
**Important parameters of refrigerators considered during their purchase:
An exploratory study in Guwahati city in India**

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ABSTRACT

Every company or business firm in the present era of intense competition focuses in higher profitability, growth and sustenance. Companies selling refrigerators can obtain them through proper emphasis of the essential parameters (of refrigerators) usually considered by consumers during their purchase. Such endeavour requires appropriate focus on different characteristics of consumers like gender, age group, marital status, educational qualification, monthly income and occupation. This study was conducted to find out the importance of all these aspects as well as the overall importance of refrigerators among consumers. It was carried out through survey of 1000 users (consumers) of refrigerators. This study has revealed that refrigerators are highly important for the people because of the various important features and functions performed by them. Besides, it was also noticed that different parameters like price, cooling capability, anti germ capability, storage capacity, modern features, absence of bad odour, overall quality, user friendliness, warranty, after sales service, customer care, free home delivery, ease of maintenance (for users) as well as other parameters are considered while purchasing refrigerators. Almost all these parameters with the exception of storage capacity, overall quality, warranty, after sales service and ease of maintenance (for users) have influence on their perception regarding overall importance of refrigerators. Besides, it was also noticed that age group, marital status, educational qualification, monthly income and occupation of consumers have influence on their opinion regarding overall importance of refrigerators. However, it has been found from the survey that all companies selling refrigerators should emphasize on all these issues to improve their sales.

Keywords: Refrigerator, Price, Cooling capability, Anti germ capability, Storage capacity, Warranty.

1. Introduction

Consumer buying behavior is influenced by various factors. It varies from product to product. Therefore, it is important for a company to find out the factors which influences consumer buying behavior (Grönroos, 1989; Hawkins, Best, Coney & Mookerjee, 2009; Kotler, 2005; Kotler, Armstrong, Agnihotri & Haque, 2010; Panda, 2011; Schiffman & Kanuk, 2007; Stanton, Etzel & Walker, 1994; Trustrum, 1989; Yadin, 2006). It is to be noted that in the present economic scenario, there is cut throat competition among companies selling refrigerators in Guwahati city in northeastern India. Such companies can improve and maintain sales of refrigerators through a proper analysis of its' important parameters normally

considered by consumers during their purchase. This also requires emphasis on various consumer characteristics like age, occupation etc. Proper focus on these aspects can enable these companies to pull more consumers thereby improving their profitability, sustenance and growth. This study was conducted to find out the importance of all these factors as well as the overall importance of refrigerators among consumers.

2. Review of literature

A refrigerator is a “cooling apparatus comprising of a thermally insulated compartment and a heat pump to transfer heat from it to the external environment (i.e., the room in which it is located), cooling the contents to a temperature” below ambient (Arora, 2006; Domkundwar, Kothandaraman & Domkundwar, 1997). It is used to reduce the rate of spoilage of foodstuffs by decreasing the reproduction rate of bacteria and other germs. A refrigerator maintains a temperature a few degrees above the freezing point of water (Vieira, 1996).

Consumer Behavior is the study of “how individuals, groups, and organizations select, buy, use, and dispose goods, services, ideas, or experiences to satisfy their needs and wants”. A consumer’s buying behavior is influenced by cultural, social and personal factors (Grönroos, 1989; Hawkins et. al., 2009; Kotler, 2005; Kotler et. al., 2010; Panda, 2011; Schiffman & Kanuk, 2007; Stanton et. al., 1994; Trustrum, 1989; Yadin, 2006). This fact has also been supported by Lovelock, Wirtz and Chatterjee (2008) and Zeithaml, Bitner, Gremler and Pandit (2008). Marketers must fully understand both the theory and reality of consumer behavior.

Engel, Kollat and Blackwell (1968) have stated through a model that consumer buying process consists of the following stages:

- i. Problem recognition
- ii. Information search
- iii. Alternative evaluation (evaluation of alternatives)
- iv. Choice (wherein a purchase decision occurs)
- v. Outcome (post-purchase behavior)

Since refrigerator is a “high involvement product”, therefore, a consumer goes through all the above five stages in the consumer buying process (Hawkins et. al., 2009; Kotler, 2005; Kotler et. al., 2010; Panda, 2011; Schiffman & Kanuk, 2007; Stanton et. al., 1994; *obtained from the survey*).

3. Research Objectives

The objectives of this study are as follows:

- i. To determine the importance of different parameters considered by consumers while purchasing refrigerators.
- ii. To determine the overall importance of refrigerators.
- iii. To identify the presence of effect of the above parameters considered while buying refrigerators on their opinion regarding its’ overall importance.

- iv. To identify the presence of effect of different characteristics of consumers (like gender, age group, marital status, educational qualification, monthly income and occupation) on their perception regarding overall importance of refrigerators.

4. Research methodology

Initially, a study was conducted to find out the factors considered by consumers while purchasing refrigerators. This also included a pilot survey of 100 respondent consumers (of refrigerators) in Guwahati city in northeastern India. In addition, this pilot survey also included observation and open probing of some of the employees of the companies selling refrigerators. Based on this effort, it was found that different consumer characteristics like gender, age group, marital status, educational qualification, monthly income and occupation often play an important role while purchasing refrigerators (Arnold, Reynolds, Ponder & Lueg, 2005; Berman, 2005; Burns, Barrett, Evans & Johansson, 1999; Burns, Evans, Johansson & Barrett, 2000; Grönroos, 1989; Hawkins et. al., 2009; Kotler, 2005; Kotler et. al., 2010; Panda, 2011; Schiffman & Kanuk, 2007; Stanton et. al., 1994; Vieira, 1996; *obtained from the survey*). This pilot survey also revealed that following are the main parameters considered by consumers while purchasing refrigerators (Arnold, Reynolds, Ponder & Lueg, 2005; Berman, 2005; Burns, Barrett, Evans & Johansson, 1999; Burns, Evans, Johansson & Barrett, 2000; Grönroos, 1989; Hawkins et. al., 2009; Kotler, 2005; Kotler et. al., 2010; Panda, 2011; Schiffman & Kanuk, 2007; Stanton et. al., 1994; Vieira, 1996; *obtained from the survey*):

1. Price
2. Cooling capability
3. Anti germ capability
4. Storage capacity
5. Modern features
6. Absence of bad odour
7. Overall quality
8. User friendliness
9. Warranty
10. After sales service
11. Customer care
12. Free home delivery
13. Ease of maintenance (for users)

After selection of the common and significant factors considered by consumers while purchasing refrigerators, the second stage of the study was commenced to attain its stated objectives. It was conducted through survey of 1000 users (consumers) of refrigerators in Guwahati city in northeastern India within a time period of one year (from 1st April, 2010 to 31st May, 2011). These respondents were selected through convenience and judgement sampling. The required data for this study was collected through a survey with the help of a structured questionnaire for the respondents. Secondary data for this study were obtained from books, journals etc. The study attempted to measure respondents' viewpoint on the level of importance for these thirteen (13) parameters considered while purchasing refrigerators.

This was followed by the determination of the respondents' perception regarding the overall importance of refrigerators. Thereafter, preferences of the respondents towards these 13 parameters considered while purchasing refrigerators were tested with their responses on overall importance (of refrigerators). This was done using One-way Analysis of Variance (ANOVA) at a significance level of 5% ($\alpha=0.05$) with a purpose to confirm if preferences towards these 13 parameters varies significantly with respect to their perception on overall importance of refrigerators. Next, the characteristics of the respondents (like gender, age group, marital status, educational qualification, monthly income and occupation) were tested with their responses on the overall importance of refrigerators. This was also done using One-way Analysis of Variance (ANOVA) at a significance level of 5% ($\alpha=0.05$) with a purpose to verify if respondents' characteristics varies significantly with respect to their views on overall importance of refrigerators. In this manner, this survey attempted to arrive at the objectives of this study as stated earlier. This study is, therefore, exploratory in nature (Beri, 1994; Chawla & Sondhi, 2011; Cooper & Schindler, 2006; Garrett, 2003; Tull & Hawkins, 2000).

Hypothesis Testing:

Hypothesis-1: There is significant difference between the means of consumers' preferences across the parameters considered while purchasing refrigerators across their responses to if they (refrigerators) ever have overall importance.

This study involved testing of the hypothesis that there is significant difference between the means of consumers' preferences across the parameters considered while purchasing refrigerators across their responses to if they (refrigerators) ever have overall importance. This can be an indicator of the influence of these factors on their perception on overall importance of refrigerators. This hypothesis testing was done using One-Way Analysis of Variance (ANOVA) at a significance level of 5% ($\alpha=0.05$). As such, the following null and alternate hypotheses have been formed:

Null hypothesis (H^{α}_0): There is equality of means of consumers' preferences across the parameters considered while purchasing refrigerators across their responses to if they (refrigerators) ever have overall importance.

Symbolically,

$$\mu^{\alpha}_{\text{HIGH IMPORTANCE}} = \mu^{\alpha}_{\text{MODERATE IMPORTANCE}} = \mu^{\alpha}_{\text{AVERAGE IMPORTANCE}} = \mu^{\alpha}_{\text{BELOW AVERAGE IMPORTANCE}} = \mu^{\alpha}_{\text{NO IMPORTANCE AT ALL}}$$

Where,

$\mu^{\alpha}_{\text{HIGH IMPORTANCE}}$ represents the mean score against parameters considered by consumers while purchasing refrigerators across their responses to if they (refrigerators) have high overall importance.

$\mu^{\alpha}_{\text{MODERATE IMPORTANCE}}$ represents the mean score against parameters considered by consumers while purchasing refrigerators across their responses to if they (refrigerators) have moderate overall importance.

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$\mu^{\alpha}_{\text{AVERAGE IMPORTANCE}}$ represents the mean score against parameters considered by consumers while purchasing refrigerators across their responses to if they (refrigerators) have average overall importance.

$\mu^{\alpha}_{\text{BELOW AVERAGE IMPORTANCE}}$ represents the mean score against parameters considered by consumers while purchasing refrigerators across their responses to if they (refrigerators) have below average overall importance.

$\mu^{\alpha}_{\text{NO IMPORTANCE AT ALL}}$ represents the mean score against parameters considered by consumers while purchasing refrigerators across their responses to if they (refrigerators) have no overall importance at all.

Alternate hypothesis (H^{α}_1): There is significant difference between the means of consumers' preferences across the parameters considered while purchasing refrigerators across their responses to if they (refrigerators) ever have overall importance.

Symbolically,

$$\mu^{\alpha}_{\text{HIGH IMPORTANCE}} \neq \mu^{\alpha}_{\text{MODERATE IMPORTANCE}} \neq \mu^{\alpha}_{\text{AVERAGE IMPORTANCE}} \neq \mu^{\alpha}_{\text{BELOW AVERAGE IMPORTANCE}} \neq \mu^{\alpha}_{\text{NO IMPORTANCE AT ALL}}$$

ALL

Hypothesis-2: There is significant difference between the means of consumers' characteristics across their responses to if refrigerators ever have overall importance.

This study involved testing of the hypothesis that there is significant difference between the means of consumers' characteristics like gender, age group, marital status, educational qualification, monthly income and occupation across their responses to if refrigerators ever have overall importance. This can be an indicator of the influence of these characteristics on their opinion regarding overall importance of refrigerators. This hypothesis testing was done using One-Way Analysis of Variance (ANOVA) at a significance level of 5% ($\alpha=0.05$). As such, the following null and alternate hypotheses have been formed:

Null hypothesis (H^{β}_0): There is equality of means of consumers' characteristics across their responses to if refrigerators ever have overall importance.

Symbolically,

$$\mu^{\beta}_{\text{HIGH IMPORTANCE}} = \mu^{\beta}_{\text{MODERATE IMPORTANCE}} = \mu^{\beta}_{\text{AVERAGE IMPORTANCE}} = \mu^{\beta}_{\text{BELOW AVERAGE IMPORTANCE}} = \mu^{\beta}_{\text{NO IMPORTANCE AT ALL}}$$

ALL

Where,

$\mu^{\beta}_{\text{HIGH IMPORTANCE}}$ represents the mean score against characteristics of consumers across their responses to if refrigerators have high overall importance.

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$\mu^{\beta}_{\text{MODERATE IMPORTANCE}}$ represents the mean score against characteristics of consumers across their responses to if refrigerators have moderate overall importance.

$\mu^{\beta}_{\text{AVERAGE IMPORTANCE}}$ represents the mean score against characteristics of consumers across their responses to if refrigerators have average overall importance.

$\mu^{\beta}_{\text{BELOW AVERAGE IMPORTANCE}}$ represents the mean score against characteristics of consumers across their responses to if refrigerators have below average overall importance.

$\mu^{\beta}_{\text{NO IMPORTANCE AT ALL}}$ represents the mean score against characteristics of consumers across their responses to if refrigerators have no overall importance at all.

Alternate hypothesis (H^{β}_1): There is significant difference between the means of consumers' characteristics across their responses to if refrigerators ever have overall importance.

Symbolically,

$$\mu^{\beta}_{\text{HIGH IMPORTANCE}} \neq \mu^{\beta}_{\text{MODERATE IMPORTANCE}} \neq \mu^{\beta}_{\text{AVERAGE IMPORTANCE}} \neq \mu^{\beta}_{\text{BELOW AVERAGE IMPORTANCE}} \neq \mu^{\beta}_{\text{NO IMPORTANCE AT ALL}}$$

ALL

5. Analysis and interpretation

As per the methodology, data for this study was collected. Thereafter, data was analyzed for determining the stated objectives of this study. The following Table 1 shows the characteristics of the respondents in this study. It is noticed that majority of the respondents were males (69.4%), between 18 to 30 years in age (51.4%), married (73.4%), graduate (54%), earning between Rs.25,001 to Rs.35,000 per month (44.4%) and either in service (36.6%) or operating any business firm (36.6%).

Table 1: Characteristics of the respondents

Variables	Frequency	Percentage (%)
Gender (n=1000)		
Male	694	69.40
Female	306	30.60
Age group (n=1000)		
Below 18 years	23	2.30
Between 18 to 30 years	514	51.40
Between 31 to 45 years	327	32.70
Between 46 to 60 years	105	10.50
Above 60 years	31	3.10
Marital Status (n=1000)		
Married	734	73.40

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Single	266	26.60
Educational qualification (n=1000)		
Below 10th standard	81	8.10
Passed 10th standard	113	11.30
Passed 12th standard	108	10.80
Graduate	540	54.00
Post Graduate	158	15.80
Monthly Income (n=1000)		
Below Rs.15,000 per month	33	3.30
Between Rs.15,000 to Rs.25,000 per month	286	28.60
Between Rs.25,001 to Rs.35,000 per month	444	44.40
Between Rs.35,001 to Rs.50,000 per month	210	21.00
Above Rs.50,000 per month	27	2.70
Occupation (n=1000)		
Service	366	36.60
Business	366	36.60
Student	38	3.80
Others	230	23.00

The following Table 2 and Table 3 shows the count of scores of respondents' opinion regarding the level of importance of different parameters considered while purchasing refrigerators.

Table 2: Importance of different parameters while purchasing refrigerators

Parameters considered by consumers while purchasing refrigerators	High importance	Moderate importance	Average importance	Below average importance	No importance at all
Price	469	423	78	30	0
Cooling capability	767	229	1	2	1
Anti germ capability	604	312	57	25	2
Storage capacity	412	382	199	6	1
Modern features	218	397	327	34	24
Absence of bad odour	170	369	282	105	74
Overall quality	129	313	157	347	54
User friendliness	119	147	424	250	60
Warranty	448	450	54	48	0
After sales service	264	281	203	204	48
Customer care	200	323	282	169	26
Free home delivery	5	197	350	230	218
Ease of maintenance (for users)	596	198	87	85	34
Other parameters	0	2	23	0	0

Table 3: Total respondents and non responses in case of importance of different parameters while purchasing refrigerators

Parameters considered by consumers while purchasing refrigerators	Total respondents	Non responses
Price	1000	0
Cooling capability	1000	0
Anti germ capability	1000	0
Storage capacity	1000	0
Modern features	1000	0
Absence of bad odour	1000	0
Overall quality	1000	0
User friendliness	1000	0
Warranty	1000	0
After sales service	1000	0
Customer care	1000	0
Free home delivery	1000	0
Ease of maintenance (for users)	1000	0
Other parameters	25	975

From Table 2 and Table 3, the following findings have been arrived at:

1. It is clear that most respondents have stated that price, cooling capability, anti germ capability, storage capacity and ease of maintenance (for users) are highly important parameters considered while purchasing refrigerators. Therefore, all companies selling refrigerators should highly focus on these parameters to improve their sales with respect to their competitors.
2. It is seen that most respondents have stated that modern features, absence of bad odour, warranty, after sales service and customer care are moderately important parameters considered while purchasing refrigerators. So, all companies selling refrigerators should also emphasize on these parameters to augment their sales ahead of their competitors.
3. It is seen that most respondents have stated that user friendliness, free home delivery and others (other parameters) are parameters of average importance considered while buying refrigerators. However, these parameters should also be emphasized by all companies selling refrigerators to improve their sales ahead of their competitors.
4. It is found that most respondents have stated that overall quality is of below average importance considered while purchasing refrigerators. However, this parameter should also be stressed upon by all companies selling refrigerators to improve their sales with respect to their competitors.

The above findings indicate that refrigerators are indeed important for the human society keeping in view the different features and functions performed by them. For providing further evidence to this fact, the overall importance of refrigerators was also studied in this survey.

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The following Table 4 shows the count of scores of respondents' opinion regarding overall importance of refrigerators.

Table 4: Respondents' opinion regarding overall importance of refrigerators

Overall importance of refrigerators	Frequency	Percentage (%)	Cumulative Percent
Highly important	768	76.80	76.80
Moderately important	228	22.80	99.60
Average importance	2	0.20	99.80
Below average importance	1	0.10	99.90
Not important at all	1	0.10	100.00
Total	1000	100.00	

It is clear from the above Table 4, that most respondents (76.8%) consider refrigerators as a highly important item. This is due to important features and functions performed by refrigerators like cooling capability, anti germ capacity along with the capacity to store food and beverages storage in a safe manner. These features are highly essential for all round safety of human beings including safety from harmful diseases.

To test whether the respondent consumers' reaction against the different parameters considered by them while purchasing refrigerators varies significantly based on its' overall importance, a series of One-way ANOVA was carried out at significance level (α) = 0.05. The results of these tests are reproduced in Table 5.

Table 5: Results of One-Way Analysis of Variance (at $\alpha= 0.05$)

Parameters considered while purchasing refrigerators	df	F	p-value	Presence of SD^a_M
Price	4	14.219	0.000	Present
Cooling capability	4	34427.085	0.000	Present
Anti germ capability	4	14.040	0.000	Present
Storage capacity	4	1.825	0.122	<i>Not present</i>
Modern features	4	9.809	0.000	Present
Absence of bad odour	4	2.567	0.037	Present
Overall quality	4	2.251	0.062	<i>Not present</i>
User friendliness	4	26.844	0.000	Present
Warranty	4	1.162	0.327	<i>Not present</i>
After sales service	4	0.620	0.648	<i>Not present</i>
Customer care	4	35.607	0.000	Present
Free home delivery	4	26.088	0.000	Present
Ease of maintenance (for users)	4	2.256	0.061	<i>Not present</i>
Other parameters	1	21.160	0.000	Present
<i>Note:</i> SD^a_M denotes significant difference between the means of respondents' preferences across the parameters considered while purchasing refrigerators across their responses to if they (refrigerators) ever have overall importance				

According to the fifth column in the above Table 5, the p -value is less than the level of significance (0.05) for the following factors with respect to respondents' perception regarding the overall importance of refrigerators:

1. Price
2. Cooling capability
3. Anti germ capability
4. Modern features
5. Absence of bad odour
6. User friendliness
7. Customer care
8. Free home delivery
9. Other parameters

Thus at $\alpha = 0.05$, the null hypothesis that there is equality of means of respondents' preferences across the parameters considered while purchasing refrigerators based on their responses to if they (refrigerators) ever have overall importance can be rejected. This implies that there is significant difference between the means of respondents' preferences across these parameters considered while purchasing refrigerators based on their perception regarding its' overall importance. For example, the p -value for price is less than the level of significance (0.05). So, the null hypothesis that there is equality of means of respondents' preferences across price while purchasing refrigerators based on their responses to if they (refrigerators) ever have overall importance can be rejected. This implies that there is significant difference between the means of respondents' preferences across price while purchasing refrigerators based on their opinion related to its' overall importance. Therefore, this significant difference between the means of respondents' views across price while buying refrigerators based on their outlook about its' overall importance cannot be attributed to chance (Beri, 1994; Chawla & Sondhi, 2011; Cooper & Schindler, 2006; Garrett, 2003; Tull & Hawkins, 2000). This means that price has effect on their opinion regarding overall importance of refrigerators. Same findings can be noticed in case of the above remaining eight parameters considered while purchasing refrigerators. Therefore, it can be stated that all these parameters have impact on respondents' views on overall importance of refrigerators.

Again, as per the fifth column in the above Table 5, the p -value is more than the level of significance (0.05) for the following factors with respect to respondents' perception regarding the overall importance of refrigerators:

1. Storage capacity
2. Overall quality
3. Warranty
4. After sales service
5. Ease of maintenance (for users)

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At $\alpha = 0.05$, the null hypothesis that there is equality of means of respondents' preferences across these parameters considered while purchasing refrigerators based on their responses to if they (refrigerators) ever have overall importance cannot be rejected. This implies that there is no significant difference between the means of respondents' preferences across these parameters considered while purchasing refrigerators based on their perception regarding its' overall importance. For example, the p -value for storage capacity is more than the level of significance (0.05). So, the null hypothesis that there is equality of means of respondents' preferences of storage capacity across their responses to if refrigerators ever have overall importance cannot be rejected. This implies that there is no significant difference between the means of respondents' preferences across storage capacity while purchasing refrigerators based on their opinion related to its' overall importance. Therefore, the difference between the means of respondents' views across storage capacity while buying refrigerators based on their outlook on its' overall importance can be attributed to chance (Beri, 1994; Chawla & Sondhi, 2011; Cooper & Schindler, 2006; Garrett, 2003; Tull & Hawkins, 2000). This indicates that storage capacity has no effect on respondents' perception regarding overall importance of refrigerators. However, based on the descriptive data in Table 2 as well as from the survey, it is clear that storage capacity is a parameter considered essential while purchasing refrigerators. Besides, it was also observed from open probing of the respondents that it is considered separately from overall importance of refrigerators while purchasing them. Same findings can be noticed in case of overall quality, warranty, after sales service and ease of maintenance (for users) while purchasing refrigerators. In fact, these parameters are considered separately other than overall importance of refrigerators whenever consumers purchase them (refrigerators). Therefore, it can be stated that all these parameters have impact on the consumers' mindset while purchasing refrigerators.

To test whether the respondent consumers' characteristics (like gender, age group, marital status, educational qualification, monthly income and occupation) varies significantly based on the overall importance of refrigerators, a series of One-way ANOVA was carried out at significance level (α) = 0.05. The results of these tests are reproduced in Table 6.

Table 6: Results of One-Way Analysis of Variance ($\alpha= 0.05$)

Characteristics of respondents	df	F	p -value	Presence of SD^b_M
Gender	4	2.200	0.067	<i>Not present</i>
Age group	4	16.065	0.000	Present
Marital status	4	2.541	0.038	Present
Educational qualification	4	2.735	0.028	Present
Monthly income	4	6.790	0.000	Present
Occupation	4	7.403	0.000	Present
<i>Note:</i> SD^b_M denotes significant difference between the means of respondents' characteristics across their responses to if refrigerators ever have overall importance				

According to the fifth column in the above Table 6, the p -value is less than the level of significance (0.05) for the following factors with respect to respondents' perception regarding the overall importance of refrigerators:

1. Age group

2. Marital status
3. Educational qualification
4. Monthly income
5. Occupation

Thus at $\alpha = 0.05$, the null hypothesis that there is equality of means of these characteristics of respondents based on their responses to if refrigerators ever have overall importance can be rejected. This implies that there is significant difference between the means of these characteristics of respondents based on their perception regarding the overall importance of refrigerators. For example, the p -value for age group is less than the level of significance (0.05). So, the null hypothesis that there is equality of means of respondents' age group based on their responses to if refrigerators ever have overall importance can be rejected. This implies that there is significant difference between the means of respondents' age group based on their opinion related to the overall importance of refrigerators. Therefore, this significant difference between the means of respondents' age group based on their outlook about the overall importance of refrigerators cannot be attributed to chance (Beri, 1994; Chawla & Sondhi, 2011; Cooper & Schindler, 2006; Garrett, 2003; Tull & Hawkins, 2000). This means that age group has effect on the respondents' mindset regarding overall importance of refrigerators. Same findings can be noticed in case of marital status, educational qualification, monthly income and occupation of the respondents. Therefore, it can be stated that all these characteristics of respondents have impact on their views regarding the overall importance of refrigerators.

Again, as per the fifth column in the above Table 6, the p -value is more than the level of significance (0.05) for gender of respondents. Therefore, at $\alpha = 0.05$, the null hypothesis that there is equality of means of respondents' gender based on their responses to if refrigerators ever have overall importance cannot be rejected. This implies that there is no significant difference between the means of respondents' gender based on their perception regarding the overall importance of refrigerators. Hence, this difference between the means of respondents' gender based on their outlook regarding the overall importance of refrigerators can be attributed to chance (Beri, 1994; Chawla & Sondhi, 2011; Cooper & Schindler, 2006; Garrett, 2003; Tull & Hawkins, 2000). This indicates that respondents' opinion regarding overall importance of refrigerators is not affected by their gender.

5.1 Findings

The above study has revealed that refrigerators are highly important for the people of Guwahati city in northeastern India in the present era. This is on account of the various important features and functions performed by them. It was noticed that different respondent consumers' characteristics like age group, marital status, educational qualification, monthly income and occupation have influence on their opinion regarding overall importance of refrigerators. Such opinion is unaffected by gender of the respondent consumers. Again, it was also noticed that different parameters like price, cooling capability, anti germ capability, storage capacity, modern features, absence of bad odour, overall quality, user friendliness, warranty, after sales service, customer care, free home delivery, ease of maintenance (for users) as well as other parameters are considered while purchasing refrigerators. Almost all these parameters with the exception of storage capacity, overall quality, warranty, after sales service and ease of maintenance (for users) have high effect on respondent consumers' opinion regarding overall importance of refrigerators. However, it has been observed from the survey that storage capacity, overall quality, warranty, after sales service and ease of

maintenance (for users) are considered separately from overall importance of refrigerators while purchasing them. Therefore, all companies selling refrigerators should focus on these aspects in order to improve their sales in the present competitive business scenario.

5.2 Limitations of the study

This study is limited only to refrigerators. Besides, this study is limited to consumers' opinion regarding some parameters, namely, price, cooling capability, anti germ capability, storage capacity, modern features, absence of bad odour, overall quality, user friendliness, warranty, after sales service, customer care, free home delivery, ease of maintenance (for users) as well as other parameters considered while purchasing refrigerators. Again this study is limited to few consumer characteristics like gender, age group, marital status, educational qualification, monthly income and occupation that frequently play a role while purchasing refrigerators. In addition, the present study has been conducted only in Guwahati city in northeastern India. Therefore, the findings cannot be taken as general representation for the entire refrigerator industry.

5.3 Conclusion

Attainment of planned sales is essential for profitability, survivability and growth of any company or business firm. This also applies to companies manufacturing and selling refrigerators. In fact, these companies can improve the sales volume of refrigerators by properly emphasizing on price, cooling capability, anti germ capability, storage capacity, modern features, absence of bad odour, quality, user friendliness, warranty, after sales service, customer care, free home delivery, ease of maintenance (for users) as well as other parameters. Such companies should also focus on consumers' characteristics like age group, marital status, educational qualification, monthly income and occupation while selling refrigerators. If a similar study is conducted among similar companies or business firms selling refrigerators or other products and/or services, these established findings can be expected to be noticed there also.

5.4 Future Work

The present study is limited only to refrigerators. Similar surveys can be conducted to study consumer behaviour in case of other goods and/or services. Again, the present study has been conducted only in Guwahati city in northeastern India. In future, similar studies can be carried out in other parts of India and the world.

6. References

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