

Telecommunication Service Usage Profile and Preference: A Comparative Study between Bsnl and Private Service Operators

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Abstract: *It is worth mentioning that at present telephone especially mobile phone has become a necessity of life. Yet the socio economic environment in which a person is living also influences the telephone usage and preference. Hence, the socio economic factors and their influence on telephone usage of the people becomes an important area for research studies. This paper reviews the telephone usage profile of the respondents and their preference for BSNL and other private operators in the State of Nagaland. The primary objective of this paper is to study the respondents' preference for BSNL and private operators. This study is an empirical one based on descriptive research design. The study is based on the primary data. In order to study the usage profile of the telephone users in Nagaland a survey was conducted in the selected districts of Nagaland. The data were collected from 450 sample respondents using a well-structured questionnaire.*

Telecommunication service usage profile depends on a number of factors such as area of residence, age of the customers, gender, marital status, level of education, occupation, monthly income of the users and so on. The survey revealed that young generation people below 25 years of age are having an inclination towards the private operators. It is further observed that among the BSNL users 57.17% of the respondents are using post-paid service for which a minimum monthly rental is paid, which is neither popular nor affordable for the poor sections of the society. On the other hand, private service is popular among all sections of the society irrespective of their level of income. But it is more popular among the lower income group and especially among the students. Among the private service users, only 5.31% are using post-paid service. The study further concludes that private operators could increase the number of customers gradually over the period as against the shrinking market share of BSNL

Keywords: *Telecom, Preference, Operators, Service, BSNL, Private*

Introduction:

Telephone is a public utility service and hence it is the duty of the Government to monitor the development and growth of telecommunication sector in order to provide maximum social advantage and better service to the people. In this connection the Government has been

implementing different policies from time to time and taking appropriate measures to meet the changing social needs and demand of the society at large. Telecommunication, being one of the important components of physical infrastructure, plays a dominant and significant role in the modern society. In Nagaland too, its role is highly

significant in the absence of adequate other infrastructural facilities. Development in telecommunication sector has brought about a sea change in the socio economic life of the people of Nagaland.

It is worth mentioning that at present telephone especially mobile phone has become a necessity of life. Yet the socio economic environment in which a person is living also influences the telephone usage and preference. Hence, the socio economic factors and their influence on telephone usage of the people becomes an important area for research studies.

This paper reviews the telephone usage profile of the respondents and their preference for BSNL and other private operators in the State of Nagaland. Further, an attempt has been made to study the various aspects of usage profile in detail.

Objectives of the Study:

The primary objectives of this study are as follows:

- (i) To review the telephone usage profile of the respondents in Nagaland.
- (ii) To study the respondents' preference for BSNL and private operators.
- (ii) To examine whether there is any relationship between the socio-economic background of the respondents and their preference.

Research Methodology:

This study is an empirical one based on descriptive research design. The study is based on the primary data. In order to study the usage profile of the telephone users in Nagaland a survey was conducted in the selected districts of Nagaland namely Dimapur, Kohima, Mokokchung, Zunheboto, Wokha, Peren, Mon and Tuensang .

The data were collected from the sample respondents using a well-structured questionnaire. The mobile phone users of those districts constitute the population or universe from where sampling units were collected. The questionnaire was administered to 450 respondents selected on random basis. The duly filled up questionnaires were then edited and data so collected were processed and analysed as per the requirement of the study. Appropriate statistical measures like percentage, average and even chi square test were used to interpret the result for drawing meaningful inferences and conclusion.

Analysis and Discussion:

A consumer uses the telephone service which is normally available to him/her at the time of his/her necessity. However, when the consumers are having a number of alternative service providers, they can make a choice among them. The choice generally depends on the facilities extended by the service providers and also the quality of service. The extent of such preference and use of telephone service by the sample respondents have been measured in this study. Detail and elaborate discussion on the research outcome with regard to telephone service usage profile of the respondents and their preference has been given in the succeeding text.

I. Telephone Usage Profile of the Respondents:

On The basis of the response received from the respondents, it is observed that consumers have the choice of using the service of either BSNL or other private operators. Table: 1.1 gives an account of the respondents using the service provided by mobile phone operators.

Table: 1.1 Telephone Usage Profile of the Sample Respondents

Oper ators	B S N L	Ai rte l	Ai rcel	I d e a	Rel ian ce	Vod afon e	Mu ltip le SI M	Total Resp onde nts
No of Resp onde nts	16 8	11 4	12 3	5 2	102	156	715 - 450 = 265	450

Source: Field Survey

Out of 450 respondents 168 representing around 37% are found using BSNL service. Besides 123 respondents are using Aircel service, 114 Airtel, 52 idea cellular service, 102 Reliance and 156 using Vodafone service. Altogether the number of respondents becomes 715 against 450 sample respondents. It is mainly because many of them are found to be using more than one service and Multiple SIM cards. It is evident from the table that 265 respondents are using more than one SIM cards. The Exhibit given below depicts the classification of respondents using Telecom services.

II. Telephone usage profile and socio economic factors influencing telephone use:

In order to have a more meaningful analysis of the telephone usage profile of the respondents, the socio economic variables of the respondents have been related to their telephone use and preference.

1. Place of residence and telephone usage:

The use of telephone depends on its availability and it differs from place to place. Hence an attempt has been made to study the usage profile of the respondents living in towns and villages. The respondents have been divided into rural and urban based on the place of their residence. Respondents, whose place of residence is in the district

headquarters and other popular towns, are considered as urban areas, and the rest is considered as rural.

Table 1.2Place of residence and telephone users

Service Used	Urban	Rural	Total
BSNL	55	29	84
Private (Pvt.)	184	98	282
BSNL+Pvt	60	24	84
Total	299	151	450

Source: Field Survey

The survey results relating to place of residence and service used has been projected in table: 1.2. The data revealed that out of 450 respondents, 151 i.e. 33.55% are from villages and 299 i.e.66.45% are from town areas. Among the 151 rural respondents, only 29 are using exclusively BSNL services and 98 are using exclusively the private services and remaining 24 are using both the services. On the other hand, among 299 urban respondents, 55 are using the BSNL service, 184 are using private service and the rest 60 are using both the services.

In order to find out whether there is any significant relationship between the place of residence of the customers and their preference, chi-square test has been applied for the table 1.2. The tabulated value of Chi-square at 1% level of significance is 6.63 and the calculated value is 1.15. Since the calculated value of chi-square is less than the tabulated value, it can be concluded that the relationship between the place of residence and customer’s preference is not significant at 1% level of significance. Thus, the preference does not changed with the change in their area of living.

2. Age and Telephone Usages:

Taste and preference of the people also changes with their age. The need and priority of one age group generally differ from another. Age is a factor which is closely related to the preference of the respondents to utilize certain types of services. Accordingly the service providers are also introducing different types of schemes to attract customers of different age groups. Hence an effort has been made to study the usage profile of the respondents on the basis of age group. The respondents have been divided into five groups according to their age. Table: 1.3 shows the respondents’ preference for different service providers according to their age group.

Age Group in Years	Less Than 25	25-45	45-60	>60	Total
No of Respondents	153	204	81	12	450
Using BSNL Service	21	36	24	3	84
Using Pvt. Services	120	129	27	6	282
BSNL+Pvt	12	39	30	3	84

Source: Field Survey

The first group includes basically the students and people up to 25 years of age. The second group consists of people in the age group between 25 to 45 years; generally includes the newly appointed workers and the people with young and dynamic mentality. In the age group of 45-60 years, people are generally family oriented. The last category of people consists of the senior citizens in the age group of 60 years and above.

In order to find out whether there exist any significant relationship between the age of the

respondents and their preference, chi-square test has been used. The tabulated value of Chi-square at 1% level of significance is 21.7 with $(4-1) = 9$ d.f. and the calculated value is 49.62. Since the calculated value of chi- is greater than the tabulated value at 1% level of significance, the null hypothesis that ‘there is no significant relationship between the age and preference of respondents’ is rejected. Therefore, it can be concluded that there exist significant relationship between the age of respondents and their preference.

3. Gender and Telephone Usage:

Use of telephone may also depend on Gender of the customers. Here an attempt has been made to identify the usage profile of the respondents based on their Gender. Table: 1.4 shows the Gender wise use of telephone services provided by public and private sector operators in the state.

Gender	Respondents	BSNL	BSNL +PVT	Private
Male	264	57(21.6%)	72(27.3%)	135(51.1%)
Female	186	27(14.5%)	12 (6.5)	147(79.0%)
total	450	84	84	282

Source: Field Survey

Among the 450 respondents, 264 are male and 186 are females. It has been observed that among the male respondents 21.6% use exclusively the BSNL service, 51.1% use private services and the remaining 27.3% of the respondents use both BSNL and private services. On the other hand, among the 191 female users, 14.5% uses exclusively the BSNL service, 79.0% use the private service and the remaining 6.5% avail both the services. The study reveals that BSNL service is preferred by the male users as compared to the

Dr. Gautam Patikar et al. /Telecommunication Service Usage Profile and Preference: A Comparative Study Between Bsnl And Private Service Operators female users. On the other hand, private service is almost equally used by both the male and female respondents but females are marginally ahead of males regarding use of private service.

In order to find whether there is any significant relationship between the Gender and the telephone use or not, chi-square test has been used. The result of chi-square test for the data in table: 1.4 reveals that the calculated value of χ^2 (41.82) is greater than the tabulated value of χ^2 (9.21) at 1% level of significance. So, the Null Hypothesis, 'there is no significant difference between male and female in mobile phone use', is rejected and the alternative Hypothesis that there exist significant relationship between the Gender and the telephone use is accepted.

Level of education	BSNL	BSNL + Pvt.	Private	Total
Literate	3	3	21	27
Matriculate	6	3	27	36
HS/PU	18	15	81	114
Graduate	24	24	102	150
Post Graduate	33	39	51	123
Total	84	84	282	450

4. Marital Status and Telephone Usage

The telephone usage has also been analysed on the basis of marital status of the users. Though regarding mobile use marital status makes no significant difference, yet the survey revealed the following results as highlighted in the table: 1.5.

Marital status	Total Respondents	BSNL	Private	Both
Married	204	54	105	45
Unmarried	246	30	177	39
total	450	84	282	84

Source: Field Survey

It is found that married people are little biased towards the BSNL service. Among the 204 married respondents 54 are using BSNL service exclusively i.e. 26.47%; whereas among the 246 unmarried respondents only 30 people i.e. 12.20% prefer BSNL service. Among the married respondents, 45 representing nearly 22.06 percent are using both the services. While among the 246 unmarried respondents, 39 representing nearly 15.85% are using both the service.

The result of chi-square test applied to the data in table: 1.5 reveals that the calculated value of χ^2 is 30.91 and tabulated value is 9.21, at 1% level of significance. Since the calculated value is greater than the tabulated value, it can be inferred that there exists a significant relationship between the marital status and telephone use of the respondents.

5. Level of Education and Telephone Usage:

Source: Field Survey

Education enhances the thinking and analytical power of human being. As a result the taste and consumption pattern of consumers may also change with the level of education. The relationship between the telephone usage profile and the level of education of the respondents has been shown in table: 1.6.

It is observed that there exists a direct relation between the level of education and use of telephone service among the sample respondents. Starting with the 27 literate respondents 11.11% use exclusively the BSNL service, the number increases to 22.22% if the respondents use both BSNL as well as the private services. It indicates that among the literate people BSNL service is not very popular. Even among the Matriculates BSNL service is not much popular. Among the respondents with HS/PU qualification, percentage of BSNL users becomes 15.78% and the figure increases to 40.74% if the respondents using both BSNL and private service. In case of graduates, the percentage of BSNL users is 10.66% and it becomes 21.33% if the respondents using both the service. Among the post graduate respondents, 17.89% use exclusively the BSNL service and if the people using private service as well as BSNL service are considered the number increases to nearly 49.59%. Thus, the post graduate respondents are mostly attracted to BSNL service.

In order to find whether there is any significant relationship between the level of education of the respondents and their preference, chi-square test has been done. The tabulated value of Chi-square at 1% level of significance with $\{(3-1) (5-1) = 8\}$ d.f. is 40.32 and the calculated value is 20.1. Since the calculated value of chi-square is greater than the tabulated value at 1% level of significance, it can be inferred that there exist a significant relationship between the level of education and the telephone use.

6. Occupation and Telephone Usage

In some cases occupation of a consumer may also affect the pattern of consumption. Telephone usage

of the consumers is also dependent on their occupational pattern. Accordingly the sample respondents have been grouped on the basis of their occupational status and their telephone usage profile has been shown in Table: 1.7.

The survey data revealed that the student community has more inclination towards the private operators. Out of 135 students, 114 students i.e. around 82.61% are using private service and 12 students representing 8.69% are using BSNL service.

Table:1.7 Occupation and the Telephone Usage

Occupation	No of respondents	BSNL	Private	Both
Students	138	12	114	12
Housewives	27	6	18	3
Pvt. Service	138	30	75	33
Govt. Service	63	18	30	15
Business	84	18	45	21
Total	450	84	282	84

Source: Field Survey

The remaining 12 students are found to be using both the services. Similar trend has been found for the housewives, out of 27 housewives, 18 of them representing 66.67% are found to be using private services and 22.22% BSNL service. The study further reveals that Business Community and the Service holders are having little more inclination towards BSNL service. Among the 138 Private Service Holders, 30 persons i.e. 21.28% use the BSNL service and 75 persons i.e.53.19% use the private telecom service and the rest use both the services. Out of 63 government employees, 18 i.e. 28.57% of the Government Employees use BSNL

Dr. Gautam Patikar et al. /Telecommunication Service Usage Profile and Preference: A Comparative Study Between Bsnl And Private Service Operators service and 30 i.e. 47.62% of them use private service while the rest use both BSNL and Private services. Among the businessman 53.57% use private service and 21.43% use the BSNL service.

In order to find out whether there exist any significant relationship between occupation of the respondents and their preference chi-square test has been applied. The tabulated value of Chi-square at 1% level of significance is 20.1 and the calculated value is 38.5. Since the calculated value of chi-square is greater than the tabulated value, it can be inferred that there exists a significant relationship between the occupation and the telephone use.

7. Monthly Income and Telephone Usage

The law of consumption states that there exists positive relation between the level of income of the consumers and quantity consumed of a product. Since telecommunication service is also a product, so this law is applicable in the use of this service. Income of the consumers directly impacts the mobile phone use and its expenditure per month. Therefore, the mobile users have been grouped into three categories based on average monthly family income of the respondents as shown in Table: 1.8.

Table:1.8 Level of Income and Service Used				
	BSNL	Pvt	Both	Total Respondents
Below 20,000	15	14	24	186
20,001 to 50,000	32	85	28	145
Above 50,000	37	50	32	119
Total Respondents	84	28	84	450

Source: Field Survey

On the basis of monthly income the respondents have been categorised into three group viz. low

income group (below ₹20,000), middle income group (₹20,001 to ₹50,000) and higher income group (above ₹50,000). Among the 450 sample respondents, 186 (41.33%) belong to the lower income group including the students who generally do not have any income, out of these around 8.07% respondents use exclusively BSNL service, 85.48% use the private service and the rest use both the services. Further in the middle income group there are 145 respondents, out of which 22.07% respondents use BSNL service, 58.62% use the private service and the rest use both the services. In the high income group, there are 119 respondents of which 31.09% use BSNL service, 42.02% use the private service and the rest 26.89% respondents use both the services.

Applying chi-square test, we get the tabulated value of chi-square at 1% level of significance is 13.3 and the calculated value is 47.04. Since the calculated value of chi-square is greater than the tabulated value, it can be inferred that there exists a significant relationship between the level of income and service used.

8. Level of Income and Plan Preferred:

At present in Nagaland both prepaid and post paid services are being offered by Public sector and private sector operators. It has been observed that prepaid service is more popular in comparison to the post paid service. However, the use of post paid services increase as the income of the consumer increases. Table: 1.9 shows the number of respondents belonging to different group using different plans.

Table: 1.9 Income level and plan used (prepaid and post paid)

Income / Month	No of respondents	Prepaid	Post paid	Both
Below 20,000	186	162	14	10
20,001-50,000	145	63	45	37
Above 50,000	119	48	32	
Total	450	273	91	86

Source: Field Survey

The survey revealed that 186 respondents i.e. 41.33% belong to the lower income group (below ₹ 20,000) including the students. Out of these, 162 (87.1%) respondents use prepaid service, 14 (7.53%) respondents use post paid service and the remaining 10 (5.38%) respondents use both the services. 145 i.e. 32.22% of the total respondents belong to the middle income group with income from ₹20,001 to ₹50,000. Out of these, 63(43.44%) respondents use prepaid service, 45 (31.05%) respondents use post paid service and the remaining 37 (25.51%) respondents use both the services. 119 respondents i.e.26.44% belong to higher income group with monthly income above ₹ 50,000. Of these, 48 (40.34%) respondents are found using prepaid service, 32 (26.89%) respondents use post paid service and the remaining 39 (32.77%) respondents use both the services.

The result of chi-square test shows that the tabulated value of chi-square at 1% level of significance with 4 d.f. is 13.3 and the calculated value is 95.8. Since the calculated value of chi- is greater than the tabulated value, it can be inferred that there exists significant relationship between the level of income and the plan preferred.

9. Type of Plans Used And Operators Preferred

At present two types of services are available to the customer i.e. prepaid service and post paid service. The respondents were asked the question whether they use pre paid service or post paid service or use both the services. The survey data related to Plan used and Operators preferred has been shown in Table: 1.10.

Table: 1.10 Type of Plans Used And Operators Preferred

Service provider	Type of service			
	Prepaid	Post paid	Both	Total
BSNL	39	45	0	84
Private	243	15	24	282
Total	282	63	24	369

Source: Field Survey

Out of the total respondents 84 are using exclusively BSNL service. Among them 53.57% use post paid service and the remaining 46.43% use prepaid service. It has been found that no one is using both the services of BSNL simultaneously. If they are using post paid service from BSNL and prepaid from private operators. On the other hand, there are 282 respondents using the private service. Out of this, 86.17% use the prepaid service, 5.32% use post paid service and 8.51% prepaid and post paid services rendered by the private operators.

Chi-square test shows that the tabulated value of chi-square at 1% level of significance with (3-1) (2-1) =2 d.f. is 9.21 and the calculated value is 104.73. Since the calculated value of chi square is greater than the tabulated value at 1% level of significance, it can be inferred that there exist significant relationship between the plan used and the service providers.

Conclusion:

To sum up, it can be said that telecommunication service usage profile depends on a number of factors such as area of residence, age of the customers, gender, marital status, level of education, occupation, monthly income of the users and so on. The survey revealed that young generation people below 25 years of age are having an inclination towards the private operators. With respect to gender and telephone use, BSNL service is preferred by males whereas females have no prejudice for any of the services, they are equally satisfied with both the services. BSNL is having an edge over the private service even for married and unmarried customers. Level of education and telephone use has no significant relationship. It is only post graduates who revealed their preference for the BSNL services in Nagaland. On the basis of occupation, BSNL and Private Services are equally preferred except the students who are inclined towards the private service.

The survey also revealed that among the BSNL users 57.17% of the respondents are using post paid service for which a minimum monthly rental is paid, which is neither popular nor affordable for the poor sections of the society. On the other hand, private service is popular among all sections of the society irrespective of their level of income. But it is more popular among the lower income group and especially among the students. Among the private service users, only 5.31% are using post paid service.

Hence, BSNL service has been popular among the middle and higher income group while low income

earners have inclination towards the private services. With regard to landline connections, there exists positive relation between the level of income of the respondents and the possession of telephone. Thus, it can be concluded that private operators could increase the number of customers gradually over the period as against the shrinking market share of BSNL. This has led to a situation of growing competition among the telephone service providers and thereby created an environment improved service quality, lower tariff and additional utilities for the customers.

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