

After-Sales Service Factors Affecting Customer Satisfaction of Mobile Phones

Journal of Development Economics and Management Research Studies (JDMS)
A Peer-Reviewed Open Access
International Journal
ISSN: 2582 5119 (Online)



Crossref Prefix No: 10.53422
13 (30), 81 - 89, October –December, 2026
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After-Sales Service Factors Affecting Customer Satisfaction of Mobile Phones

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Abstract

After-sales service is one of the most critical dimensions for customer satisfaction. However, the elements of after-sales service that influence customer satisfaction are not well studied in innovative, short-life-cycle products such as mobile phones. This study aims to identify the after-sales service elements that influence customer satisfaction. Three hundred fifty mobile phone users of different brands, identified through snowball sampling, were surveyed using a structured questionnaire. Multiple regression analyses of these data found four after-sales services: warranty, online support, service centre support or repair, and upgrades, statistically significant in influencing customer satisfaction for mobile phone brands.

Keywords: Aftersales Services, Mobile Phone, Customer Satisfaction

JEL Classification: M31, D12, L15, L86, C25

Introduction

An organisation's bottom line depends largely on its customers. There has been a clear shift from product-oriented businesses to customer-oriented companies. Even two decades ago, every business focused on producing final goods and services. But now, the idea has changed. Customers are the ultimate rulers at this juncture. Customer satisfaction depends on the overall impression of the supplier. This happens only when customers are on good terms with the business. Customer satisfaction is an essential factor in overall success today. It also refers to people's emotional response after making the purchase. The more positive customer satisfaction, the more likely the buyer is to return and buy again. Pre- and post-purchase services critically affect customer satisfaction.

After-sales service refers to all the company's efforts to care for and retain valued customers after buying the product. Simply saying "Thanks" after a sale will not bring that customer back to the business. Instead, the company builds a long-term relationship by

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improving the post-sale customer experience. After-sale programs can entice consumers to purchase the product in the first place; they can also support a higher product price. It also influences the firm's long-term reputation and can affect future sales. However, it also imposes a cost on firms.

After-sales services involve a continuous interaction between the service provider and the customer throughout the post-purchase product life cycle. When a customer purchases a product, this interaction is formalised by a mutually agreed warranty or service contract. Many mobile users have disclosed that they no longer depend on features and price to evaluate a mobile brand. Improved after-sales service is also used to drive customer satisfaction. Based on this situation, this study will determine the impact of after-sales service elements on customer satisfaction.

Objectives of the study

- To identify the impact of after-sales service elements on customer satisfaction in the mobile industry.
- To analyse the demographic factors such as age, gender, education, and occupation of the respondents.
- To study the factors affecting after-sales service in customer satisfaction

Review of Literature

Bayu et al. (2019) studied the effect of after-sales service, brand image, and product quality on Samsung smartphone repurchase decisions in the Indonesian market. Although Samsung is a strong brand, customers' repurchase decisions are driven by product quality and after-sales services such as warranty, application assistance, and customer service.

Majava & Isoherranen (2019) et al., as part of CRM, use after-sales services as a non-price competitive tool to gain competitive advantage, generate additional revenue, and ultimately create customer value.

Hussein & Hartelina (2021): After-sales service refers to the benefits customers receive after a sale. Customers justify the value of a purchase through after-sales services, which directly affect consumer satisfaction and indirectly affect customer loyalty.

Hussein & Hartelina (2021) examined the relationship between after-sales service and customer loyalty through value co-creation for iPhones in Indonesia. After-sales service was found to influence customer loyalty both directly and indirectly through value co-creation.

Elements of after-sales service

Every time a sale occurs, it creates both opportunity and obligation. The role of after-sales service is to create a mutual relationship with the customers to ensure continued satisfaction. When a customer is dissatisfied with any product, he may switch to another product or provide information to the seller to improve the product. An organisation can engage with customers and collect feedback in different ways, such as comment cards, telephone calls, the Internet, etc. Organisations can provide after-sales services through this feedback, opinions, and queries.

The after-sales services may take different forms. Based on previous studies, the dimensions or elements of after-sales services have been summarised and followed by their discussion and hypothesis development.

Warranty: Any written document by which a business assures its customers that certain conditions would be fulfilled.

User Training: We are providing information about the use of the products

Online Support: They provide answers to customers' queries online.

Upgrades: Updating hardware and software of products

Service centre support/Repair: Fixing the product after the Initial sale.

Delivery: Delivery of purchased products to customers at their specified location.

Hypothesis development

Warranty: Warranty service is provided after the sale to prove that the product will function properly. To be successful in these criteria, an organisation must create a reliable and better product and offer long-term warranty service to its customers.

H1: Warranty influences customer satisfaction.

Warranty: As mobile phone manufacturers launch new innovative mobile phones every year, increased prototype testing ensures reliable products and may reduce warranty claims. Warranty service is an obligation for the seller.

H2: User guidelines/training influences customer satisfaction

User guidelines: It is the responsibility of the seller to provide them for the satisfaction of the buyer. User training is another element of after-sales service. The high-tech products must be made familiar to the users to feel comfortable for error-free uses.

H3: Online support influences customer satisfaction.

Online Support: Many e-commerce companies have started to provide online support to answer customers' queries regarding their products. Nowadays, almost all companies maintain social media platforms to support and communicate with customers. Engagement, communication, and after-sales support through social media can increase sales.

H4: Upgrades influence customer satisfaction.

Upgrades: It is crucial for software and electronics products. Upgrading products at a regular interval of time is one of the essential elements used to ensure the product's effectiveness. Hardware may remain the same, but the software to support it may need to be upgraded for proper and smooth running.

H5: Service centre's support / Repair influences customer satisfaction.

Service center's support / Repair: Repair is the first element/component after the sales. It means fixing the products. Cost of repair, time to repair, time taken to deliver a repaired product, and accuracy of repair play a crucial role in customer satisfaction with the product.

H6: Delivery influences customer satisfaction

Delivery: It is one of the most common elements of after-sales service. In the age of e-commerce, post-purchase delivery plays a significant role in customer satisfaction. Delivery in after-sales service refers to the time it takes to respond and deliver the repaired products to the customers.

Research model

Based on the hypothesis, the linear regression model will be

$$Y = c + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6$$

Y (Customer satisfaction) = c (constant) + b₁ (warranty) + b₂ (user guidelines) + b₃ (online support) + b₄ (upgrades) + b₅ (service Centre's support / Repair) + b₆ (Delivery)

Here,

X₁= Warranty, X₂= User guidelines, X₃= Online support, X₄= Upgrades X₅= Service Centre's support / Repair, X₆= Delivery

This model will be tested empirically using the following methodology.

Methodology

Sample and sampling technique

A snowball sampling method was used to collect responses from 400 respondents through a structured questionnaire administered via an online survey. The first part of the questionnaire included questions regarding demography, and the second part of the questionnaire had questions about the factors of after-sales services. To lessen the response bias, the respondents were well informed about the study and were given the option to withdraw at any time. A total of 350 responses were found useable (87.50 % response rate) and kept for data analysis.

Data analysis

This deductive study uses multivariate regression to empirically test the causal relationships among variables. All the assumption (linearity, normality, multicollinearity, and homoscedastic) of multiple regression analysis has been assessed. The collected data is analyzed with the statistical package for social sciences (SPSS). The output is presented in the table, and overall implications are explained.

Table 1: Personal details of the sample respondents

Demography	Frequency	Percent	Cumulative Percent
Age Group			
Below 20 Years	150	42.9	42.9
20 - 30 Years	146	41.7	84.6
30 - 40 Years	45	12.9	97.4
40 - 50 Years	9	2.6	100.0
Above 50 Years	0	0	100.0
Gender			
Male	156	44.60	44.60
Female	194	55.40	100.00
Education			
Undergraduate	190	54.3	54.3
Graduate	129	36.9	91.1
Postgraduate	31	8.9	100.0
Occupation			
Business	16	4.6	4.6
Job Holder	44	12.6	17.1

House maker	28	8.0	25.1
Student	262	74.9	100.0

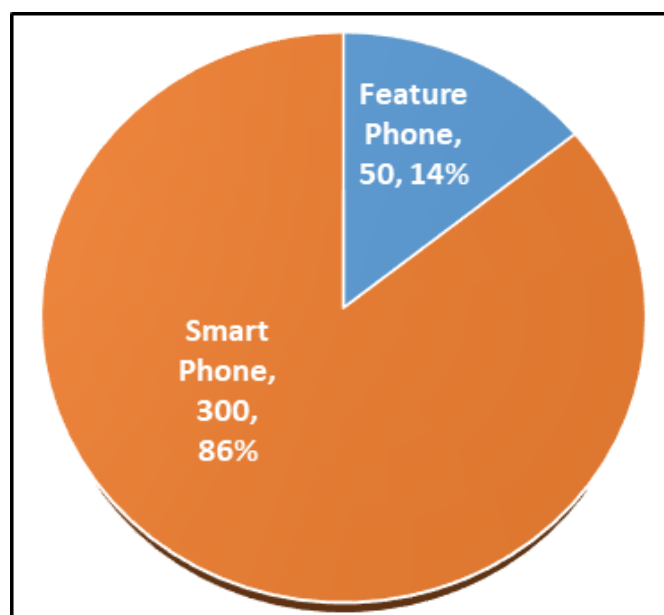
Source: Primary data

Table 1 shows that, gender-wise, female respondents outnumbered male respondents. Among the 350 respondents, 194 were female, representing 55.40% of total respondents. One hundred fifty-six male respondents were found, constituting 44.60 %. Of the 350 respondents, 190 are undergraduates (54.3%); 129 have graduated; and 31 are postgraduates (8.9%). As previously stated, using mobile is more significant among the young generation. Of 350 respondents, 262 are students, constituting 74.9% of the sample; 44 respondents are job holders, accounting for 12.6%; 4.6% are businessmen; and 28% are homemakers.

Types of Mobile Phone

A feature phone with features such as the ability to access the web and store and play music but not a touch screen is referred to as a feature phone. Here, 14 % of respondents have been found using a feature phone. A mobile phone that performs many of the functions of a computer, typically with a touch screen interface, internet access, and an operating system capable of running downloaded apps, is referred to as a smartphone. A significant number, 86% of respondents, use smartphones, as shown in Diagram 1.

Diagram 1: Type of Cellphones of the sample respondents



Regression Analysis

Multiple regression was used to assess the ability of 6 control measures (Warranty, Online Support, Delivery, Upgrades, Service centre's support/Repair, and User Training) in predicting levels of customer satisfaction. The first part of the assessment confirms the multiple regression assumption tests, and the second part presents the model summary and hypothesis-testing results.

Diagram 2: Histogram of Regression Standardised Residuals for Satisfaction with Mobile Phone

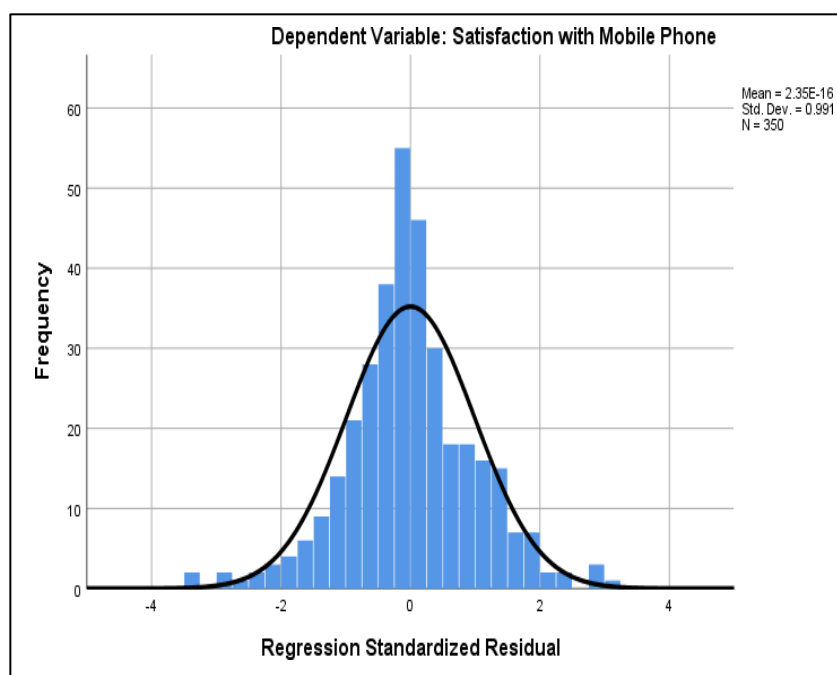


Diagram 2 shows the distribution of standardised residuals from the regression model explaining satisfaction with different mobile phone models. The residuals are concentrated around zero and generally follow the normal curve shown in Diagram 2. The standard deviation is approximately 0.99, which is close to the expected value of 1 for standardised residuals. Although a few observations appear at the extreme ends of the distribution, these deviations are relatively small.

Regression assumption test

Preliminary analyses were conducted to ensure no violation of normality, linearity, multicollinearity, and homoscedasticity assumptions. We inspected the normal probability plot of standardised residuals and the frequency of regression standardised residuals. Diagram 2, as well as the scatterplot of standardised residuals against standardised predicted values (Appendix-B), indicated that the assumptions of normality, linearity, and homoscedasticity of residuals were met.

Multiple regression is sensitive to outliers. Mahalanobis (1936) distance (MD) did exceed the critical χ^2 for $df = 6$ (at $\alpha = .001$) of 22.46 for six cases in the data file and three cases in the case-wise diagnostic (Appendix-C). However, Cook's distance (Cook, 1979; Cook & Weisberg, 1982) residual value was 0.077 below the critical value of 1.0, indicating that multivariate outliers were not of concern.

Moreover, relatively high tolerances for all six predictors (e.g., .877) and VIF less than 3 (Kock, 2015) in the regression model indicated that multicollinearity would not interfere with our ability to interpret the outcome of the regression model. (see Table 2).

Table No: 2 Coefficients

Model	Understand. Coeff.		Stand. Coeff.	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error				Lower Bound	Upper Bound		
(Constant)	-.191	.233		-.819	.413	-.650	.268		
Warranty	.261	.052	.238	4.972	.000	.158	.364	.622	1.607
User guidelines/trainin g	.014	.060	.012	.241	.810	-.104	.133	.543	1.842
Online Support	.250	.051	.197	4.887	.000	.150	.351	.877	1.141
Upgrades	.185	.050	.181	3.729	.000	.088	.283	.606	1.651
Service Centre's support / Repair	.300	.053	.278	5.635	.000	.196	.405	.585	1.710
Delivery	.118	.062	.093	1.908	.057	-.004	.241	.593	1.686

Model Summary

In combination, six predictors (Delivery, Online Support, Upgrades, Warranty, Service Centre's support/ Repair, User guidelines/training) accounted for 51.20 % of the variability in of after-sales service satisfaction, $R^2 = 0.512$, adjusted $R^2 = 0.503$, $F(6, 343) = 59.980$, $p < .0001$ (See Table 3-4).

Table 3: Model Summary.

Model	R	R Square		Adjusted R Square	Std. Error of the Estimate		Durbin-Watson
1	.716 a	.51	.503	.503	.900		1.577

Table 4: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	291.266	6	48.544	59.980	.000 ^b
	Residual	277.603	343	.809		
	Total	568.869	349			

a. Dependent Variable: Satisfaction with After-sales service

Hypothesis test

Table shows warranty ($b = 0.2338$, $p = 0.000$), User guidelines ($b = 0.027$, $p = 0.192$) and online support ($b = 0.197$, $p = 0.000$), upgrade ($b = 0.181$, $p = 0.000$), Service Centre's Support / Repair ($b = 0.278$, $p = 0.000$) have statistically significant effect on the satisfaction of mobile phone after-sales service. Among them, Service Centre Support / Repair is the most important dimension, followed by warranty and online support. However, User Guideline / Training ($b = 0.070$, $p = 0.0000$) and Delivery ($b = 0.070$, $p = 0.0000$) do not significantly affect mobile phone after-sales service satisfaction. The summary of the hypothesis test is shown in Table 2 - 4.

Table 5: Hypothesis Test.

Hypothesis	Proved
H1: Warranty influences customer satisfaction	YES
H2: User guidelines/training influences customer satisfaction	NO
H3: Online support influences customer satisfaction	YES
H4: Upgrades influence customer satisfaction	YES
H5: Service center's support / Repair influences customer satisfaction	YES
H6: Delivery influences customer satisfaction	NO

Finally, the regression model ends with the following equation after considering the hypothesis testing

$$Y \text{ (Customer satisfaction)} = 0.278 \text{ (Service Centre's support / Repair)} + 0.238 \text{ (warranty)} + 0.197 \text{ (Online Support)} + 0.181 \text{ (upgrades)}$$

Findings:

After-sales service is a vital operational and marketing issue in satisfying customers and building loyalty. Mobile phone manufacturers provide after-sales services to customers in different ways. Mobile phone manufacturers adopt different after-sales service dimensions depending on their capacity to serve their customers. However, in this cross-brand study, service centre support/repair service was the most critical factor in after-sales service satisfaction. This is especially true for technological and innovative products, for which the service and maintenance market is not equipped with the latest knowledge of products such as mobile phones. For this reason, better product repair and maintenance in terms of hardware and software require special attention from manufacturers. After repair service, warranty is the second most crucial factor in after-sales customer satisfaction. Repair or Service Centre Support costs money if the manufacturer offers no warranty. The technological product life cycle, especially for mobile phones, has shortened. Within this short life cycle, customers want hassle-free product service. As manufacturers compete to bring new innovative products to market, flaws and bugs are common.

However, mobile phone manufacturers are taking online and offline strategies to support and meet warranty claims. Most software upgrades and other issues are addressed online. This helps keep the phone updated with operating systems, security, and bug fixes. For customers, this has become a key factor in choosing a brand because it helps them keep a phone for a long time without buying a new one. Thus, online support and upgrades are essential for customer satisfaction.

Training and delivery were found to be insignificant. Mobile phones have been on the market for more than three decades worldwide. By now, consumers have developed strong skills in operating a mobile phone. New features and innovations on the Android and Apple iOS platforms require minimal learning and effort. Moreover, delivery time after purchase has become standardised worldwide. Consumers are well informed about lead time and can track shipments. Thus, both training and delivery have become less influential in shaping satisfaction with mobile phone after-sales service.

Conclusion

The primary goal of this research was to explore the relationship between after-sales service elements and customer satisfaction. Among respondents, students were the largest group, mostly under 20. Most respondents were educated and used smartphones. This study identified six after-sales service elements (Delivery, Online Support, Upgrades, Warranty, Service Centre support/Repair, User guidelines/training) through a systematic literature review. It used these factors to estimate their relationship with customer satisfaction.

Multiple regression analysis found that warranty, online support, upgrades, and service centre support/repair are the influential after-sales elements that can predict customer satisfaction. The most crucial dimension is the service center's support/repair, followed by warranty and online support. This study's findings have numerous theoretical and managerial implications.

This study has augmented the aftersales literature by identifying the influential after-sales factors relevant to customer satisfaction. Moreover, it is a time-demand study that would meet the researcher's thrust of knowledge about innovative products' aftersales dimension, which has long not been studied.

Managers of different mobile phone brands must attach a warranty to their new mobile phones, as these are innovative products and repair markets cannot repair new products due to limited knowledge. The warranty claim must be met with proper care through the support center's services because it is essential for aftersales customer satisfaction. Mobile phone exporters that currently lack service centre customer support must provide customers with online support that regularly delivers operating system, security, and UI upgrades.

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