo.com

One of the most important characteristics in Indian edible oil consumption, apart from price, is regional preference based on taste and availability. In the Northern and the Central region of India, due to local availability of soyabean, soyabean oil is the most used edible oil. In East, North-East, and Northern part of India, mustard oil is the most preferred edible oil because of its use in local cuisine. In the Southern part of India, palm oil is the most used edible oil because of the warmer climate and easy availability from South-East Asia. Oils like rice bran and olive oil are also gaining popularity due to their superior health properties. In terms of volumes, palm oil, soyabean oil, and mustard oil are the three main edible oils in India. These three oils altogether account for 75% of the total edible oil demand in India. Mustard oil is almost entirely produced in India, whereas 40-45% of the soyabean oil needs to be imported, and palm oil is imported to the extent of 100% .

Objectives of the Study

This research paper has two specified objectives, which are as follows :

1) Identification and categorization of probable factors that are important while purchasing edible oil by the consumers.

2) Is there any significant difference among either spouse - the husband or the wife - in a family in selecting variables for purchasing edible oil?

Hypothesis of the Study

For the second objective, the formulated hypothesis is :

❖ **H1: There is no significant difference among the husband's and wife's criteria while selecting variables responsible for purchasing edible oil.**

Literature Review

Kotler et al. (2009) in their book of marketing management mentioned that low involvement purchases enjoy less significant brand differences, and they are like commodities. In maximum number of cases, the same brands are purchased out of habit and not because of strong brand loyalty. Marketers have four possible alternatives to convert a low involvement product into a high involvement product. First: linking the product with some involving issues, second: linking the product with an involving situation, third: through advertising the trigger emotions related to personal values and ego defense and fourth: adding an important feature. Since peripheral route works in case of low involvement products, marketers need to provide positive cues like ad repetition, visible sponsorship, PR activity, a beloved celebrity endorser, attractive packaging, and an appealing promotion to justify consumer's brand choice. Again, Kujala & Johnson (1993) in their article mentioned that price information learning for non-durables are relatively adaptive in nature. Demand for low involvement products are relatively price inelastic and consumers are less likely to search different stores to locate such a product.

In a study, Afroj (2012) also mentioned some of the available literature on low involvement purchases, which is as follows: Zeithmal (1982, 1988) opined that in most purchasing decisions, the consumer tries to 'get the best value for money' i.e. a calculation of price and value orientation. Crier and Ross (1997) said that interest levels towards purchases will be more by the consumer if the perceived value for them is more. Value orientation according to them is "the consumer tends to select the lowest price alternatives when the options in the choice set are perceived to have the same level of benefit. Consumers becoming more price conscious does not mean that they always go for the lowest price, rather, they will seek an affordable price range among their acceptable quality range." Social and economic position of consumers also impacts their purchase choice. Laison and Robert (1999, pp. 100-116) opined that both household and business consumers considered price, quality, and convenient location as the most influencing factor while taking a purchase decision. Afroj (2012) opined that the lower middle class people considered price as the most important factor over others while purchasing a particular product. Except price, they sometimes look for the best quality within a pre-determined price level. They are not brand loyal, and core benefit and quality are synonymous for them.

Regarding the health aspects of edible oil, Sarwade (2011) mentioned some literature, which is as follows: Sulochana (2008) in her article opined that the causes for health problems must be looked into by the consumers, and in

India, 60% of the health-related problems arise due to non - usage of quality edible oil by the consumers in their diet. Reddy (2009) recommended the use of refined edible oil to prevent unwanted fat in the human body as heavy fat is the main reason of weight related and stomach ailments. Packed edible oil over loose edible oil was recommended by Donney (2007). Regular users of edible oil must avoid fatty edible oil in non-vegetarian as well as vegetarian food, as opined by Gilani (2009). Sarwade (2011) in his study concluded that homemakers are the decision makers for choosing the brand and type of edible oil to be purchased, and health consciousness plays a great deal of importance in making the purchase decision, and the higher-income group prefers branded edible oil than loose oil, and majority preferred 1 ltr and 5 ltr package size.

Research Methodology

The complete process is structured under two sequential steps, which are as follows:

- ❖ Identification of probable variables that are important while purchasing edible oil.
- ❖ Reduction of the identified variables into fewer suitable factors.

For the purpose of identification of probable variables, an initial survey was carried out. The selected respondents for the purpose of the survey were people from diverse strata like edible oil wholesalers, retailers/shopkeepers, doctors, marketing experts (marketing faculties, executives) and homemakers. Fifteen wholesalers of edible oil, 20 marketing experts, 10 doctors, 45 shopkeepers and 56 household respondents (both male and female) were considered for the present study. The survey was carried out with one question, i.e. 'mention at least seven variables that are most important while purchasing edible oil (according to you)'. A total of 21 variables were obtained, and from that, 14 most important variables (according to their repetition) were taken into consideration for the final survey. The remaining seven variables were dropped because of very low repetition. The most repeated variables were "Retail price," "Taste," "Package size," "Fat free," "Cholesterol free," "AG Mark," "Brand awareness," "Container shape," "Word-of-Mouth Communication," "Goodwill of the brand," "Product Advertisement," "Product Visibility," "Brand Name," and "Health".

The second phase of the survey was carried out with the help of a five-point Likert scale to find out the importance of the variables finalized after the initial survey. The points in the Likert Scale were 1 (*not at all important*) to 5 (*most important*). In the second phase, a total of 159 respondents agreed to participate in the survey. The respondents were from both genders i.e. male and female. Among 159 respondents, 68 respondents were spouses, who were approached separately, so that they could not discuss their responses. This approach was adopted to fulfil the second objective of the research work, i.e., to measure whether there was any significant difference in the selection of the variables that affected the choice of purchase of edible oil by either the husband or the wife. Therefore, for the second objective, the sample size was 34 husbands and 34 wives.

In a nutshell, the sample size was as follows:

- ❖ **For the Initial Survey:** Wholesalers: 15, Marketing Experts: 20, Doctors: 10, Shopkeepers: 45, and Homemakers : 56.
- ❖ **For the Final Survey:** Respondents: 159 (both male and female) among which there were 34 pairs of husbands and wives.

❖ **Sampling Procedure :** A purely random sampling procedure was applied for the purpose of selecting the respondents for both the two stages of the survey.

❖ **Data Collection Tools :** For the purpose of collecting the data, two separate questionnaires were designed. One for the initial survey (pilot survey) and the other for the final survey. For the first phase, the questionnaire contained one question as follows: "Mention at least seven variables that - according to you - are important for the purpose of purchasing edible oil". The second questionnaire had one question, which was as follows - "Rate the importance of the following variables in the given scale (5 point Likert scale) for the purpose of purchasing edible oil" (14 selected variables were shown).

❖ **Data Analysis Tools :** For the purpose of analyzing the data, Factor Analysis (using SPSS 17.0) and Wilcoxon Signed-Ranks Test for Matched Pairs were taken into consideration. Wilcoxon Signed-Ranks Test was carried out for the purpose of fulfilling the second objective.

❖ **Limitations of the Study :** The present research study could have been carried out with a much larger sample size to observe whether any difference occurs in initial factors and also in the final categorization. A completely urban setting of the respondents can throw up different results for the research. Again, various studies and expert opinions confirm that a scale is very reliable if the Cronbach's alpha value is more than .70. But this study shows a scale reliability which is less than .70. Though the number of variables considered can be one of the reasons for that; still, this aspect is a major limitation of the present study.

Results and Discussion

❖ **For Objective 1:** Data analysis for categorizing the 14 variables into suitable factors was carried out by using SPSS 17. The method that was taken into consideration is principal component analysis with correlation matrix. The

Table 3: Categorizing the Variables under Suitable Factors

Factor	Variables	Factor Name
1	Brand Awareness	
	Brand Name	
	Product Visibility	Visible Brand
2	Fat Free	
	Cholesterol Free	
	ISI/AG Mark	Healthy Brand
3	Product Advertisement	
	Word-of-Mouth Communication	
	Goodwill of the Brand	Brand Communication
4	Package Size	Packaging Design
	Container Shape	
5	Retail Price	Price of the Product
6	Taste	Taste of the Product
Source: Primary Data		

Table 4: Component Matrix Score after Principal Component Analysis

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Brand Awareness	.746					
Brand Name	.617					
Product Visibility	.579					
Fat Free		.748				
Cholesterol Free		.730				
AG Mark		.619				
Product Advertisement			.705			
Word-of-Mouth Communication			.640			
Goodwill of the Brand			.601			
Health						
Package Size				.838		
Container Shape				.632		
Retail Price					.884	
Taste						.818
Source: Primary Data						

Table 3 shows the categorization of the variables into six appropriate factors based on the correlation among the variables obtained through principal component analysis.

The Kaiser-Mayer-Olkin (KMO) measure of sampling adequacy was .552 and Bartlett's Test of Sphericity gives an approximate chi-square value of 259.336 with 91 degrees of freedom. Factors were selected on the basis of eigen values more than one, and it categorized the variables into six factors, and the total cumulative variance explained by the six factors were 66.866%. The Table 4 represents the component matrix score after principal component analysis for all the variables. Varimax rotation with kaiser normalization was used, and coefficients below .40 were suppressed from the coefficient display format. The scale reliability score (Cronbach's Alpha) carried out for the factors "Visible Brand," "Healthy Brand," "Brand Communication," and "Packaging Design" was .528, .562, .461, and .532 respectively.

Table 5: Table for Wilcoxon Signed-Ranks Test

Family	Husband's Score (X1)	Wife's Score (X2)	D= X1- X2	|D|	Rank of Absolute Difference |D|	Rank of Positive Difference	Rank of Negative Difference
1	67	46	21	21	24	24	-
2	61	60	1	1	1.5	1.5	-
3	63	65	-2	2	4	-	4
4	66	66	0	-	-	-	-
5	64	68	-4	4	6.5	-	6.5
6	60	51	9	9	19	19	-
7	52	61	-9	9	19	-	19
8	55	55	0	-	-	-	-
9	58	64	-6	6	12	-	12
10	38	64	-26	26	25	-	25
11	63	64	-1	1	1.5	-	1.5
12	53	45	8	8	16	16	-
13	53	60	-7	7	14	-	14
14	54	52	2	2	4	4	-
15	52	57	-5	5	9	-	9
16	61	57	4	4	6.5	6.5	-
17	58	43	15	15	23	23	-
18	61	56	5	5	9	9	-
19	63	58	5	5	9	9	-
20	63	55	8	8	16	16	-
21	48	54	-6	6	12	-	12
22	61	52	9	9	19	19	-
23	46	46	0	-	-	-	-
24	55	55	0	-	-	-	-
25	37	37	0	-	-	-	-
26	58	20	38	38	26	26	-
27	62	56	6	6	12	12	-
28	47	60	-13	13	22	-	22
29	51	51	0	-	-	-	-
30	61	53	8	8	16	16	-
31	49	49	0	-	-	-	-
32	63	61	2	2	4	4	-
33	62	62	0	-	-	-	-
34	62	52	10	10	21	21	-

Source: Primary Data

❖ **Objective 2:** For the second objective, i.e. "Is there any significant difference among the spouses' (from the same family) selection of the most important factors while purchasing edible oil", the Wilcoxon Signed Rank Test for matched pairs was carried out. The individual total score (maximum 70) of the spouses (husband and wife) was calculated. The difference of the score and the absolute difference of the score were also calculated. Then, the absolute differences were rank ordered from the lowest to the highest. Eight absolute differences were dropped as it was zero (0).For the purpose of ranking, if the absolute rank is equal, the mean rank is allotted. The summation of the rank positive and the rank negative differences was 216 and 124. Since, Wilcoxon 'T' is the smaller value of the rank positive and rank negative summation, hence, 124 was selected. The Table 5 represents the Wilcoxon Signed-Ranks Test scores for paired comparison between the husband and the wife of the same family to fulfill the second objective. Since the selected null hypothesis entails the two tailed test, the Wilcoxon 'T' table value for two- tailed test with .05 level of significance for N=26 is 98. Since the calculated 'T' value of 124 is more than the table value of 98, the null hypothesis of no difference is not rejected. Hence, the selection of the factors - by each of the respondent husband and wife - while purchasing edible oil did not have any significant difference.

Conclusion

For several decades, edible oil has been one of the key cooking ingredients for the Indian kitchen. With increased level of consumer income and awareness regarding healthy lifestyles, concern for healthy cooking medium is on the rise. Though the price of the cooking oil is still the most important determining factor in choosing a brand, still, consumers are looking at the available healthy cooking oil alternatives in the pre-determined price range.

This study also confirms that "Brand Visibility," "Brand Communication," "Taste of Oil," and "Packaging Design" also played an important role along with price and health content of the edible oil in influencing the purchase decision of edible oil by the consumers in Tripura. The importance of container shape as an important variable in the purchase of edible oil also confirms the reusability of the container for storage of other ingredients after the oil is over. Selection of the variables while purchasing edible oil did not have any significant difference when the brand of oil to be purchased was decided upon by the husband or by the wife in the family. This ensures that there was no dominance of either spouse - the husband or wife - in the decision making regarding which type of edible oil will be purchased for use in the family kitchen.

This study also reveals that with an increase in awareness regarding healthy lifestyle options, and regarding the various ill consequences of unhealthy foods and cooking medium in the form of heart disease and obesity, consumers in the rural areas are also gradually upgrading their cooking oil. Though price is still the determining factor, the price perception of the cooking oil as a healthy cooking medium also has a significant importance for the rural consumers in making the purchase decision. It means that brands that are positioned in health planks that are still not able to create an impact in rural areas like Tripura, they can adopt the concept of smaller pack size, which is already a success formula for various luxury brands in the rural markets of India.

This study has a great significance for the edible oil marketing organizations. This study tries to provide a holistic picture of the factors that are considered as vital by the consumers, especially in a rural setting while purchasing edible oil. This study confirms that healthy edible oil demand is on the rise not only in urban India, but also in rural India. Healthy oil brands can tap the rural consumers also if they can bring their offerings in the affordable price range. This study can immensely help the edible oil marketing companies in designing their communication strategy, message content, advertising appeal etc. This study also shows that rural consumers in India have a significant similarity in their aspiration levels along with their urban counterparts in terms of using healthy cooking oils. This study also confirms that there was no significant difference among the husbands and wives of the same family in selection of factors while purchasing edible oil, which means that the purchase decision was backed by some common factors that are well accepted by both the husband and the wife of the same family. Application of the research work in other parts of the country is one of the scopes associated with this work.

References

Afroj, S. (2012). "Factors Considered by Lower Middle Class People of Khulna City, Bangladesh on Buying Some Selective Consumer Products." *Global Journal of Management and Business Research, 12* (5), pp. 1-10, Retrieved from https://globaljournals.org/GJMBR_Volume12/1-Factors-Considered-By-Lower-Middle.Pdf

ICRA Rating Feature (2011). *"Indian Edible Oils Industry: Key Trends & Credit Implications."* Retrieved from www.icra.in/Files/ticker/Indian_Edible_Oils_-note11072011pdf

Kotler, K. et al. (2009). *"Marketing Management: A South Asian Perspective."* 13th Edition, New Delhi, India, Pearson Prentice Hall, p.168.

Kujala, J. T., & Johnson, M. D. (1993). "Knowledge and Search Behaviour for Habitual Low Involvement Food Purchases." *Journal of Economic Psychology, 14* (2), pp. 249-265.

Kulshreshth, S., & Datta, P. (Eds.) (2012). *"The Marketing White Book 2012-13: One-Stop Guide for Marketers."* 8th Edition, Business World, ABP Pvt. Ltd., New Delhi, pp.189-191.

Ramesh, P., & Murughan, M., (2012). *"Edible oil Consumption Pattern in India."* Retrieved from www.ameft.com

Sarwade, W.K. (2011). *"Brand Preferences and Consumption Pattern of Edible Oils in Maharashtra State."* International Conference on Economics and Finance Research, IPEDR Vol. 4 , pp. 330-334.