



## A Study on Consumer Behavior Towards USB Modem in Madurai

### KEYWORDS

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**ABSTRACT** *The internet is most powerful tool today to access information and gather knowledge on any subject. The internet is an information super-highway freely available to everyone desirous of using it and has seemingly compressed the world into a cyber colony. To use the internet service one should have a computer or a laptop connected with a modem which provides an internet service. Normally those who use laptop computers need a wireless modem to access internet service at anywhere and at any time. Modems are generally classified by the amount of data they can send in a given unit of time usually expressed in bits per second (bit/ or bps).modems can alternatively be classified by their symbol rate, measured in baud. This study highlights the trend of wireless modem usage, analyzes the attitude of people towards wireless modem, and the brand preference of consumers towards various brands supplied by the operators , and also the various factor influencing them. In India the USB internet connection or service is provided by both sectors in public and private Sectors Company.. The findings of the study and suggestion will improve the service of the Service Providers .*

### Summary of Findings

- Out of the total 120 respondents, 36 respondent's income level is up to Rs.10,000. 51 respondents are in the income level of Rs.10,000-Rs.15,000. 18 respondent's income level is above Rs.20,000 and the remaining 15 respondents belong to the income level of Rs.15,000-20,000.
- Out of the total 120 respondents, 75 respondents came to know through friends, another 15 through family members and 30 from the source of knowledge of media.
- Out of the total 120 respondents, 88 respondents are the pre-paid users. Another 32 respondents are the Post-Paid users.
- Out of the 120 respondents, 74 respondents use modem regularly while 46 respondents are not using regularly.
- Out of the 120 respondents, 33 respondents are using for a period of Below 1 year, 52 respondents for a period of 2-3 years and 35 respondents are users for 4 years.
- Out of the total 120 respondents, 63 respondents are working a more than 5 hours a day with the internet. 36 respondents are working 6-10 hours. 15 respondents are working 11-20 hours and the remaining 6 respondents are working above 20 hours with the internet.
- Out of the total 120 respondents, 22 respondents have no idea to change the modem and the remaining 98 respondents have an idea to change the modem.
- In order to test the relationship between age and the brand preference, Chi-square test is applied and found that there is significant relationship between the age of the respondents and the brand preference.
- The researcher also found that there is no significant relationship between the educational qualification of the respondents and the brand preference.
- The researcher found out that there is no significant relationship between the occupation of the respondents and the brand preference.
- The researcher found out that there is no significant relationship between the income level of the respondents and the brand preference.
- It is observed from the purpose of using modem 'Educational purpose', 'informative purpose', Business purpose, have occupied the first, second, third, ranks respectively and other two variables official and entertainment purpose have occupied the fourth and fifth rank.

### Suggestions

- The Internet Service Providers may reduce Data usage

charges.

- They can motivate the buyers by giving some lucrative offers.
- Monthly Charges of Unlimited pack has to be reduced by the companies.
- The cost of the modem can be reduced, so that people of all level can be benefited.
- The service Providers may announce new offers to the customer's benefit.
- Charges on Post Free Usage should be reduced.
- The signal strength can be improved for better performance of the internet.
- The company should improve the customer care facilities. Contacting customer care officials seems to be a tough task today. Companies must facilitate easy access to the customer care. Customer's grievances should be resolved in time.
- The companies may update the various tariff plans to their customers at regular intervals.
- Data charges beyond free usage should not be deducted from the available balance of the main account.

### Conclusion

Among the various service providers only certain major brands such as Airtel, Aircell, BSNL, Idea, Reliance, Vodafone, Tata Indicom, MTS, are familiar to the customers. This study reveals about the brand preference of modem users in Madurai. The brand preference is influenced by age, educational qualification, occupation, income, quality and price of the modem.

From the research we conclude that the Airtel is most preferred by the customers. It has a wide opportunity to become leader in this segment. This study will help the Internet Service Providers for their further development.

If other Companies implement the suggestion six, they could also become competitive and successful.

### Introduction

A **modem (modulator-demodulator)** is a device that modulates an analog carrier signal to encode digital information, and also demodulates such a carrier signal to decode the transmitted information. Modems can be used for any means of transmitting analog signals, from light emitting diodes to radio. Modem plays an important role in using the internet service. A modem is an essential instrument for accessing

internet service through a computer. The modem is of two types. First one is connected with the land line telephone wire, and the second one is a wireless type which is connected to a USB port in a computer and it accesses the internet without wire. Consumer behaviour is the study of when, why, how and where people do or do not buy a product. It blends elements from psychology, sociology, social anthropology and economics. It attempts to understand the buyer decision making process, both individually and in groups. It studies characteristics of individual consumers such as demographics and behavioural variables in an attempt to understand people's wants. It also tries to assess influences on the consumer from groups such as family, friends, reference groups, and society in general.

**Statement of the problem**

Now a days internet is almost essential in every one's life. Many operations are made global. Business, banking, finance, marketing, any type of commercial services and communication network service are made easy. Now a day's an ordinary person can use an internet service to book Air ticket, Railway ticket, pay phone bills Electricity bills to education purpose, Job opportunities through online and also buy and sell anything as they require anywhere in the world. To use the internet service one should have a computer or a laptop connected with a modem which provides an internet service It can be accessed anywhere at any place without wire through a wireless modem supplied by various service providers. Mostly this wireless internet service is provided by the existing cellular mobile phone operators through a wireless USB modem supplied by them. They provide their internet net work service by both pre-paid and post-paid method of payments.

A cut throat competition is prevailing among various service providers therefore an attempt is made to highlight the trend of wireless modem usage and to analyze the attitude of people towards wireless modem, and to analyze the brand preference of consumers towards various brands supplied by the operators , and also the various factor influencing them. This will help the people engaged in this field to formulate policies to streamline to growth and also to achieve sustainable growth. As the researcher belongs to Madurai town, she has taken up the study with reference to this place.

**Objectives of the study:**

- To study and analyze the buying behavior of the respondents towards wireless internet modem.
- To analyze factors influencing the buying behavior relating to wireless internet modems of respondents.
- To find out the customer preference towards various brands of modem.
- To identify the level of satisfaction among various customers.
- To offer suitable suggestions based on findings for improvement.

**Methodology**

The present investigation has been basically designed as a 'Descriptive Study' with 'survey' as the technique of research. A well structured questionnaire was constructed and validated by the researcher for the collection of primary data. A pilot study has been made with 15 respondents before conducting the original preparation for checking out the viability of the questionnaire. This project is using both primary and secondary data. The primary data are directly collected from the buyers and sellers of the modem in Madurai district. The secondary data were collected from journals, magazines, book, and also from various websites. The researcher has followed the method of multi stage random sampling for collecting data from students and professionals in Madurai city. The study was conducted among 120 respondents comprising, 102 (85%) respondents being Male and remaining 18 (15%) respondents being female

**Framework of analysis**

The statistical techniques used in this study are percentage analysis, Garret's ranking, Chi-square test analysis.

The following formula was used to find out Garrett's ranking.

$$\text{Percentage position} = \frac{100 (R_{ij} - 0.5)}{N_j}$$

Where,

R<sub>ij</sub> - Rank given for the i<sup>th</sup> variables by the j<sup>th</sup> respondents

N<sub>j</sub> - Number of variables ranked by the j<sup>th</sup> respondents.

The formula for Chi-square test is used to test the association between age, education, occupation and monthly income.

$$\chi^2 = \frac{\sum (O - E)^2}{E}$$

$$\chi^2 = \frac{\sum \frac{(R_{ij} - E_{ij})^2}{E_{ij}}}{1}$$

O - Observed Frequency

E - Expected Frequency

$$E = \frac{\text{Row total} \times \text{Column total}}{\text{Grand total}}$$

Degrees of Freedom = (r-1) (c-1)

R - Number of rows

C - Number of columns.

**Source of Awareness about USB Modem**

The respondents are getting awareness about the USB Modem from various sources like Friends, Family Members, and through media. The following table explains the Sources of Awareness about the USB Modem and brands.

**Sources of Awareness about USB Modem and Brands**

Sl.No.	Sources	Number of the Respondents	Percentage (%)
1	Friends	75	62.50
2	Family Members	15	12.50
3	Media	30	25.00
Total		120	100.00

**Types of Plans of Using the USB Modem**

The services providing companies are offering products and plans to the customer like pre-paid and post-paid. The following table presents the types of plans of using the USB Modem.

**Types of Plans of Using the USB Modem**

Sl.No.	Types of Plans	Number of the Respondents	Percentage (%)
1	Pre-paid	88	73.33
2	Post-paid	32	26.67
Total		120	100.00

**Experience in the usage the USB Modem**

Experience in consuming the USB Modem is divided into three categories that are below one year, 2-3 years and above 4 years. The following table presents the experience of consumption of USB Modem.

**Experience in Consuming the USB Modem**

Sl. No.	Duration of Usage	Number of the Respondents	Percentage (%)
1	Below 1 year	33	27.50
2	2 to 3 years	52	43.30
3	Above 4 years	35	29.20
Total		120	100.00

**Duration in consumption of the USB Modem in a Day**

The following table shows the duration in consumption of USB Modem in a day

**Duration of Using the USB Modem in a Day**

Sl.No.	Duration	Number of the Respondents	Percentage (%)
1	Below 5 Hours	63	52.50
2	6 hours to 10 hours	36	30.00
3	11 hours to 20 hours	15	12.50
4	Above 20 Hours	6	5.00
Total		120	100.00

**Desire to change brand**

The researcher wanted to know whether the respondents are willing to change their brand. The result is given in the following table.

**Desire to change brand**

Sl.No.	Opinion	Number of the Respondents	Percentage (%)
1	Yes	22	18.30
2	No	98	81.70
Total		120	100.00

**Duration of Server Problem**

The respondents are facing more problems while using their USB Modem like speed, network coverage, server problem, and the like. Out of which, the server problem is most irritating and giving more stress to the users. The following table explains the duration of server problem while using the USB Modem by the respondents.

**Duration of Server Problem while Using the USB Modem By the Respondents**

Sl.No.	Duration of Problem	Number of the Respondents	Percentage (%)
1	No Server Problem	39	32.50
2	Below 2 hours	75	62.50
3	Above 3 hours	6	5.00
Total		120	100.00

**Customer Care and Support to the user of the USB Modem**

Customer care is a series of activities designed to enhance the level of customer satisfaction that is the feeling that a product or service meets the customer expectations. Customer care and support is one of the main functions of any service providers. The following table presents the customer care and support to the user of USB Modem.

**Customer Care and Support to the user of USB Modem**

Sl.No.	Customer Care and Support	Number of the Respondents	Percentage (%)
1	Through Phone Cell	68	56.7
2	In Person	33	27.5
3	Through e-mail	19	15.8
Total		120	100.00

**Purpose of Using the USB Modem**

Purpose of using the USB Modem is divided into four categories that are portable, comfortable, Economical and privacy. The following table shows the purpose of using the USB Modem.

**Purpose of Using the USB Modem**

Sl.No.	Purpose	Number of the Respondents	Percentage (%)
1	Portable	47	39.2
2	Comfortable	28	23.3
3	Economical	24	20.0
4	Privacy	21	17.5
Total		120	100.00

**Performance of USB Modem**

Performance of USB Modem has been classified into four categories that are High speed, proper connectivity, network coverage and more add on services. The following table presents the performance of USB Modem.

**Performance of USB Modem**

Sl.No.	Sources	Number of the Respondents	Percentage (%)
1	High Speed	34	28.30
2	Proper Connectivity	35	29.20
3	Net Work Coverage	42	35.00
4	More add on Services	9	7.50
Total		120	100.00

**Reason for Choosing Pre-paid Tariff of the USB Modem**

Pre-paid tariff of the USB Modem has been classified into five categories that are economic tariff structure, online recharge, easy recharge, more number of recharge centre and fixed commitment. The following table shows the Reason for choosing pre-paid tariff of the USB Modem.

**Reason for Choosing Pre-paid Tariff of the USB Modem**

Sl. No.	Reason for choosing	Number of the Respondents	Percentage (%)
1	Economic Tariff Structure	46	38.30
2	Online Recharge	29	24.20
3	Easy Recharge	29	24.20
4	More Number of Recharge Centre	9	7.50
5	Fixed Commitment	7	5.80
Total		120	100.00

**Respondents' Overall Opinion about the USB Modem**

The opinions of the respondents are classified into Highly Satisfied, Satisfied, No opinion, Dissatisfied and Highly Dissatisfied. The following table explains the overall opinion about the USB Modem.

**Respondent's overall opinion about the USB Modem**

Sl.No.	Opinion	Number of the Respondents	Percentage (%)
1	Highly Satisfied	20	16.70
2	Satisfied	34	28.30
3	No Opinion	42	35.00
4	Dissatisfied	21	17.50
5	Highly Dissatisfied	3	2.50
Total		120	100.00

**Garrett's Ranking Technique**

To find out the most significant factor which influences the respondent, Garrett's ranking technique was used. As per this method, respondents have been asked to assign the rank for all factors and the outcome of such ranking has been converted into score value with the help of the following formula:

$$\text{Percent position} = \frac{100 (R_{ij} - 0.5)}{N_j}$$

Where

$R_{ij}$  = Rank given for the  $i^{\text{th}}$  variable by  $j^{\text{th}}$  respondents

$N_j$  = Number of variable ranked by  $j^{\text{th}}$  respondents

With the help of Garrett's Table, the percent position estimated is converted into scores. Then for each factor, the scores of each individual are added and then total value of scores and mean values of score is calculated. The factors having highest mean value is considered to be the most important factor.

**Brand Preference of Pre-paid and Post-paid Plans of Using the USB Modem**

Brand preference by the respondents of USB Modem is based on their usage, price of the product, image, speed, network coverage and the like. The following tables state the brand preference under pre-paid plans by the respondents for selection of USB Modem.

**Brand Preference under Pre-paid plan by the respondents for selection of USB Modem**

Sl.No.	Telecommunication Service Provider	Mean	Rank
1	Airtel	27.0833	I
2	Aircell	12.9167	V
3	BSNL	16.2500	IV
4	Reliance	17.0833	III
5	Vodafone	22.9167	II
6	Talalndicom	10.4167	VI
7	MTS	8.7500	VII

**Brand Preference under Post-paid plan by the respondents for Selection of USB Modem**

Sl.No.	Telecommunication Service Provider	Mean	Rank
1	Airtel	32.91667	II
2	Aircell	22.91667	III
3	Reliance	39.58333	I
4	Vodafone	9.58333	IV

**Brand Preference under Limited and Unlimited Schemes of Using the USB Modem**

Brands Preference by the respondents of USB Modem is based on their usage, price of the product, promotions, image, speed, network coverage and the like. The following table presents the brand preference under the Limited and Unlimited schemes by the respondents for selection of USB Modem.

**Brand Preference under the Limited Scheme by the by Respondents for Selection of USB Modem**

Sl. No.	Telecommunication Service Provider	Limited Scheme		Unlimited Scheme	
		Mean	Rank	Mean	Rank
1	Airtel	69.5833	III	425.4167	I
2	Aircell	81.2500	II	197.9176	II
3	BSNL	22.9167	VII	127.9167	III
4	Reliance	34.5833	VI	63.7500	VI
5	Vodafone	110.4167	I	104.5833	V
6	Talalndicom	40.4167	V	116.2500	IV
7	MTS	46.2500	IV	40.4167	VII

**Purpose of Using USB Modem**

The researcher has classified the purpose of using the USB Modem in to five categories namely educational purpose, business purpose, official purpose, entertainment purpose and informative purpose. The respondents are asked to rank their purpose of using the modem. The following table shows the ranking of purpose.

**Reason for using USB Modem**

Sl.No.	Factor	Mean	Rank
1	Educational Purpose	270.4167	I
2	Business Purpose	62.0833	III
3	Official Purpose	41.2500	IV
4	Entertainment Purpose	20.4167	V
5	Informative Purpose	103.7500	II

**Summary of Findings**

- Out of the total 120 respondents, 36 respondent's income level is up to Rs.10,000. 51 respondents are in the income level of Rs.10,000-Rs.15,000. 18 respondent's income level is above Rs.20,000 and the remaining 15 respondents belong to the income level of Rs.15,000-20,000.
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#### Suggestions

- The Internet Service Providers may reduce Data usage charges.

- They can motivate the buyers by giving some lucrative offers.
- Monthly Charges of Unlimited pack has to be reduced by the companies.
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