

Customer Perception towards After Sales Services of Consumer Electronics Retail Outlets in Visakhapatnam City

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ABSTRACT: The primary aim of this empirical research is to analyse the perception of customers towards after sales services of retailers selling consumer electronic products. In this study, 300 retail customers purchasing consumer electronics are purposively selected to know their perception towards after sales services provided in retail outlets in Visakhapatnam city. A questionnaire has been structured to record the customer perceptions towards after sales services provided to their electronics products. The sole purpose of this study is to assist the retailers/retail managers to design their after sales services mix, service strategies, merchandise strategies and retail promotion strategies basing on the evaluation of customer perceptions, customer demographic profile and customer shopping behaviour in consumer electronics outlets.

KEY WORDS: retail services – after sales services – retail sector – factor analysis – regression analysis.

I. INTRODUCTION

Consumer electronics are the devices which come under electronics category, designed to be purchased and used by consumers or end-users for regular and non-business purpose. The most commonly used electronics goods in the world are computing and communications devices. The list of products under consumer electronics category referred to be mobile phones, television sets, radio receivers, personal computers, laptops, video game consoles, digital cameras, DVD players etc. The key manufacturers in this industry are Apple Inc, Panasonic Corporation, Samsung Electronics, Sony Corporation, LG Electronics, Hewlett-Packard (HP) Inc, Hitachi Ltd, Philips and Toshiba Corporation. According to the report of globenewswire.com (2018) [7], the global market of consumer electronics was monetarily valued at USD 1172 billion in the year 2017, it is predictable to arrive at USD 1787 billion for the year 2024 at CAGR of 6%. According to statistica.com (2018) [13] report, the revenue of the Asia-Pacific consumer electronics market amounts to \$174,866 million in 2019. The revenue is expected to grow at CAGR of 9.2% amounts to \$249,042 million by 2023. According to ibef.org (2018) [9] report, consumer electronics market in India has been reached to Rs.2.05 lakh crore (\$31.48 billion) in the year 2017, at 9% CAGR, it is projected to augment upto Rs.3.15 lakh crore (\$48.37 billion) in the year 2022.

After Sales services are activities or series of activities provided by the manufacturer/vendor to customers who purchased the products from them. The reasons behind provision of after sales services to customers are to augment customer satisfaction and reduce customer dissonance. For any rationale, if the customer is dissatisfied with the goods purchased, the customer will exhibit post-purchase dissonance behavior that will result in brand switching. Some of the after sales services like processing guarantees and warranties, handling customer complaints, return policy, exchanges, repairs and maintenance services etc will increase customer satisfaction.

After Sales services refer to activities or series of activities provided by the retailers to customers who purchased the products in their retail outlets. The after sales services like free transportation, free delivery of goods, customer service and customer support, complimentary benefits etc will increase the customer satisfaction for the retail customer and increase customer base for the outlet. In most of the western countries, after sales services are offered at free of cost and is a part of retail marketing strategy, whereas in India, provision of after sales services is costly affair. In this scenario an effort has been executed to evaluate the customer perception towards after sales services offered by the retail outlets in Visakhapatnam city.

II. REVIEW OF PREVIOUS STUDIES

The literature review survey was planned to identify various after sales services offered by the consumer electronics’ retailers and used in the past studies by the researchers. Some researchers concentrated on the retail services as a whole and some researchers concentrated on in-store services and after sales services of retail outlet choice for customers. Out of those studies, the after sales services offered in consumer electronics retail outlets are given in table 1 which are used as variables for this research.

III. STATEMENT OF THE PROBLEM

The retailers of consumer electronics, once the product has been sold to the customer, whether attending the customer complaints or not, is to be evaluated in this study. The customer perception towards after sales services provided by retailers of consumer electronics should be recorded and analyzed in order to draw the conclusion, how far the after sales services are playing the role of customer patronage.

Table 1: Identified After Sales Services		
S.No.	After Sales Services	Author(s)
1	Communication-about-order-refund-requests	Milliman and Decker (1990) [10]
2	Complimentary-Benefits	Gale (1994) [6]
3	Door-Delivery	Zott and Amit (2000) [16]
4	Channels-to-resolve-customer-issues	Burke (2002) [4]
5	Return-and-replacement-policy	Zeithaml (2002) [15]
6	CRM-Initiatives	Mithas et al. (2005) [11]
7	Sincerity-in-problem-solving	Sunayna Khurana (2008) [14]
8	Handling-customer-compliance	Sunayna Khurana (2008) [14]
9	Exchange-Policy	Devi Prasad (2011) [5]
10	Installation-Services	Devi Prasad (2011) [5]
11	Guarantees-and-Warranties	Devi Prasad (2011) [5]
12	Gift-Wrapping	Devi Prasad (2011) [5]
13	Alteration-Services	Devi Prasad (2011) [5]
14	Shipment/Transportation-Services	Devi Prasad (2011) [5]
15	Repairs-and-Maintenance-Services	Devi Prasad (2011) [5]
16	Post-purchase-communication	Sita Mishra (2011) [12]
17	Customer-Feedback	Sita Mishra (2011) [12]
18	Customer-Support/Helpline	Sita Mishra (2011) [12]
19	Product-Condition (safety)	Sita Mishra (2011) [12]
20	Loyalty-Programmes	Sita Mishra (2011) [12]
<i>Source: literature review survey</i>		

IV. AIMS OF THE STUDY

[1] To comprehend the demographic outline of the customers purchasing consumer electronics products in Visakhapatnam city.

[2] To study the shopping behaviour of the customers purchasing consumer electronics products in Visakhapatnam city.

[3] To identify various after sales services provided by retailers from the review of literature.

[4] To know the customer perception towards after sales services of retail outlets selling consumer electronics where those perceptions will be useful for designing retail strategies.

V. RESEARCH METHODS AND DATABASE

A. Databas

The primary data was purposively gathered from 300 customers who purchased consumer electronics goods shopped in different consumer electronics retail outlets located in Visakhapatnam like Reliance Digital, Bajaj Electronics, Next Electronics, Pai Electronics, Sonovision, Big Bazaar ezone, Spencers Hypermarket.

B. Data Collection Instrument

A structured questionnaire was designed to record the customer perceptions towards after sales services provided by the consumer electronics retailers. Mostly the sample respondents are required to express their perceptions on a five-point rating scale towards various after sales services identified from the survey of literature. The questionnaire also collects demographic profile of the respondents.

C. Materials and Tools

In order to statistically determine the data reliability which was collected from the questionnaire in the field study, the Cronbach Alpha test was conducted and value found to be $\alpha=0.851$ which explains that the data was most reliable (85%), the value of alpha more than 0.70 is statistically recommended level (threshold value): (Bernardi, 1994) [3].

D. Factor Analysis

The Statistical tool factor analysis will generally be used for analyzing the variables (after sales services) influencing the consumer purchase decisions.

E. KMO and Bartlett's Test of Sphericity

KMO and Bartlett's Tests were also carried out on the data in order to determine the appropriateness of factor analysis, a probability statistic of KMO measure more than .05 (threshold value) is desirable : (Akansha Anchaliya et al., 2012) [1].

F. The Study Area – A Brief Profile

The City of Visakhapatnam is also called as “the city of destiny”, “the jewel of east coast”. Having a population of more than 20 lakh and having a geographical area of 681.96 sq.kms, the male-female ratio is 1000:977. The literacy rate in the city is 82% of which literacy among male is 88% and female is 77% (aponline.gov.in (2003)) [2].

VI. RESULTS ANALYSIS AND DISCUSSION

A. Application of factor analysis on customer perception towards after sales services of consumer durable retail outlets

The statistical tool Factor Analysis is applied using SPSS was applied on data of customer perception towards after sales services of consumer electronics' retailers.

The respondents (customers) were requested to respond on a five-point-likert-scale (Most-Satisfied [5], Satisfied [4], Slightly-Satisfied [3], Dissatisfied [2], Most-Dissatisfied [1]) concerning twenty variables selected in the survey of literature. In order to determine the reliability of data, the test for reliability (Cronbach's Alpha) was conducted. The Alpha value was found to be 0.851, which indicates that the data of customer perception towards after sales services is 85.1% reliable which makes the researcher to proceed for further analysis.

B. Data Reliability: Kaiser Meyer Olkin (KMO) and Bartlett’s Test for the data of Customer Perception on After Sales Services

The two tests (KMO and Bartlett’s Test) are generally carried out to verify the suitability of executing the statistical tool factor analysis on the data. KMO test statistic was found to be 0.839 i.e. more than 0.5, the threshold value (Hair et al. 1998) [8] which means an error upto 16.1% data and no error in remaining 83.9% data. Bartlett's Test statistic of Sphericity also found to be significant ($\chi^2 = 6631.718$) at ($p < .001$, $df = 190$) as represented in Table 2. Ultimately it can now be finalized that the data collected on customer perception towards after sales services was found to be appropriate for application of factor analysis.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.839
Bartlett's Test of Sphericity	Approx. Chi-Square	6631.718
	df	190
	Sig.	.000
<i>Source: Factor Analysis for Data Reduction</i>		

C. Formed Factors – After Sales Services

Factor	Eigen Values	% Total variance	Cumulative %
Product Delivery	5.449	24.78	24.78
Interaction	2.799	14.69	39.47
Problem Solving	2.101	11.78	51.25
Repairs	1.159	8.12	59.37
Product Returns	1.278	6.49	65.86
Loyalty	1.187	5.14	71.00
<i>Source: Factor Analysis for Data Reduction</i>			

Factor analysis was applied on the data on customer perception towards after sales services of consumer electronics retailers in the study area.

After executing the tool - factor analysis, the twenty items (variables) were decreased and reduced to six latent variables (factor dimensions), that were explained 71.00% of cumulative variance as exhibited in the Table 3. The six factors were provisionally named as Product Delivery, Interaction, Problem Solving, Repairs, Product Returns and Loyalty. The factor scores of most perceived after sales services were presented in the table 4.

D. Rotated Factor Scores Matrix – After Sales Services

Table 4 represents the factor scores matrix after rotation along with their associated variables. The rotated factor scores matrix of after sales services along with their associated variables (after sales services).

The factor loadings in the matrix indicate the precedence of after sales services perceived by the customers. All of the six factors which were extracted along with their associated variables i.e. after sales services (factor loadings) were exhibited in ascending order of the respective loadings/scores. The consumer electronics retailers/retail managers have to deem providing the after sales services according to their factor loadings/scores while designing and executing them towards the customers in their outlets.

After Sales Services	Product Delivery	Interaction	Problem Solving	Repairs	Product Returns	Loyalty
Door-Delivery	0.859					
Shipment/Transportation-Services	0.841					
Gift-Wrapping	0.712					
Product-Condition (safety)	0.502					
Communication-about-order-refund-requests		0.823				
Customer-Feedback		0.747				
Customer-Support/Helpline		0.612				
Post-purchase-communication		0.534				
Sincerity-in-problem-solving			0.815			
Handling-customer-compliance			0.709			
Channels-to-resolve-customer-issues			0.509			
Installation-Services				0.819		
Repairs-and-Maintenance-Services				0.659		
Guarantees-and-Warranties				0.549		
Return-and-replacement-policy					0.829	
Exchange-Policy					0.721	
Complimentary-Benefits						0.749
Loyalty-Programmes						0.669
Extraction Method: Principal Component Analysis.						
Rotation Method: Varimax with Kaiser Normalization.						
<i>Source: Factor Analysis and data Reduction</i>						

[1] FIRST FACTOR – Product Delivery

The first factor is provisionally named as “Product-Delivery”. It is statistically formed with four allied and associated attributes/variables (i.e. after-sales-services), a variance of 24.78% and an Eigen value of 5.449. The four allied and associated services (variables / attributes) are Door-Delivery (Loaded factor score 0.859), Shipment/Transportation-Services (0.841), Gift-Wrapping (0.712) and Product-Condition-(safety) (0.502). The highest positively perceived after-sales-services are found to be Product-Delivery-Services.

[2] SECOND FACTOR – Interaction

The second factor is provisionally named as “Interaction”. It is statistically formed with four allied and associated attributes/variables (i.e. after-sales-services), a variance of 14.69% and an Eigen value of 2.799. The four allied and associated services (variables / attributes) are Communication-about-order-refund-requests (Loaded factor score 0.823), Customer-Feedback (0.747), Customer-Support/Helpline (0.612) and Post-purchase-communication (0.534). The second highest positively perceived after sales services are found to be Interaction-services.

[3] THIRD FACTOR – Problem Solving

The third factor is provisionally named as “Problem-Solving”. It is statistically formed with three allied and associated attributes/variables (i.e. after-sales-services), a variance of 11.78% and an Eigen value of 2.101. The three allied and associated services (variables / attributes) are Sincerity in problem solving (Loaded factor scores 0.815), Handling-customer-compliance (0.709) and Channels-to-resolve-customer-issues (0.509).

[4] FOURTH FACTOR – Repairs

The fourth factor is provisionally named as “Repairs”. It is statistically formed with three allied and associated attributes/variables (i.e. after-sales-services), a variance of 8.12% and an Eigen value of 1.159. The three allied and associated services (variables / attributes) are Installation-Services (Loaded factor score 0.819), Repairs-and Maintenance-Services (0.659) and Guarantees-and-Warranties (0.549).

[5] FIFTH FACTOR – Product Returns

The fifth factor is provisionally named as “Product>Returns”. It is statistically formed with two allied and associated attributes/variables (i.e. after-sales-services), a variance of 6.49% and an Eigen value of 1.278. The two allied and associated services (variables / attributes) are Return-and-replacement-policy (Loaded factor score 0.829) and Exchange-Policy (0.721).

[6] SIXTH FACTOR – Loyalty

The sixth factor is named as “Loyalty”. It is statistically formed with two allied and associated attributes/variables (i.e. after-sales-services), a variance of 5.14% and an Eigen value of 1.187. The two allied and associated services (variables / attributes) are Complimentary-Benefits (Loaded factor score 0.749) and Loyalty-Programmes (0.669).

Two (after sales services) attributes/variables, CRM-Initiatives and Alteration-Services were eliminated while executing factor analysis on the data of customer perception towards after sales services provide by consumer electronics retail outlets.

VII. DEMOGRAPHIC PROFILE OF THE RESPONDENTS IN THE STUDY AREA:

The consumer electronics retailers should analyse the demographic profile of their customers to have better understanding of their needs. This analysis makes the retailers/retail managers to design the suitable Business strategies, STP strategies and Retail Mix strategies for better merchandise planning and retail performance. There is a need to study the customer perception towards after sales services of consumer electronics retailers basing on which the retailers can proceed for planning and implementing the after sales services.

Variable	Categories of variable	Frequency	%
Gender	Male	195	65.00%
	Female	105	35.00%
Age	13 - 19 years	9	3.00%

	20 - 30 years	105	35.00%
	31 - 40 years	135	45.00%
	41 - 50 years	36	12.00%
	above 50 years	15	5.00%
Occupation	Unemployed / Students	19	6.33%
	Employed	186	62.00%
	Business people	95	31.67%
Education	Primary Education	10	3.33%
	Secondary Education	19	6.33%
	ITI / Diploma / Higher Secondary	89	29.67%
	Under-Graduation (UG)	100	33.33%
	Post Graduation (PG)	70	23.33%
	Higher than PG	12	4.00%
Income per month	Less than INR 15,000/-	48	16.00%
	Between INR 15,000/- and INR 30,000/-	150	50.00%
	Between INR 30,000/- and INR 50,000/-	52	17.33%
	More than INR 50,000/-	50	16.67%
Size of Family	Two	30	10.00%
	Three	100	33.33%
	Four	140	46.67%
	Five	20	6.67%
	Six	10	3.33%
<i>Source: Primary Data from field work</i>			

Table 5 portrays the demographic outline of electronics goods consumers (respondents of 300 sample size) in the study area. The gender ratio of the respondents are found to be 195(65%) are male and 105 (35%) are female. In the Age group analysis of the respondents, 9 (3%) respondents are falling in the age group of 13 – 19 years, 105 (35%) respondents are in the age group category of 20 – 30 years, 135 (45%) respondents are in the age group category of 31 – 40 years, 36 (12%) respondents are in the age group category of 41 – 50 years and 15 (5%) respondents are falling the age group of above 50 years. Based on the analysis of occupation of respondents, the respondents are categorized into three categories, students and unemployed are 19 (6.33%) respondents, employed are 186 (62%) respondents and businessmen 35 (31.67%) are respondents. Basing on the analysis of education of respondents, 10 (3.33%) respondents completed primary education, 19 (6.33%) completed secondary education, 89 (29.27%) completed higher secondary education, 100 (33.33%) completed graduation, 70 (23.33%) completed post graduation and 12 (4%) were having the education higher than post graduation. Depending on the income levels of the consumers/respondents, they were grouped into four categories, 48 (16%) respondents are earning income-per-month below Rs.15,000/-, 150 (50%) respondents are earning minimum Rs.15,000/- to maximum Rs.30,000/-, 52 (17.33%) consumers/respondents are earning an income from Rs.30,000/- to Rs.50,000/-, yet another 50 (16.67%) respondents are having income-per-month above Rs.50,000/-. In the comprehension of the family-size of the consumers/respondents, 30 (10%) respondents are with family-size two, 100 (33.33%) respondents do have family-size three, 140 (46.67%) respondents have family-size four, 20 (6.67%) respondents have family-size five and 10 (.333%) of respondents have family-size six.

VII. CONSUMER ELECTRONICS RETAIL SHOPPING BEHAVIOR

The retail purchase behavior of consumer electronics refers to the actions and activities of the retail customers before retail-shopping, during retail-shopping and after retail-shopping of the electronics goods in the retail outlets. The activities and actions in shopping behaviour refer to amount-spent-per-month, distance-from-home-to-outlet, most-preferred-time-of-shopping, frequency-of-shopping, family-life-cycle-stage etc were studied.

Table 6: Consumer Electronics Retail Shopping Behavior			
Variable	Categories of variable	Frequency	%
Frequency of shopping	Every Month	10	3.33%
	Bi-Monthly	60	20.00%
	Quarterly	60	20.00%
	Half Yearly	115	38.33%
	Yearly	15	5.00%
	As per requirement	40	13.33%
Most preferred Week of shopping	1 st week of month	150	50.00%
	2 nd week of month	90	30.00%
	4 th week of month	20	6.67%
	As per requirement	40	13.33%
Monthly amount spent on shopping	Less than INR10,000/-	150	50.00%
	Between INR 10,000/- to INR 50,000/-	100	33.33%
	Between INR 50,000/- to INR 100,000/-	30	10.00%
	more than INR 100,000/-	20	6.67%
distance from home to outlet	Less than 1 kilometer (km)	145	48.33%
	Between 1 km - 3 km	95	31.67%
	Between 3 km - 5 km	27	9.00%
	5 km - 10 km	23	7.67%
	More than 10 km	10	3.33%
Life Cycle Stage of Family	Young-Couples-without-children	56	18.67%
	Couples-with-children	64	21.33%
	Couple-with-working-children	145	48.33%
	Old-Couple-with-working-children-&-kids	25	8.33%
	Old-Couple-staying-away-from-working-children-&-kids	10	3.33%
<i>Source: Primary data from field work</i>			

Table 6 represents shopping behaviour of customers performing consumer electronics shopping. There are certain activities and actions of retail shoppers analyzed in this study. The first shopping related activity “frequency of shopping”, found to be every month 10 (3.33%), bimonthly 60 (20%), quarterly 60 (20%), half yearly 115 (38.33%), yearly 15 (5%) and 40 (13.33%) of customers/respondents are approaching the retail outlet as per their requirement. The second shopping-related activity “Most preferred time for shopping”, found to be 1st week of the month by 150 (50%) respondents, 2nd week of the month by 90 (30%) respondents, 4th week by 20 (6.67%) respondents and 40 (13.33%) of the customers’ preferred time of shopping is identified as per the

customer requirement. The third shopping related activity “amount spent per month”, found to be less than INR 10,000/- for 150 (50%) respondents, 100 (33.33%) respondents are spending the shopping between INR 10,000 and INR 50,000, 30 (10%) respondents are spending the shopping between INR 50,000/- to INR 100,000/- and 20 (6.67%) respondents are spending the shopping amount more than INR 100,000/-. The fourth shopping related activity “distance of shopping” (distance-between-retail-outlet-and-customer-household), found to be less than 1 kilometer (km) radius for 145 (48.33%) respondents, 95 (31.67%) respondents are performing their shopping in the retail outlets which are situated in the distance from 1 km to 3 km around their household, 27 (9%) respondents are performing their shopping in the retail outlets which are situated in the distance from 3 km to 5 km around their home, 23 (7.67%) respondents are doing their shopping in the outlets which are situated in the distance from 5 km to 10 km around their household and 10 (3.33%) respondents are shopping in the outlets which are situated more than 10 km away from their households. The fifth shopping related activity “family-life-cycle-stage”, found to be 56 (18.67%) respondents are in the family-life-cycle-stage of young-couple-without-children, 64 (21.33%) respondents are in the family-life-cycle-stage of couple-with-working-children, 25 (8.33%) respondents are in the family-life-cycle-stage of couple-with-working-children, 145 (48.33%) respondents are in the family-life-cycle-stage of couple-with-working-children-with-kids, 10 (3.33%) respondents are in the family-life-cycle-stage of old-couple-staying-away-from-children.

VIII. MANAGERIAL IMPLICATIONS AND CONCLUSION

It is suggested to the retailers that they should design their retail marketing and communication strategy according to the retail customers’ demographic profile. From the analysis of retail customers’ demographic profile in the study area, it is identified that the most of the customers purchasing consumer electronics are belonging to the age group of 20 – 30 years and 31 – 40 years and income group of Rs.15,000/- to Rs.30, 000/- per month. It is also identified that the most of the customers are salaried employees and the size of the family is three or four.

It is also suggested to the retailers that they should design their retail merchandise strategy and services marketing mix strategy with respect to after sales services according to the shopping behaviour of retail customers of consumer electronics products. From the analysis of shopping behaviour in the study area, it is identified that the most of the customers are purchasing consumer electronics in the first week of the particular month, mostly in the retail out less than 1 k.m. of the distance or the distance in between 1 k.m. to 3 k.m. from their household.

The study identified that the retail customers of consumer electronics products are having high positive perception towards the attributes of product delivery. The customers in the study area are highly satisfied with after-sales-services related to Product Delivery namely Door-Delivery, Shipment/Transportation-Services, Gift-Wrapping and Product-Condition (safety). The retailers/retail mangers should continue providing these after sales services in the same manner with quality.

The retail customers of consumer electronics products are also having positive perception towards the attributes of after sales customer interaction process. The customers are satisfied with after sales services related to Customer Interaction namely Communication-on-order-refund-requests, Customer-Feedback, Customer Support/Helpline and Post-purchase-communication. The retailers should also continue the same communication process with their customers.

Two after sales services namely, CRM-Initiatives and Alteration-services are eliminated while executing factor analysis which means the customers in the study area are not having positive perception towards these two after sales services. The retailers/retail managers should concentrate on providing these two services to the retail customers in the study area.

It is identified in the study that the retail customers of consumer electronics products are not having positive perception towards the attributes of Product>Returns and Customer-Loyalty. The customers are having less satisfaction with after sales services related to Products Returns namely Return-and-Replacement-process, and Exchange-policy. The customers are also having less satisfaction with after sales services related to Customer Loyalty namely Complimentary-benefits and Loyalty-Programmes. The retailers should concentrate on improving these after sales services.

IX. LIMITATIONS OF THE RESEARCH AND FUTURE SCOPE

This research concentrates on twenty variables (after sales services) only, but there may be more than twenty after sales services offered which determine the customer perception. The study can further be conducted by

identifying and considering more than twenty after sales services (variables) for further results. The study is geographically limited to Visakhapatnam only so that the same study can be executed in other places in India as well as in the world. The study may be extended to online retailing also specific with product.

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