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A Study on Subscribers Usage Pattern and Satisfaction Towards Mobile Number Portability In Coimbatore City

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Abstract - *The present study in hand reveals about the subscribers usage pattern, awareness and satisfaction towards Mobile Number Portability (MNP) on the Network Service Providers (NSP) operating in Coimbatore city. TRAI has recently suggested implementation of nationwide MNP (Mobile Number Portability), but on the flip side, this could pose certain challenges on network side. The challenges relate principally to the reconfiguration of the networks, call routing, call scenario testing, circuit provisioning, international carrier notification, inter-carrier settlements, customer billing and notification. These are complex matters and the national MNP will pose additional challenges. The above study reveals that subscribers prefer a particular Mobile Phone Service Provider (MSP) on the basis of call tariffs, network coverage and Value Added Services. The subscribers are highly influenced by their family members, friends and advertisement while selecting or buying a mobile phone service provider. The subscribers prefer prepaid plans and all most every subscribers treat their mobile phone as a necessity and their mobile number as their identity. They generally use their mobile phone for their personal use and for both incoming and outgoing calls..*

Index Terms: *MNP, Switching Behaviour, Mobile Usage and Subscriber satisfaction*

I. INTRODUCTION

Communication has been playing a vital role in every man's life from time immemorial. In the modern world an individual tends to communicate anything and everything right from the place where he is anywhere and anytime making one to keep pace in this competitive world. Mobile phones have emerged as a boon to quench this thirst, by providing facilities, which are undreamt of. Mobile phone as a medium is growing fast with its easy accessibility and reach. As a communication tool, mobile phones were considered to be rare and expensive pieces of personal equipment but now it has become a common household item. This system is bringing a major change in circumstances and in transforming the world to a global village.

In many countries, mobile phones have outnumbered land-line telephones, with most adults and many children now owning mobile phones. The mobile phone itself has also become a totemic and

fashionable object, with users decorating, customizing, and accessorizing their mobile phones to reflect their personality. After becoming the second most populated country in the world, India is set to achieve another record of having half a billion wireless connections, thus becoming the second largest group of mobile phone users after China.

"The Indian telecom sector, seen as providing the most affordable services in the world, has grown by leaps and bounds in the last decade. This remarkable journey to 100 million consumers is a testament to the vision and commitment of a company that benchmarks itself with the best in the world," said Sunil Bharti Mittal, Chairman and Group Chief Executive Officer of Bharti Enterprises (Times of India- May 2009). As countries continue to shift from agricultural base to services orientation, the demand for more and varied services further hold huge potential.

Since its evolution, the Indian mobile ecosystems has passed through various phases and have faced enormous challenges to make its way out. With simple and costlier feature phones to today's highly interactive and relatively cheap smart phones, the journey seems no end till date.

Today in second decade of 21st century India is the second largest country in terms of mobile user base next to China. Internationally, Indian market is considered as the most potential market in mobile. With citizens having access to latest of smart phones, tablets, mobile apps, etc. at one of the lowest call tariffs in the world, subscribers have also inhibited the latest internet technologies whether its 3G, 4G or VoIP.

With the introduction of private sector telecom service providers in India, competition in the telecom industry has increased significantly. The Indian telecom sector, seen as providing the most affordable services in the world, has grown by leaps and bounds in the last decade. According to recent reports, telecom subscriber base in India are 1.2 billion.

TELECOMMUNICATION IN INDIA

In Indian telecom sector, mobile service is called as "sunrise industry". It is one of the fastest growing

telecom markets in the world with a rapid growth of subscriber base, tele density and traffic. Telecommunication has emerged as a key driver of economic and social development in an increasingly knowledge intensive global scenario. Sustained adoption of technology offers viable options in overcoming developmental challenges in education, health, employment generation, financial inclusion. The unprecedented increase in tele-density and sharp decline in tariffs in the Indian telecom sector have contributed significantly to the country's economic growth. Satisfactory functioning of telecommunication network is an essential component of the economic infrastructure.

The demand for telephones was ever increasing and in 1990's Indian government was under increasing pressure to open up the telecom sector for private investment as a part of Liberalisation-Privatisation-Globalisation policies that the government had to accept to overcome the severe fiscal crisis and resultant balance of payments issue in 1991. Consequently, private investment in the sector of Value Added Services (VAS) was allowed and cellular telecom sector was opened up for competition from private investments. It was during the period of the Late Shri. P.V. Narsimha Rao led government introduced the National Telecommunications policy (NTP) in 1994, which brought changes in the following areas of ownership, service and regulation of telecommunications infrastructure. The policy introduced the concept of "Telecommunication service for all" and its vision was to expand the telecommunication facilities to all the villages in India. Liberalisation in the basic telecom sector was also envisaged in this policy. They were also successful in establishing joint ventures between state owned telecom companies and international players.

The country was divided into 22 telecommunication circles for basic telephony and 18 circles for mobile services. These circles were divided into category A, B and C depending on the value of the revenue in each circle. The government threw open the bid to one private company per circle along with government owned DoT per circle.

SUBSCRIBER SATISFACTION

As defined by Oliver – "Satisfaction is the consumer's fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provides a pleasurable level of consumption-related fulfillment." Satisfaction can be defined as the extent to which a product/service's perceived performance meets or exceeds subscriber

expectation. Moreover it is an emotional reaction to a product or service experience.

Subscriber satisfaction in telecommunication business is very important. As the development of cellular phone business has become critical research agenda, the requirement of understanding the satisfaction of subscribers towards the services and the factors influencing the subscriber's choice of providers is getting vital. The present study examines the various variables causing dissatisfaction among the subscribers forcing them to switch/port their brand from current network provider. The level of satisfaction of subscribers as regards to mobile network services providers before and after porting their network is also studied.

BRAND SWITCHING IN TELECOMMUNICATION INDUSTRY

Rajkumar (2011) defines brand switching when subscribers switch their loyalties from one particular brand to another. Brand switching occurs when subscribers stop availing a particular service and start availing another service either on temporary basis or on permanent basis.

Brand switching behavior of customers differs in different industries. Some industries are characterized by high brand switching rates while others show low rates of brand switching. Telecommunication industry is one of the industries which is characterized by high growth and possess high rates of brand switching (Edvardsson, Gustafsson and Roos, 2004). This is mainly due to intense competition in telecommunication industry. A number of companies are operating in telecommunication industry across the world. Subscribers of mobile service provider companies often switch towards brands which provide extra benefits to them. Telecommunication industry has 3 % contribution in the total GDP of world (Businesswire, 2011). It has been forecasted that innovations and technological advancements will penetrate telecommunication sector. Due to intense competition in telecommunication industry customers frequently switch from one service provider to another.

Important deterrents to switching:

- Lengthy and cumbersome switching procedures can make it inconvenient for consumers to switch and can outweigh any potential benefits.
- Early exit charges imposed by an existing provider can reduce the benefits of switching.
- Confusing products and non-transparent pricing can make it difficult or time consuming to compare deals.

- Technical incompatibility of equipment can make it uneconomical for consumers to switch.
- Long term deals can lock consumers into lengthy relationship with their provider.

II. MOBILE NUMBER PORTABILITY

Mobile network which falls under the service sector is experiencing a rapid development which in turn supports the growth of Indian economy by providing ample chances for employment and self-employment generation. After mobile number portability being introduced in India during November 2011, retaining existing subscribers has become the most challenging job for the network service providers. With the introduction of mobile number portability in India, the mobile user's switching turnover has increased. "Mobile number portability" means the facility, which allows a subscriber to retain his mobile telephone number while he moves from one service provider to another irrespective of the mobile technology or from one cellular mobile technology to another of the same service provider. The subscriber can keep with the same technology, GSM/CDMA.

In the rationale of modern marketing, the firm's existence is dependent on customer satisfaction. Therefore, the knowledge of "what the customer thinks" and "what consequently would contribute to his satisfaction" is the requirement of the marketer. The most challenging job for the present day network providers is to retain their customers. The healthy competition between different mobile network service providers creates the mobile number portability, value added service, voice message, MMS, SMS, unbreakable signals, scheme changes, easy to recharge, other comfortable and satisfactory service to the mobile network subscribers. The mobile network service providers are ready to serve their subscribers anywhere at any time to retain the existing subscribers and to earn new subscribers. Keeping the high consumers demand in consideration, many big players like Airtel, Reliance, Aircel, Vodafone, BSNL, Tata Indicom, Virgin Mobile etc. have launched their services in the market.

SALIENT FEATURES OF MOBILE NUMBER PORTABILITY

- No need to change the mobile number while changing operator.
- Applicable for Mobile numbers only.
- Subscriber willing to port should approach Recipient operator only.
- Subscriber can migrate between prepaid to post-paid and vice versa at the time of porting.

- Mobile number portability is applicable to numbers within same circle.
- Subscriber can migrate between GSM to CDMA and vice versa.
- Subscriber needs to pay Rs. 19/- for porting charges to RO + Rs. 49 for prepaid or Rs. 300 for post-paid SIM.
- Subscriber can withdraw the port in request within 24 hrs of initial porting request.
- In case of prepaid customers, the balance left from the previous network will not be carried forward.
- Number should not be in Safe custody or temporarily disconnected.
- End to End Mobile Number Portability process needs to be closed in 7 days.

ELIGIBILITY CRITERIA

TRAI has mentioned the eligibility criteria for those subscribers who are willing to port to other network. They are:

- No Bill Outstanding in case of post-paid mobile subscribers.
- AON >90 days and last porting date should be more than 90 days.
- Number should not be prohibited by court of law.
- No existing contractual obligation.
- Mismatch in UPC code will be rejected.
- Any transfer of ownership request should not be pending.

The subscriber willing to port to other network need to submit the following:

- Duly filled CAF form with UPC code details.
- Copy of valid Address and Identity proof.
- Copy of last bill paid to current service provider (in case of post-paid customer).

But however, India's Department of Telecommunications (DoT) has tightened mobile subscriber verification norms and issued new mobile connection guidelines. With the implementation of new norms, prepaid and postpaid customer will not get pre-activated SIM card and only after physical 'verification of subscriber' mobile connection can be issued or activated.

The factors influencing Mobile Number Portability are-Subscriber Awareness, Simplicity, Speed, Cost factor, Handset subsidies and fixed-term agreements.

III. STATEMENT OF THE PROBLEM

India is a developing economy and it is moving ahead at a rapid speed when compared to other similar economies. Communication is the key to growth and a mobile-phone is an essential part of this communication factor. It is an interesting aspect to study how effectively the competitors in the market retain their existing customers, how they are attracting the customers from the competitors' fort and how effectively they are wooing the new customers.

The researcher has identified the determinants leading to attrition/churn of subscribers and how the subscribers have used MNP technique to port to the best service provider services in the market and by also promoting competition between active market operators in the race of retaining their subscriber, which is one of the most critical challenges in maturing mobile telecommunications service industry.

IV. OBJECTIVES OF THE STUDY

1. To study the socio- demographic profile of the respondents and its association with mobile characteristics and usage pattern of mobile users.
2. To study the reasons for subscribers attrition from the previous mobile network services.
3. To know the subscribers level of satisfaction of current network service provider after availing mobile number portability.

V. RESEARCH METHODOLOGY

This research is embarked on through a couple of strategies namely Sampling Design and Collection of Data. The study is mainly based on random sampling method. For the purpose of the study 400 respondents have been chosen in Coimbatore city. For the purpose of research primary data and secondary data is used. Primary data is collected using structured questionnaires which were administrated in person to the respondents. The secondary data has been collected from various journals, magazines, books and websites. The information collected have been edited for reliability and consistency of questionnaire and then presented in a master table for analysis where 346 questionnaires were found suitable for the study. In order to pre test the validity of the questionnaire a pilot study was conducted. The study was undertaken for the period of 6 months i.e., from January 2017 to June 2017.

The statistical measures employed include Percentage analysis, Mean and Standard Deviation, Chi-square test, T-test, Analysis of variance (ANOVA-F Test), Kendall's Coefficient of Concordance Test, Correlation were used in different contexts in order to substantiate the required information from the data pooled in the form of questionnaire to satisfy the given objective.

LIMITATIONS OF THE STUDY

- The study is limited only to Coimbatore City. Hence the result cannot be generalised.
- The process of the collection of data was a real challenge as it involved considerable time of the respondents. However, adequate care has been taken to collect unbiased data.
- The sample size is restricted to 346, due to time constraint.

FINDINGS

Objective: The following are the findings about socio- demographic profile of the respondents and its association with mobile characteristics and usage pattern of mobile users.

PERCENTAGE ANALYSIS

Personal Profile of the Respondents-Where majority /most of the respondents

- i. Are male (59.80%).
- ii. Are 18-25 years (48.80%).
- iii. Are graduate (38.20%).
- iv. Are employed (39%).
- v. Are single (54.50%).
- vi. Are from nuclear family (69.40%).
- vii. Have 4-5 members in the family (63.30%).
- viii. Are in the income level of Rs.10, 001-Rs.20, 000 (32.70%).

Mobile Phone and Its Usage by the Respondents-Where most of the respondents

- ix. have 3 members in their family who use mobile phone (33.2%).
- x. of the respondents consider mobile phone to be useful in their day to day life (47.4%).
- xi. of the respondents use mobile phone for their personal purpose (47.7%).
- xii. of the respondents have made own mode of purchase (76.3%).

Features and factors of handset possessed - Where most of the respondents

- xiii. Possess Nokia handset (48%).

- xiv. Possess camera phone (83.8%).
- xv. Are influenced by brand name to buy the handset (62.7%).
- xvi. Use android as operating software (35.5%).
- xvii. Cost of handset is below Rs.5,000 (37.3%).
- xviii. Were influenced by advertisement in TV to buy particular brand of handset (26%).

Objective: The following are the findings of Subscriber Attrition in Mobile Network Services – Kendall’s Co-Efficient of Concordance (Rank)

Reasons for preferring MNP by respondents

“No need to change the number” as the most important reason for preferring MNP. The least important reason is to enjoy better price deals. The Kendall’s W calculation indicates that there is less similarity among respondent in the order of assigning ranks for the given reasons for preferring MNP by the respondents.

Table 1: Attrition Mean Score:

Subscriber attrition due to	Mean Score	Factors
Due to network	4.069	Bad network coverage
Due to call tariff	3.930	High roaming tariff
Due to services	3.627	Poor service quality
Due to non-availability	3.832	Non availability of recharge and top-up Coupons.
Due to other reasons	3.852	Better offers from other network

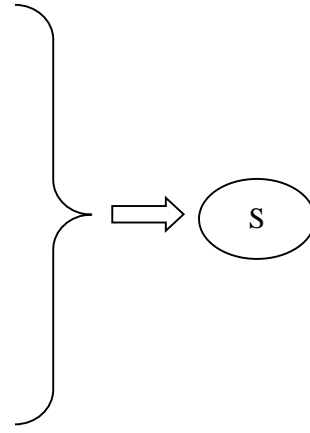
t-Test / ANOVA

Null Hypothesis:

The scores of attrition due to network, call tariff, lack of services, non-availability of services and other reasons do not vary significantly based on different groups of personal factors and usage pattern of mobile phone.

(S-Significance either at 1% or at 5%).

Personal Factor and Usage Pattern	Attrition due
Consideration towards mobile phone, Type of OS, Type of network, Duration of conversation	To Network
Age, Education, Monthly income , Consideration towards mobile phone, Current service provider, Type of OS, Period of using current network, Frequency of recharging mobile balance	To Call Tariff
Age, Education, Monthly income, Type of OS, Average mobile expenses per month.	To Lack of services
Age, Education, Monthly income, Consideration towards mobile phone, Type of OS , Period of Using current network, Average mobile call bill expenses per month, Number of times changed SIM card in last 1 year	To Non availability
Age, Education, Monthly Income, Type of OS , Average mobile call bill expenses per month	To Other reasons



Objective: The following are the findings of assessing the Level of Satisfaction of the respondents after availing the MNP Service

Table 2. Satisfaction Mean Score

Subscriber satisfaction due to	Mean Score	Factors
Network	4.367	Congestion free network coverage
Billing	4.028	Accurate and error free billing system
Services	4.005	Availability of wide range of VAS
Customer Care	3.968	Easy access to help line
Technique Applied :Correlation		
Correlation	With	Result
Attrition	Satisfaction	Moderate

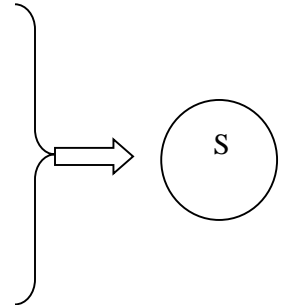
t-test/ ANOVA

Null Hypothesis:

The scores of satisfaction derived from network, billing, services and customer care after availing MNP do not vary significantly based on different groups of personal factors and usage pattern of mobile phone.

(S-Significance either at 1% or at 5%).

Personal Factor and Usage Pattern	Satisfaction Derived due to
Consideration towards mobile phone and Type of network	Network
Type of OS	Billing
Gender, Type of network , Frequency of recharging mobile balance and Number of times changed SIM cad in last 1 year.	Services
Type of network, Frequency of recharging mobile balance, Number of times changed SIM card in last 1year	Customer Care



Suggestions:

- Call tariff is the most influencing factor which induces subscribers to subscribe a particular service provider. Therefore, call rates should be made competitive and affordable in order to capture more consumers.
- Many respondents feel that net work problem is one of the most important problems they are facing. Enough signal Towers should be established in the rural areas to solve this problem.
- Customer care services play an important role in retaining subscribers. Establishing good relationship with subscribers through efficient customer services would lead towards brand loyalty and firm can establish long term profitable relationship with customers.
- Mobile phone operators should launch some schemes / concessional tariff facilities exclusively for senior citizens, housewives and students.
- Subscriber’s handset has a significant impact on the probability of churn. The more obsolete a customer’s handset is, the more likely he/she is to churn. New model handsets may be introduced exclusively for females to suit their dressing pattern.

- The study also suggests that mobile operators should invest more funds into network expansion and maintenance in order to ensure reliable mobile telecommunication services at all times instead of spending too much funds on advertisement and promotions.
- Technical issues in the MNP process like delay in UPC generation, failure in the porting process should be solved.
- The process involved in taking new connection should be simplified and made easy.
- The products and services especially recharge coupons of BSNL, MTS and Idea should be easily available and for that purpose, they should expand their retail base.
- It is also suggested to adopt “green telecom policy” for service providers to reduce carbon emission from mobile networks.

VI. CONCLUSION

Yesterday’s luxuries are today’s necessities. Today, there are a number of cell phone service providers in the market and they differ in network capacities, reputation, tariff on calls made extra. To capture business and make more profit, they come out with different schemes, offers and privileges. But, a company’s favourite position among customers is determined by its better performance in providing satisfactory and good services. Users prefer to avail service from favourite service providers for various reasons like comfortable and profitable tariff rates, quality of audio and video clarity, problem free connection, privileges like free SMS etc. It is obvious that better coverage of area, smarter billing system, and greater plans offered and lower service charges than those of Department of Telecommunications will definitely endear service providers to customers.

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