# An impact analysis study of various services provided by Vodafone on the customer perception and behavior in the Pune region.

**Dr. Vinay B. Nandre,**

**Associate Professor,**

**IAEER's Pune Institute of Business Management, Pune**


**Dr. Sudarshan A. Pawar**

**Assistant Professor,**

**P.E. Society's Institute of Management and Career Development, Pune**

## Abstract:

The main objective of the paper is to provide an analytical framework for the measurement of the customer's perception about telecom services provided by Vodafone in Pune region. It also discusses various dynamics that influence the buying behavior of respondents.

Existing literature across several telecom operators has been reviewed to have a clear description of the facilities provided by various telecom operators. Data collected from 109 valid responses from Pune and analysis have done about the impact of consumer perception of Telecom Network on their purchasing behavior.

According to empirical findings, it is revealed that there are so many varieties of services and offers that are offered by Vodafone. These varieties are individually standing in the market and have an impact on the customer satisfaction level and their purchasing behavior too.

## Introduction

The reach of telecom services to all regions of the country has become an integral part of an innovative and technologically-driven society. It is found in several studies that there is a positive correlation of the Internet and Mobile Services on the growth of the GDP of the country. As a result of sustained efforts made by the Government over the years, the Indian Telecom Sector has grown exponentially and has become the second largest network in the world, next only to China. The number of telephone subscriptions increased from 1059.33 million at the beginning of the financial year to 1124.41 million at the end of November 2016 and 1099.97 million wireless telephone connections.

As per the report of telecom ministry, 2016-17 Overall teledensity in the country is 87.85% whereas urban teledensity is 164.13%. The share of wireless telephones in total telephones is 97.83%. The share of the private sector in total telephones is 89.58%.

## Objective and Methodology:

The operators of the telecom sector had to survive a very tough competition from other well-established brands and so are to Vodafone. Marketing was adopted as a major tool by Vodafone to survive this competition. The main area of this study is the Pune circle.

The primary objective of the study is to analyze the impact of various services provided by Vodafone on customer perception.

Secondary objectives are:

1. To examine the market share of prepaid and postpaid connections of Vodafone in the market.

2. To analyze the association between the type of scheme provided by Vodafone and the level of satisfaction of the customer.

3. To review the varied services provided by Vodafone.

4. To justify the presence of Vodafone as one of the top service providers in the telecom sector.

## Research Methodology:

The above-mentioned objectives can be achieved by carrying proper and planned research involving different types and methods. The data collected laid the foundations for the study and gave a platform for the analysis and findings, which lead to the fulfilment of the objectives. The Sample Size of the study was 150 customers from Pune region. The type of analysis style employed in this analysis is descriptive in nature. The descriptive analysis includes surveys and investigatory enquiries of various sorts. Primary data is collected by observation, interviews and questionnaires. While secondary data is collected from the internet through different case studies and reports on the telecom industry.

Observation method was carried in the Pune region to know the market position and market share of Vodafone. The questionnaire method was used to know about the customer perception of the Vodafone. Secondary data is used to know about the telecom industry and the Company i.e. Vodafone. The data collection and analysis paves the way for the recommendation and conclusion of the study that reveals some important findings regarding the strategy. The questionnaire was pretested among 20 individuals for the pilot survey. The pretesting brought to light some of the problems in the questionnaire. These problems were then sorted out. Then questionnaires (150). This has a response rate of 78.66%. This response rate was far beyond expectations and above the expectable response rate. Of these 118 questionnaires, nine questionnaires were discarded, as these were fully incomplete or answered the demographic questions only. The remaining 109 questionnaires filled in all respects, which were used for data analysis. Data is also collected by direct interaction with the customers to know their opinion about the services provided by Vodafone.

## Literature Review:

1. Jiyoung Kim (2006) in his study "Consumers' Dynamic Switching Decisions in the Cellular Service Industry" develops an empirical framework to analyze consumer's dynamic switching decision in the cellular service industry. It 1st incorporates the serial drawback of amount, plan and firm subscription choice in the presence of switching costs into a dynamic structural model, which allows for fully heterogeneous consumers and multiple switching possibilities across networks. The model was estimated using the data set on the number of switching consumers and the evolution of observed plan/firm characteristics over time. Based on the BLP-style estimation methods, the authors combined a nested technique that uses parametric assumptions with the structural estimation algorithm. The magnitude of switching costs was estimated and it turned out that switching costs vary across networks. A dynamic model with a restricted number of switching was likely to underestimate the switching costs. Lower switch prices encourage shoppers to modify comparatively early. It was also examined that change in the variety of optional plans and plan characteristics also played a great role in the consumers' switching decision.

2. Keval J. Kumar and Amos O. Thomas (2006) in their study "Telecommunications and Development: The Cellular Mobile 'Revolution' in India and China" studied that until the mid-1990s the ownership of a telephone in India was considered a luxury, not a consumer item. The waiting amount for a line might extend from 5 to ten years. It examines that in many states companies are competing to gain customers and there is no waiting list.

3. Anita Seth, Hari Mohan Gupta and Kirankumar Momaya (2007) in their study "Quality of service parameters in cellular mobile communication" described that with the rapidly changing technologies, customer needs and inflated client awareness; it becomes imperative to review the standard of Service (QoS) parameters for cellular mobile communication. An important objective of this study was to develop a model of service quality and a collection of dimensions for comparative analysis, which could provide useful directions to regulators and service providers. The other objectives were to critically appraise, categorise and identify issues for further research based on the analysis of literature, covering both the technical and managerial aspects. Finally, a strong need for empirical study using this integrated approach was emphasised.

4. A comparative study on various plans and offers provided by Vodafone and Airtel and consumer response towards these plans shows that how people of different age group respond to advertisement, positioning strategies use by telecom companies and their impact on customer, and relative customer perception, which telecom company have good plans and what type of plans subscriber like and what role tariff plans play on the buying behaviour of the customer. However, the customer perception about the network availability, voice clarity etc are ignored.

There is a report on Assessment of customer satisfaction on idea cellular ltd in which the importance of the customer. Satisfaction for the company was analyzed from the viewpoint that why idea's market share is less. It is analyzed that what problems customers are actually facing and identify the reasons behind those problems. It is also found that whether the customer is aware of the services or not and what is the opinion of the customer of various facilities and services provided by this cellular company. However, in this study, the fact that customers use the service with the best network is ignored.

5. There is a study on Company analysis of Airtel, in which the present scenario of the telecom industry is analyzed and factors that can affect the growth of the telecom sector are analyzed. The Indian communications state of affairs has reworked into a multiplayer, Multi product market with varied market size and segments. Within the fundamental telephone service, the value chain has split into domestic/local calls, long distance players, and international long distance players. Apart from having to address the amendment in structure and culture, Airtel has to gear itself to meet competition in various segments- Basic services, long distance, International Long Distance and Internet Service Provision. It has forayed into the mobile service provider as well.

6. What strategies Airtel in implementing to defend and increase the market share is also found. However, the fact that Vodafone is also using a similar kind of strategies is ignored.

7. There is another study, which focuses on Comparative analysis of the lifetime plans of cellular operators. In this, it is found that Airtel is the market leader in the lifetime plan segment. People just like the time period plans provided by the businesses. In addition, Idea is having the second highest customers. TATA Indicom is also having a good percentage of customers, whereas Reliance and BSNL having almost equal per cent of the customer. But they are not aware of the bound of cellular companies with TRAI, those cellular companies can deliver their services till their license have validity, they have to renew it for providing further service.

8. One more study focuses on Consumer behavior towards Spice Telecom. This was to know about the potential hidden business opportunities and to know the hidden business strength of the key accounts. Customer reactions about this service are collected through a questionnaire.

## Analysis

Questionnaire interviewed personally        : 150
Responses Received                          : 118
Response Rate (in percentage)               : 78.66%
Analysis and Interpretation of the Data - To analyze the market share of prepaid and postpaid connections of vodafone in the market

**Table 1: Type of Scheme**

| N Valid | 109 |
|---|---|
| Missing | 0 |

**Table 2: Type of Scheme**

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid Postpaid | 44 | 40.4 | 40.4 | 40.4 |
| Valid Prepaid | 65 | 59.6 | 59.6 | 100.0 |
| Total | 109 | 100.0 | 100.0 | - |

**Interpretation:** Table 2 clearly shows that prepaid connections are ruling over the postpaid connections.

HO: The association between the types of scheme provided by Vodafone and level of satisfaction of customers is not significant.

By applying Chi-Square Test (using SPSS), following output is obtained:

**Table 3: Case Processing Summary**

| | Cases | | | | | |
|---|---|---|---|---|---|---|
| | Valid | | Missing | | Total | |
| | N | % | N | % | N | % |
| Type of scheme* Level of satisfaction | 109 | 100.0% | 0 | .0% | 109 | 100.0% |

**Table 4: Type of Scheme* Level of satisfaction Crosstabulation**

| | | | Level of Satisfaction | | | Total |
|---|---|---|---|---|---|---|
| | | | Low | Medium | High | |
| Type of Scheme | Postpaid | Count | 23 | 12 | 9 | 44 |
| | | Expected Count | 13.7 | 11.3 | 19.0 | 44.0 |
| | Prepaid | Count | 11 | 16 | 38 | 65 |
| | | Expected Count | 20.3 | 16.7 | 28.0 | 65.0 |
| Total | | Count | 34 | 28 | 47 | 109 |
| | | Expected Count | 34.0 | 28.0 | 47.0 | 109.0 |

**Table 5: Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 19.374" | 2 | .000 |
| Likelihood Ratio | 20.079 | 2 | .000 |
| Linear-by-Linear Association | 19.193 | 1 | .000 |
| N of Valid Cases | 109 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.30.

**Interpretation:**

Table 3 depicts the case processing summary as the total numbers of respondents are 109 and there is no missing value as missing value questionnaires have been discarded initially only. Table 4 shows the cross-tabulation of the type of scheme customer avail i.e. postpaid or prepaid and the level of customer satisfaction measured on the scale of low/medium/high. From here, the observed count (named as count only) and the expected count values are also shown which helps in a chi-square test. Table five shows that the calculated chi-square value is 19.374, which is greater than the table value (5.991) with 2 degree of freedom at 5% level of confidence. This shows that the null hypothesis is rejected and it is interpreted that type of scheme affect the level of satisfaction of customers.

**3) Factor Analysis of various factors:**

**Table 6: Communalities**

|  | Initial | Extraction |
|---|---|---|
| Customer care waiting time | 1.000 | .967 |
| Network | 1.000 | .979 |
| Outgoing call cost | 1.000 | .472 |
| Customer care response | 1.000 | .940 |
| Roaming facilities | 1.000 | .970 |
| Company reputation | 1.000 | .929 |
| SMS facility | 1.000 | .932 |
| Customer care staff | 1.000 | .882 |
| Complaint resolution | 1.000 | .808 |
| Various tariff plans | 1.000 | .932 |
| Internet Services | 1.000 | .664 |
| Celebrity endorsement | 1.000 | .741 |
| Advertisement | 1.000 | .918 |
| Tag line of advertisement | 1.000 | .944 |
| Global presence | 1.000 | .950 |

Extraction Method: Principal Component Analysis.

**Table 7: Total Variance Explained**

| Component | | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Total | %of Variance | Cumulative % | Total | %of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| Dimension | 1 | 4.121 | 27.474 | 27.474 | 4.121 | 27.474 | 27.474 | 3.583 | 23.890 | 23.890 |
| | 2 | 3.557 | 23.714 | 51.188 | 3.557 | 23.714 | 51.188 | 2.866 | 19.109 | 42.999 |
| | 3 | 2.102 | 14.011 | 65.200 | 2.102 | 14.011 | 65.200 | 2.456 | 16.370 | 59.369 |
| | 4 | 1.900 | 12.667 | 77.867 | 1.900 | 12.667 | 77.867 | 2.113 | 14.087 | 73.456 |
| | 5 | 1.350 | 8.997 | 86.864 | 1.350 | 8.997 | **86.864** | 2.011 | 13.408 | **86.864** |
| | 6 | .703 | 4.685 | 91.549 | | | | | | |
| | 7 | .538 | 3.585 | 95.134 | | | | | | |
| | 8 | .300 | 2.000 | 97.134 | | | | | | |
| | 9 | .221 | 1.470 | 98.604 | | | | | | |
| | 10 | .109 | .728 | 99.332 | | | | | | |
| | 11 | .049 | .327 | 99.659 | | | | | | |
| | 12 | .032 | .213 | 99.872 | | | | | | |
| | 13 | .015 | .101 | 99.974 | | | | | | |
| | 14 | .004 | .026 | 100.00 | | | | | | |

Extraction Method: Principal Component Analysis.

**Table 8: Component Matrix***

| | Component | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Customer care waiting time | .596 | -.667 | -.102 | -.018 | .396 |
| Network | .024 | .093 | .750 | -.633 | .080 |
| Outgoing call cost | -.447 | .248 | -.281 | -.268 | .244 |
| Customer care response | .605 | -.591 | -.072 | -.010 | .468 |
| Roaming facilities | -.034 | -.012 | .783 | -.579 | .139 |
| Company reputation | .010 | .703 | .250 | .424 | .439 |
| SMS facility | .613 | -.193 | .466 | .407 | -.370 |
| Customer care staff | .628 | -.596 | -.067 | -.127 | .336 |
| Complaint resolution | -.434 | -.703 | .033 | .336 | .108 |
| Various tariff plans | .613 | -.193 | .466 | .407 | -.370 |
| Internet Services | -.564 | -.075 | .294 | .458 | .210 |
| Celebrity endorsement | .777 | .371 | -.002 | -.023 | -.013 |
| Advertisement | .624 | .656 | -.296 | -.100 | .031 |
| Tag line of advertisement | .744 | .592 | -.178 | -.088 | .004 |
| Global presence | -.025 | .593 | .351 | .472 | .501 |

Extraction Method: Principal Component Analysis, a. 5 components extracted.

**Table 9: Rotated Component Matrix**

|  | Component | | | | |
|---|---|---|---|---|---|
|  | **1** | **2** | **3** | **4** | **5** |
| Customer care waiting time | -.005 | .953 | .184 | -.146 | -.055 |
| Network | -.041 | -.060 | .006 | .004 | **.987** |
| Outgoing call cost | -.025 | -.181 | -.660 | .051 | .006 |
| Customer care response | .034 | **.954** | .158 | .051 | -.026 |
| Roaming facilities | -.060 | .025 | .036 | .029 | **.981** |
| Company reputation | .225 | -.191 | -.026 | **.917** | -.004 |
| SMS facility | .096 | .129 | **.951** | .027 | .027 |
| Customer care staff | .089 | **.896** | .181 | -.196 | .036 |
| Complaint resolution | -.847 | .221 | .044 | -.073 | -.189 |
| Various tariff plans | .096 | .129 | **.951** | .027 | .027 |
| Internet Services | -..652 | .187 | -.011 | .450 | -.033 |
| Celebrity endorsement | **.769** | .186 | .312 | .134 | .005 |
| Advertisement | **.931** | .004 | -.026 | .168 | -.150 |
| Tag line of advertisement | **.944** | .074 | .125 | .161 | -.077 |
| Global presence | .91 | -.122 | .021 | **.961** | .046 |

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization, a. Rotation converged in 5 iterations.

**Table 10: Component Transformation Matrix**

| Component | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Dimension 0 | 1 | .684 | .524 | .506- | .034- | .024 |
|  | 2 | .619 | -.580 | -.202 | .488 | .033 |
|  | 3 | -.240 | -.111 | .498 | .326 | .759 |
|  | 4 | -.293 | -.066 | .470 | .531 | -.639 |
|  | 5 | -.074 | .610 | -.485 | .610 | .121 |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

**Interpretation:** Out of Table 6 to Table 10, Table 9 is most important as it shows various factors that are extracted by using Principal Component Analysis and rotation is done by the Varimax process of rotation. This table clearly shows that five factors have been extracted out of the total 15 factors. The factors having the Sign value greater than 1 are considered together as 1 factor. The summarized table is shown below.

**Table 11: Summary of factors extracted**

| Factor 1 (Marketing Tools) | Celebrity endorsement | .769 |
|---|---|---|
| | Advertisement | .931 |
| | Tag line of advertisement | .944 |
| Factor 2 (Customer Care services and behaviour) | Customer care waiting time | .953 |
| | Customer care response | .954 |
| | Customer care staff | .896 |
| Factor 3 (Various Plans/ special offers) | SMS facility | .951 |
| | Various tariff plans | .951 |
| Factor **4** (Company's reputation and presence) | Company reputation | .917 |
| | Global presence | .961 |
| Factor 5 (Network and its related facilities) | Network | .987 |
| | Roaming facilities | .981 |

After analyzing the various factors, from table 7 it can be easily depicted that **these 5 factors contribute 86.864% of the total factors** as 86.864% of the total variance is related to these factors.

**Table 12:**

| Name of Bank | Marketing tools | | | Customer care services and behavior | | | Various plans and network | | | Total Score | Average Rating |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | | |
| Aircel | 3 | 4 | 3 | 1 | 2 | 2 | 3 | 2 | 2 | 22 | 2.44 |
| Airtel | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 4 | 5 | 39 | 4.33 |
| Idea | 4 | 5 | 4 | 2 | 4 | 3 | 5 | 4 | 4 | 35 | 3.89 |
| BSNL | 2 | 5 | 3 | 4 | 2 | 3 | 3 | 2 | 1 | 25 | 2.78 |
| Uninor | 2 | 5 | 2 | 3 | 3 | 3 | 3 | 2 | 2 | 25 | 2.78 |
| Reliance | 3 | 5 | 4 | 3 | 3 | 2 | 4 | 3 | 2 | 29 | 3.22 |
| Tata Indicom | 3 | 5 | 4 | 2 | 5 | 3 | 5 | 5 | 33 | 53.89 | |
| Vodafone | 5 | 5 | 5 | 3 | 5 | 4 | 4 | 5 | 54 | 14.56 | |

**4) To justify the presence of Vodafone as one of the top service provider in telecom sector.**

Each service provider is evaluated based on each of the factors given below out of a scale of five for each factor.

**1) Marketing Tools:**

   a) Celebrity endorsement

   b) Advertisement

   c) Tag line of advertisement

**2) Customer care services and behavior:**

   a) Customer care waiting time

   b) Customer care response

   c) Customer care staff

**3) Various plans and network:**

   a) Validity and talk time

   b) Data packs

   c) Reach

Based on the evaluation reported in the above Table, the following findings are highlighted:

The overall scores indicate that the scores for all the service providers considered for evaluation have scored in the range 22-41; with the highest score 41 for Vodafone. This clearly indicates that it is among the number one telecom service provider.

**Findings:**

1. While examining the market share of prepaid and postpaid connections of Vodafone it is founded that prepaid connection is ruling over the postpaid connection.

2. It is analyzed that there is an association between the type of scheme provided by Vodafone and level of satisfaction of the customer as a type of scheme affect the customer's satisfaction level.

3. All the services provided by Vodafone are categorized into 5 factors as marketing tools, customer care services and behavior, various plans/special offers, company's reputation and presence and network and its related facilities and all these 5 factors contribute 86.864% of the total factors

4. It is justified that Vodafone is one of the top service provider in telecom sector as it has the highest score of 41, in the scale of rating from one to five.

**Conclusion:**

Customer satisfaction is the key to every industry and specifically for the service sector. Telecom sector is also focusing on this fact. After the in-depth study of the perception of Vodafone and the current market trend, it can be concluded that the Indian market is very open and vast for the telecom service. There is a great opportunity for the telecom industry for service providers. It is concluded that of the prepaid and postpaid connections, prepaid connections are ruling over the postpaid connections. It is also interpreted that the type of scheme also affects the customer satisfaction level as nowadays people are more focusing on the economic and beneficial schemes. Other than the beneficial schemes other factors that affect the customer perception are Celebrity endorsement, Advertisement, Tagline of advertisement, Customer care waiting time, Customer care response, Customer care staff, company reputation, Global presence etc. Vodafone is providing good and consistent network and therefore it is among number one Telecom Service Provider Company. By providing a variety of plans and services, Vodafone is trying to capture the market but all the factors have to be maintained to sustain first in the market.

**References:**

**Book Reference**

- C. R. Kothari, Research Methodology Methods and Techniques, New Age International Pvt. Ltd, New Pune, 2005

- Dei I Hawkins, Consumer Behavior, Tata Mc Graw Hill, New Pune, 2007

- Dr. B. Balaji, Services Marketing and Management, S. Chand & company Ltd. New Pune, 2007

- Donald R. Cooper, Pamel S Schindler, Business Research Methods, The Mc Graw Hill Companies, 2006

- Leon G. Schiffman, Consumer Behavior, Prentice Hall of India, New Pune, 2007

**Journal References:**

- Anita Seth, Hari Mohan Gupta and Kirankumar Momaya, "Quality of service parameters in cellular mobile communication", International Journal of Mobile Communications, Volume 5 Issue 1, January 2007.

- Dr. S. Arumugasamy,Growth of Telecom Services in India? Facts for You, February 2007, p. 37.

- Dr. S. Banumathy, S. Kalaivani, Customers' Attitude Toward Cell Phone Services in Communication System, Indian Journal of Marketing, March 2006, p. 31.

- Kim, Jiyoung, Consumers' Dynamic Switching Decisions in the Cellular Service Industry (November 2006).

**Website References:**

- http ://www. scribd.com

- http://dot.gov.in/sites/default/files/Annual%20Report%202016-17.pdf