

Significance of Service Physical Evidence Mix for Subscriber Retention: An Empirical Study on Cell phone Network Service Sector

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Abstract : *This paper elucidated how some lacking in Service Physical Evidence Mix of Cell Phone Network service Provider (CNSP) will trigger its subscriber's intention to churn from their network service provider to another network service provider. The study used quota sampling technique and surveyed 384 subscribers through interview method with the help of the structured scheduled instrument. The data obtained the reliability value of 0.878 as Cronbach's alpha for 10 items and the distribution of data were significantly deviate from a normal distribution, Thereby the non parametric U Test and H Test were used to analyses the differences. The study found that the Majority of the Subscribers opined they will be extremely triggered to churn, If they find difficult in finding their CNSP retail shop due to lack of tangible physical evidence and If their CNSP is not subscribed by people of their surroundings and If they do not find their CNSP's Tariffs menu card in retail shops. On the other hand, lack of Interior layout design in retailer shop of CNSP and lack of exclusive showrooms of CNSP are only slightly triggering its subscriber's intention to churn from their network service provider to another.*

Keywords: *Service Physical Evidence mix, Subscriber Retention, Cellular mobile service.*

Introduction

Customer retention is the maintenance of continuous trading relationships with customers over the long term. This research indicated the significance of 7th P of Service marketing mix (that is Physical Evidence mix) in retaining existing mobile subscribers. In India, According to TRAI press report of September 2013¹, the number of cellular mobile subscribers in India is 870.58 million and 102.49 million numbers of subscribers requested Mobile Number Portability (MNP) since its implementation on Saturday 01 January 2011 on all states of the country. So 11.77 per cent of the total number of mobile subscribers has churned from their CNSP to another network, this churn rate is large and not good for any Cell Phone Network service Providers (CNSPs). So this research attempted to understand how some lacks in Service Physical Evidence Mix of CNSP will trigger the intention of subscribers to churn from their CNSP to another CNSP.

Review of Literature

Anders G., et al., (October 2005)² examined the effects of customer satisfaction, affective commitment and calculative commitment on retention and further examined the potential for situational and reactional trigger conditions to moderate the satisfaction-retention relationship. And their results supported the consistent effects of customer satisfaction, calculative commitment and prior churn on customer retention.

Durga Anupama et al. (2012)³ analyze the needs and preferences of customer and determined the gap between the services expected and received by the customers on physical evidence of Tata Indicom and found the Maintenance of standards and Availability of brochures are less satisfying the customers need.

Gerpott et al. (2001)⁴ found customer retention, loyalty and satisfaction are causally interlinked the German mobile cellular telecommunications market and Mobile service price, service benefit perception and lack of MNP affect retention of customer.

Inamullah khan (March, 2012)⁵ examined the importance of future customers' relationship using customer satisfaction, and customer retention on customer loyalty in telecom industry of Pakistan. The results show that customer satisfaction has significant while customer retention has insignificant impact on customer loyalty.

Ishfaq Ahmed et al., (May, 2010)⁶ examined the level of satisfaction and loyalty created by the cellular network provider through their SMS service and found majority of the customers are slightly satisfied and low level of loyalty only built by the SMS service, then the correlation results indicate Gender has significant relationship and age groups do not have significant relationship with satisfaction and retention.

Motshedisi, E. M. & Geoffrey, M. (September, 2011)⁷ explored the strategies that have been employed by the cell phone companies in South Africa in order to retain subscribers and concluded that the most effective are those related to quality of service, affordability of service and provision of customer support services.

Seiedeh Nasrin Danesh et al., (April, 2012)⁸ examined the direct relationship of customer satisfaction, customer trust and switching barriers on customer retention and confirmed the significant positive relationship of customer satisfaction, customer trust and switching barriers on overall customer retention.

Objectives of the study

1. To give an overview about mobile connection subscribers.
2. To elucidate how some lacking in Service Physical Evidence Mix of Cell Phone Network service Provider (CNSP) will trigger its subscriber's intention to churn.

Research question of the study

1. Do the lacks in Service Physical Evidence mix of CNSP will trigger subscribers to churn?
2. Do the levels of trigger opinion differ among the subscriber groups (Gender, Age, CNSP using, Duration of subscription and monthly amount spent for mobile bill)?

Null Hypotheses of the study

1. H₀₁: The subscribers' Levels of trigger intention to churn opinion for each of the 10 dependent variables do not differ between male and female.
2. H₀₂: The subscribers' Levels of trigger intention to churn opinion for each of the 10 dependent variables do not differ among their age groups
3. H₀₃: The subscribers' Levels of trigger intention to churn opinion for each of the 10 dependent variables do not differ among their duration of subscription categories
4. H₀₄: The subscribers' Levels of trigger intention to churn opinion for each of the 10 dependent variables do not differ among their monthly mobile bill levels

Research Methodology

Study Area of the Research

Puducherry union territory is one of the seven union territories of India and it consists of six taluks and two sub taluks. This research was carried out in 3 rural taluks of Puducherry

district which have 62 villages in total. This research study area comes under Tamil Nadu telecom circle and it has 8 CNSPs namely Aircel, Airtel, BSNL, Idea Cellular, MTS India, Reliance Communication, Tata Docomo, and Vodafone.

Research Instrument used in the study

To collect the primary data an interview schedule was compiled with closed-ended options questions relating to Service Physical Evidence Mix. The questions of the survey are self created after review the previous literature with five-point scale (with levels like Not at all, slightly, moderately, highly, extremely) to measure the level of trigger intention of Subscriber to churn, if the CNSP has some lacking in their Service Physical Evidence mix attributes.

Validity of the Research Instrument

The content validity of the interview schedule was reviewed by a distributor of 8 CNSPs. Then it was pre-tested and the finding did not reveal any flaws in the tool design and then a pilot study was carried out with 50 cell phone connection subscribers. All Coefficient Alphas exceed the 0.70 cut-off point that showed the reliability of interview schedule.

Population and sample size of the study

According to the census of India 2011, the population of the Puducherry district is 9,46,600, of which 6,54,392 are urban and 2,92,208 are rural, therefore this research study population is 2,92,208. The sample size was calculated through sample size calculator software from www.macorr.com.⁹ With 95 per cent confidence level and at 5 per cent confidence interval the research got 384 as sample size.

Sampling technique of the study

The sample Data were collected from 384 mobile connection subscribers of eight CNSPs using Non probability Quota sampling technique, that is, 48 subscribers from each 8 CNSPs.

Reliability of the data

Then, the data were analyzed and summarized with SPSS 16 package and the reliability of 10 items in the interview schedule was tested and found 0.878 as Cronbach's alpha for 384 sample size which exceeds the suggested level of 0.70 (Nunnally, 1978). It suggests that tool is having reliability and can be used for further analysis.

Distribution of Data

Normality test was carried out for the data using Shapiro-Wilk Test of normality and found below 0.05; which indicated the data were significantly deviate from a normal distribution.

Statistical Test used in the study

Mann-Whitney U Test and Kruskal-Wallis H Test were used to analyse the difference and then Uni-variate tests like percentage analysis, weighted score method are also used.

Variables of the study

Independent variables of the study are

1. Respondents' Gender,
2. Respondents' Age,
3. Respondents' Duration of subscription and
4. Respondents' Monthly amount spent for mobile communication.

Table 1: Dependent variable of the study

| Variable code | Circumstances / Variables / Statements |
|---------------|---|
| P7.1 | If your CNSP's advertisement tangibles are available in less number of places |
| P7.2 | If your CNSP tangibles are illegible/less clarity |
| P7.3 | If difficult in finding your CNSP retail shop due to lack of tangible physical evidence |
| P7.4 | If your CNSP has less number of exclusive showrooms |
| P7.5 | If you do not find your CNSP's Tariff plans menu card in retail shops |
| P7.6 | If your CNSP has poor attractive Interior layout design in retail shops |
| P7.7 | If your CNSP has less familiar Brand celebrity |
| P7.8 | If your CNSP Employees are not neat and clean |
| P7.9 | If your CNSP is not recognized/subscribed by many people of your surroundings |
| P7.10 | If other CNSPs have better Physical evidence than your CNSP |

Data Analysis and Interpretation

Univariate analyses: The tables given below show the Classification of Respondents into various Categories/facts/response/opinion/level/group.

Table 2: Demographics Classification of Respondents

| Sl. No | Variable Name | Groups/Levels/Categories | | Response | |
|--------|---------------|--------------------------|-------------|------------|-------------|
| | | Code | Name | Frequency | Percentage |
| 1. | Gender | 1 | Male | 245 | 63.8 |
| | | 2 | Female | 139 | 36.2 |
| 2. | Age | 1 | ≤ 30 | 147 | 38.3 |
| | | 2 | 31-45 | 123 | 32.0 |
| | | 3 | 46-60 | 76 | 19.8 |
| | | 4 | ≥ 61 | 38 | 9.9 |

Note: Highlighted numbers are Modal Value for each category

Table 3: Categorization of Respondents Cell Phone Usage Behaviour

| Sl. No | Variable Name | Groups/Levels/Categories | | Response | |
|--------|---|--------------------------|---------------------|------------|-------------|
| | | Code | Name | Frequency | Percentage |
| 1. | Duration of Subscription | 1 | ≤ 1 | 54 | 14.1 |
| | | 2 | > 1 - ≤ 2 | 70 | 18.2 |
| | | 3 | > 2 - ≤ 3 | 89 | 23.2 |
| | | 4 | > 3 - ≤ 4 | 80 | 20.8 |
| | | 5 | > 4 - ≤ 5 | 62 | 16.1 |
| | | 6 | > 5 | 29 | 7.6 |
| 2. | Monthly amount spent for mobile communication | 1 | ≤ 100 | 58 | 15.1 |
| | | 2 | 101- 200 | 132 | 34.4 |
| | | 3 | 201- 300 | 93 | 24.2 |
| | | 4 | 301- 400 | 32 | 8.3 |
| | | 5 | 401- 500 | 38 | 9.9 |
| | | 6 | ≥ 501 | 31 | 8.1 |

Note: Highlighted numbers are **Modal Value** for each category

Weighted score

In order to weight the respondents opinion and to know the significance and ranking of the service Physical Evidence mix variables, Scores are given to the levels of trigger in the following way, where 4 is the score for extremely triggered opinion, 3 for highly triggered, 2 for moderately triggered, and 1 for slightly triggered and zero for not at all triggered.

Table 4: Respondents' opinion about Service Physical Evidence Mix Circumstances' and its Level of Trigger intention to Churn

| Service Physical Evidence Mix Circumstance / Variables | Percentage of Respondents falling into various levels of trigger to Churn in response to the circumstance | | | | | Weighted | |
|--|---|-------------|-------------|-------------|------------|----------|------|
| | Extreme | Highly | Moderate | Slightly | Not at all | Total | Rank |
| If they find difficult in finding their CNSP retail shop due to lack of tangible physical evidence | 89.8 | 10.2 | 0.0 | 0.0 | 0.0 | 1497 | 1 |
| If their CNSP is not subscribed by people of their surroundings | 82.0 | 13.5 | 4.4 | 0.0 | 0.0 | 1450 | 2 |
| If they do not find their CNSP's Tariffs menu card in retail shops | 70.1 | 29.7 | 0.3 | 0.0 | 0.0 | 1420 | 3 |
| If their CNSP has less familiar Brand celebrity | 19.5 | 79.2 | 1.3 | 0.0 | 0.0 | 1222 | 4 |
| If the employees of their CNSP are not neat and clean | 19.5 | 70.3 | 10.2 | 0.0 | 0.0 | 1188 | 5 |
| If their CNSP's tangible ads. are available in less number of places | 21.4 | 65.4 | 13.3 | 0.0 | 0.0 | 1183 | 6 |
| If other CNSPs have better Physical evidence than their CNSP | 17.7 | 47.7 | 13.0 | 21.6 | 0.0 | 1004 | 7 |
| If their CNSP tangibles are illegible/less clarity | 19.8 | 13.0 | 67.2 | 0.0 | 0.0 | 970 | 8 |
| If their CNSP has poor attractive Interior layout design in retail shops | 19.5 | 2.9 | 77.3 | 0.3 | 0.0 | 928 | 9 |
| If their CNSP has less number of exclusive showrooms | 19.5 | 8.3 | 30.7 | 41.4 | 0.0 | 791 | 10 |

Note: Highlighted numbers are Modal Value for each category

Findings of the study**Findings about Demographics Classification of Respondents falling into various groups**

1. Among the respondents of cell phone subscribers, males constitute the major proportion of 63.8 per cent and the females constitute only 36.2 per cent. From this study it is well known that the males have more awareness and interest in using the cell phone services.
2. 70.3 per cent of the respondents belonged to young age group and 19.8 per cent of the respondents belonged to middle age group and 9.9 per cent are old age group (≥ 61).

Finding about Respondents Cell Phone Usage Behaviour into various Categories

1. Out of the sample respondents 23.2 per cent of subscribers have $> 2 - \leq 3$ years experience in using cell phone. Cell phone subscribers with $> 3 - \leq 4$ year experience account for 20.8 per cent and 23.7 per cent subscribers have being using more than 4 years period. Thereby, it could be stated that cell phone market attracted people before 2 years itself. So, now the CNSPs have to maintain its subscribers not to churn from them.
2. Out of the sample respondents 34.4 per cent of subscribers' Monthly amount spent Rs. 101 – 200, 24.2 per cent spent Rs. 201 – 300 and 15.1 per cent of subscribers' spent ≤ 100 for mobile communication.

Findings about Respondents' opinion regarding the Service Physical Evidence Mix Circumstances' and its Level of Trigger intention to Churn

1. **Majority of the Subscribers opined** they will be **extremely triggered to churn**, If they find difficult in finding their CNSP retail shop due to lack of tangible physical evidence and If their CNSP is not subscribed by people of their surroundings and If they do not find their CNSP's Tariffs menu card in retail shops
2. **Majority of the Subscribers opined** they will be **highly triggered to churn**, If their CNSP has less familiar Brand celebrity and If the employees of their CNSP are not neat and clean and If their CNSP's tangible advertisement are available in less number of places and If other CNSPs have better Physical evidence than their CNSP
3. **Majority of the subscribers opined** they will be **moderately triggered to churn**, If their CNSP tangibles are illegible/less clarity and If their CNSP has poor attractive Interior layout design in retail shops
4. **Majority of the Subscribers opined** they will be **slightly triggered to churn**, If their CNSP has less number of exclusive showrooms

Results of the study

The Bi-variate analyses between Dependent Variable (Service Physical Evidence Mix) and independent variables gender, age, duration of subscription and Monthly spending for mobile communication. Where performed with Mann-Whitney U – test for gender, though gender has 2 groups and Kruskal-Wallis H- test is used for variables which has 3 or more groups.

In the table-5, equal means the null hypothesis accepted (that is, there is no significant difference between/among the groups) and unequal means null hypothesis rejected (that is, there is significant difference between/among the groups).

The opinions of the respondents are equal for all groups and for all the dependent variables expect one dependent variable, that is 'If CNSP tangibles are illegible/less clarity' and independent variable that is 'Monthly amount spent for mobile communication' only in this the opinion of respondents differ.

Table 5: Results about the opinion difference among groups

| Sl. No. | Dependent Variables | No. of Levels | Independent variable | | | |
|------------|--------------------------------------|---------------|----------------------|---------------|--------------------------|---|
| | | | Gender groups | Age groups | Duration of subscription | Monthly amount spent for mobile communication |
| | Service Physical Evidence mix | | U test | H test | H test | H test |
| | | | Groups are | | | |
| 1. | P7.1 | 5 | Equal | Equal | Equal | Equal |
| 2. | P7.2 | 5 | Equal | Equal | Equal | Unequal** |
| 3. | P7.3 | 5 | Equal | Equal | Equal | Equal |
| 4. | P7.4 | 5 | Equal | Equal | Equal | Equal |
| 5. | P7.5 | 5 | Equal | Equal | Equal | Equal |
| 6. | P7.6 | 5 | Equal | Equal | Equal | Equal |
| 7. | P7.7 | 5 | Equal | Equal | Equal | Equal |
| 8. | P7.8 | 5 | Equal | Equal | Equal | Equal |
| 9. | P7.9 | 5 | Equal | Equal | Equal | Equal |
| 10. | P7.10 | 5 | Equal | Equal | Equal | Equal |

Note: ** denotes very significant

Conclusion

From the findings of the study, the study can be concluded that lacking in Service Physical Evidence mix of CNSP will trigger subscribers to churn from their CNSP to another CNSP. And the levels of trigger opinion are equal among different subscriber groups, that is, respondents' Gender, Age, Duration of subscription and monthly amount spent for mobile communication levels. So this service physical evidence mix has significant role in retaining subscribers.

Implications of the study

The tangible physical evidence of the CNSP should be placed in a manner that will help the subscribers for ease identification of the CNSP retail shops.

The subscribers opined that their surroundings should subscribe their CNSP, for this, the CNSP should offer promotional plans like family members pack, relative pack and friend pack, thereby the surrounding people will try to have similar network.

The CNSP's Tariffs menu card should be available in enough number in the retail shops and it can also be distributed to subscribers because tariff menu card will help the subscriber to make aware more about the plans and tariffs.

The CNSP should use familiar local celebrity to advertise their brand like local hero or heroine, and then employees of their CNSP should be neat and clean. Moreover the CNSP's tangible advertisement should be available in more number of places.

The CNSPs should atleast have Physical evidence similar to other CNSPs. Then CNSP's tangibles should be legible and its messages should be precisely mentioned.

The CNSP should do good attractive Interior layout design in their retail shops. Then CNSP should try to have enough number of exclusive showrooms, though it may be little costly, it will help for maintain good relationship between the CNSP and subscribers and moreover create trust among the subscriber which is one of the most important factor for customer retention.

So in order to retain the existing subscribers the CNSP should adopt the above mention mixes in their service physical evidence mix strategy.

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