

Household goods and Indian Customer Satisfaction

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Abstract

*Brown goods are defined as home entertainment appliances that were traditionally encased in wooden or wooden-like frames. Brown goods are part of the FMCG. FMCG market in India is expected to grow at a CAGR of 20.6 per cent and is expected to reach US\$ 103.7 billion by 2020 from US\$ 49 billion in 2016. It is expected that the brown goods industry will continue to decline in future due various reasons like there is continuous an increase in the usage of smart phones and other mobile devices. Although watching television and listening to music and other programs will remain a popular activity among Indian citizens they will increasingly rely on mobile devices instead of brown goods. However, the market will sustain the odds and continue to evolve due the introduction of 3D televisions and appliances with streaming capacities. Smart phones, tablets and laptops are more versatile than home entertainment appliances. In this scenario, this study is undertaken with the **aim** to know which type of household goods the customers are using and also to measure their rate of satisfaction.*

The study is undertaken with the help of well structured and pilot tested questionnaire catered to 155 respondents at random and analysed the data using factor analysis and other relevant statistical tools.

The outcome of the study is the customers are very much satisfied with Wi-fi services, Printers, Bluetooth and Air-Conditioner products in the study area followed by Audio system, Laptops and Digi-cams.

Key words: FMCG sector – household goods - Consumer Life style - Customer Satisfaction - – Factor Analysis

Introduction

The FMCG includes consumer durable goods and appliances for domestic use such as televisions, refrigerators, air conditioners and washing machines. Instruments such as cell-phones and kitchen appliances like microwave ovens are also included in this category. Since a decade or so this sector has been witnessing considerable and significant growth, supported by several drivers such as the emerging new lifestyles, increasing middle class disposable income, real estate and housing demand, retail boom and an overall increase in the level of affluence of a significant section of the population. The industry is represented by major international and local players such as Samsung, LG, Apple, Godrej and Bajaj appliances, Voltas, Blue Star, MIRC Electronics, Titan, Whirlpool, etc.

The consumer durables industry can be broadly classified into two segments: Consumer Electronics and Consumer Appliances. Consumer Appliances can be further categorized into Brown Goods and White Goods. The key product lines under each segment are as follows.

Indian Consumer Durables Industry the Consumer Durables industry consists of durable goods and appliances for domestic use such as televisions, refrigerators, air-conditioners and washing machines. Instruments such as cell phones and kitchen appliances like microwave ovens are also included in this category. The sector has been witnessing significant growth in recent years, helped by several drivers such as the emerging retail boom, real estate and housing demand, greater disposable income and an overall increase in the level of affluence of a significant section of the population. The industry is represented by major international and local players such as BPL, Videocon, Voltas, Blue Star, MIRC Electronics, Titan, Whirlpool, etc. The consumer durables industry can be broadly classified into two segments: Consumer

Electronics and Consumer Appliances. Consumer Appliances can be further categorized into Brown Goods and White Goods. The key product lines under each segment are as follows.

Consumer Durables

White Goods	Kitchen Appliances/BrownGoods	Consumer Electronics
Refrigerators	Mixers	Mobile Phones
Washing Machines	Grinders	T.V’s
Air-conditioners	Microwave oven	MP 3 Players
Speakers & Audio Equipments	Electric Fans	DVD Players
	Cooking Range chimneys	VCD Players

Source: www.ibef.org/downloadconsumer_durables_10708.pdf

AIM

Aim of this project is to know which type of household goods the customers are using and also to measure their rate of satisfaction.

Review of Literature

The literature from relevant marketing books, earlier research articles, standard text books and published and unpublished thesis works focusing on ‘Customer Satisfaction’ and few FMCG related articles were referred.

Past reaches done by scholars have confirmed that Customer satisfaction plays a mediating role. Nagarajan. R & P.Pinakapani - Impact of Retailer Brand Equity on Customer Loyalty and the Mediating role of Customer Satisfaction - 2017; (Krishnan. R 2015) Raaghav R. 2016, revealed that customer satisfaction mediates the effect of service quality on customer loyalty. Govindaraj G, 2014, confirmed the mediating role of satisfaction on service quality and Customer loyalty in the retail banking sector. Moreover, Rajalakshmi, 2014 also confirmed that there is a mediating role of satisfaction on the relationship between the Brand Equity and Customer loyalty in Chinese doll industry. . Moreover, Sai Prasad, M (2008) has also confirmed that the effect of service quality on Customer loyalty, mediated by the customer satisfaction in food industry.

Customer satisfaction is one of the most extensively researched topics in marketing (Klee, 1997). For example, customer satisfaction has been examined, not only at the manufacturer-level but also at the retailer-level (Janardhanan, 2015). However, comparatively fewer studies have studied the outcomes of customer satisfaction (Yadhav 2011). For example, it is not clear from the present marketing literature whether customer satisfaction is linked to some intangible assets, such as brand equity. In particular, the linkages between customer satisfaction and retail brand equity are not satisfactorily explained.

Objectives

- To know the status of Indian house hold goods market
- To know the degree of satisfaction of the consumer on identified factors
- To know the pattern of life style of the customers through the usage of selected electronic (brown) goods with reference demographic variables.

Research Methodology

Type of Research: Empirical Research (This type of research is based on observed phenomena and from actual experience rather than theory)

Data Collection: Primary Data and Secondary Data

Primary data will be called with the help of the well-structured, pilot tested close end questionnaire.

Secondary data will be extracted from relevant journals, web prints and other relevant books (industry reports, white papers, monographs, etc.)

Measurement Scale: Likert measurement scale will be used to capture and realize the objectives of the study.

The collected data is analyzed in simple percentage method apart from data validity test like chi-square and standard deviation.

Also depending on quality size of the data other statistical were applied.

Sample Size: The proposed sample size is 155.

Sampling Type: Proposed sampling is convenience sampling.

Methodology of the Study

The study is mainly an empirical one and the variables used are quantitative in nature. The study is based on primary data. The primary data is collected from 155 customers shopping in different leading organized retail outlets in Bangalore.

Sampling technique: Simple Random Sampling

Sample Size: 155

Study Area: Bangalore

Data Collection Instrument: A structured questionnaire has been designed specifically to record the opinions of respondents depending on objectives of the study. Firstly the questionnaire concentrates on analysing socio-economic characteristics of the respondent there after; the questionnaire focuses on the customers to provide their satisfactions on a five point likert scale regarding fourteen identified household goods usage in the study area. Questions in the questionnaire are framed in such a manner that the respondent gives their opinion mostly for questions on a five point likert scale, in some cases with given options and also open-ended questions sometimes. Scaling technique used to quantify the variables is explained in detail the forgoing analysis. The following statistical methods are used in the analysis.

Statistical Tools

Cronbach's Alpha: The value was calculated for the questionnaire administrated in order to determine the reliability of the data where the alpha value is greater than .70 is the recommended level: (Bernardi 1994). For this study, Cronbach's Alpha value is calculated as .861 for 155 cases/sample which indicates that the data have relatively higher internal consistency.

Factor Analysis: In social sciences and especially in behavioral studies, variables cannot be measured directly. Such variables are usually referred as "latent" variables and can be measured by qualitative propositions to reflect the perceptions of the respondents. The factors generated are used to simplify the interpretation of the observed variables. Hair et al. (2006) well defined the meaning of factor loadings and scores in words. Factor loadings are the correlation of the original variables (retail services) and factors and loadings indicate the degree of correspondence between the variable and the factor. It is a statistical technique used for determining the underlying factors or forces among a large number of interdependent variables or measures (Krishnaswami and Ranganatham 2007).Therefore, higher loadings make the variable representative of the factor and loadings are the means of interpreting the role of each variable in defining each factor.

Eigen values: A factor's Eigen value may be computed as the sum of its squared factor loadings for all the variables. The ratio of Eigen values is the ratio of explanatory importance of the factors with respect to the variables. The Eigen value for a given factor reflects the variance in all the variables, which is accounted for by that factor. Eigen Value or Latent root is the sum of squared values of factor loadings relating to a factor (Krishnaswami and Ranganatham 2007).

Analyzing Customer Satisfaction towards Household Goods Using Factor Analysis Approach

Since all the household goods’ satisfactions are dependent variables, multivariate analysis can be applied on the data of customer satisfaction. In this section an attempt has been made to analyze customer satisfaction towards household goods using factor analysis. The customers were asked to respond on a five point likert scale (Very-Satisfied [5], Satisfied [4], Can’t say [3], Dissatisfied [2], Highly Dissatisfied [1]) regarding 15 variables. To determine the data reliability, Reliability test was performed on the data of expected retail services. The value of the Cronbach's Alpha is found to be .860, which shows the data of expected retail services is 86% reliable which ensures to proceed for further analysis.

Reliability of Data: Kaiser Meyer Olkin (KMO) and Bartlett’s Test for Customer Satisfaction on Household Goods

Table 2: KMO and Bartlett's Test for Customer Satisfaction on Household Goods		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.743
Bartlett's Test of Sphericity	Approx. Chi-Square	299.149
	Df	91
	Sig.	.000
Source: Factor Analysis Data Reduction (SPSS 16.0)		

To determine the appropriateness of factor analysis on the identified customer expected retail services, Kaiser Meyer Olkin (KMO) and Bartlett’s Test was performed as shown in table 2. The KMO measure is observed to be 0.743 which is higher than the threshold value of .5 (Hair et al. 1998). So it can be interpreted that there is no error in 74.3% of the sample and remaining 25.7% there may occur some sort of error. Bartlett's Test of Sphericity ($\chi^2 = 299.149$) is found to be significant ($p < .001$, $df = 91$). Finally it can be concluded that the data collected on expected retail services is appropriate for factor analysis.

Table 3: Factors – Customer Satisfaction on Household Goods			
Factor	Eigen Values	% Total variance	Cumulative %
FACTOR 1	2.264	16.168	16.168
FACTOR 2	1.855	13.250	29.418
FACTOR 3	1.494	10.672	40.090
FACTOR 4	1.477	10.553	50.644
Source: Factor Analysis Data Reduction (SPSS 16.0)			

Factor analysis was used to remove the redundant variables from the survey data and to reduce the number of variables into a definite number of dimensions. The application was done in SPSS 16.0. The factor analysis was performed using principle component extraction method with varimax rotation. After performing factor analysis, the twenty variables were reduced to four factor dimensions, which explained 50.644% of cumulative variance which is indicating that the variance of original values was captured by these six factors as shown in table 4. The factor scores of customer satisfaction towards household goods are presented in the table 3. All these four factors are formed with fourteen variables.

Factor Scores Matrix - Customer Satisfaction on Household Goods

Table 4: Factor Scores Matrix - Customer Satisfaction on Household Goods				
Attributes	Factor 1	Factor 2	Factor 3	Factor 4
Wi-fi	.711			
Printer	.641			
Bluetooth	.568			
Air Conditioner	.652			
Audio System		.718		
Laptop		.637		
Digi Cam		.545		
Mobile Phone			0.733	
Internet			0.692	
TV				0.792
Calculator				0.669
DVD Player				0.545

FACTOR 1: The first factor is formed with an Eigen value of 2.264, variance of 16.168% and four associated variables. The associated variables are Wi-fi (factor score 0.711), Printer (0.641), Bluetooth (0.568) and Air Conditioner (0.652).

FACTOR 2: The second factor is formed with an Eigen value of 1.855, variance of 13.25% and three associated variables. The associated variables are Audio system (0.718), Laptop (0.637) and Digi-Cam (0.545).

FACTOR 3: The third factor is formed with an Eigen value of 1.494, variance of 10.672% and two associated variables. The associated variables are Mobile Phone (0.733) and Internet (0.692).

FACTOR 4: The fourth factor is formed with an Eigen value of 1.477, variance of 10.533% and three associated variables. The associated variables are TV (0.792), Calculator (0.669) and DVD Player (0.545).

Two variable Personal Computer (Desktop) and Cam coder are eliminated while performing factor analysis, the reason may be both are obsolete products and the customers are not satisfied with the usage.

Suggestions and Conclusions

The factor scores in the factor scores matrix, shown in table 4 represent the customer satisfaction index on household equipment. The customers are very much satisfied with Wi-fi services, Printers, Bluetooth and Air-Conditioner products in the study area. The marketers of these products must have to concentrate on brand loyalty from these satisfied customers by offering good after sales services and complaint management system. After these four products, the customers in the study area are much satisfied with Audio system, Laptops and Digi-cams. The marketers have to have personal interactions with these customers and try to know the reasons for not having very-much-satisfaction; accordingly the marketers have to design the after sales strategies.

The next household (brown) goods category which makes the customers happy in the study area is Mobile phone and Internet. The customers expressed moderate satisfaction towards these two products. Because the size of these products' market is relatively bug, it is better to concentrate the marketing focus towards these customers. The last brown goods category which makes the customers in the study area satisfied is TV, Calculator and DVD player. The customers expressed nominal satisfaction towards these three products. The marketers of these products must have to conduct a survey in the study area to indentify the reasons for the less level of satisfaction and should redesign the marketing mix strategies for those products.

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