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RADICAL CHANGE OF CUSTOMERS' PREPAID CHURN BEHAVIOR

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Abstract: *Indian prepaid market allures implausible growth in mobile subscription with frantic competition which brims out to the saturation. Especially when compared with the postpaid services Churn rate is very high in prepaid since customers have choice and freedom to switch the mobile operators. It is very tough countenance for the mobile operators to retain this customer base as the cost of acquisition is very high. To facilitate the customer's profitability rate it is highly predominant to observe the level of customer satisfaction with respect to their service providers. Thus this study was mainly to determine the level of customer satisfaction and to analyze the factors driving the radical change in customer's churn .Based on the results of churn, the prepaid retention strategies were planned to enhance the customer loyalty by arresting the churn rate. The research study was descriptive and survey method was employed using structured questionnaires as sampling instrument. Sample size was 1102 and TamilNadu, one of the states of India was selected as the sampling framework. Exploratory factor analysis and structured equation modeling were taken as statistical tools for data analysis. Radical change mainly happened due to the advancement in data services, technology based services, network coverage, net speed, complaint resolution system were acting as driving source for the customer churn. Based on this operational strategies were devised to improve customer loyalty.*

Keywords: *Radical change, Customer satisfaction, Social media marketing, Technology, Customer care, Customer churn*

1. INTRODUCTION

Indian mobile telecommunications plays mammoth role as it holds the second largest rank in the world's Mobile services. Total subscription in mobile services is 1.03 billion as of December 2015.It had basically based on two main technologies and they are Code Division Multiple Access (CDMA) and Global System for Mobile Communications (GSM). According to Internet and Mobile Association of India (IAMAI), India has the world's second- largest Internet user base with 317 million at the end of October 2015. Totally 203 million are accessing mobile phones

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for Internet services of December 2015.Totally 92% of this market is dominated by prepaid users[1] and out of those 84% of them are smart phone users. This industry surfaces the stage of saturation due to rapid advancement in mobile technology and also entangles high radical transformation of customers to churn their prepaid mobile service providers. Radical or abrupt change in the mindset of customers is mainly due to their addiction and dynamism in mobile data services as they are craze on mobile data usage. Hence forth the Customer churn ensues to be the most stimulating issue for mobile industry irrespective of their rapid growth. The rate of churn among the subscribers is also growing vibrantly and the churn rate (i.e. the rate at which a subscriber switches his/her operator) was expected to exceed 64% in 2016[2] .Churn rate upsurges cuttingly in corresponding to the progress of mobile subscribers. Customer retention, therefore, is becoming predominant to sustain customer base. In this regard it is indispensable to examine the root for mobile radical change due to churn in India. For this it is imperious to determine the level of customer satisfaction and grounds for customer.

2. REVIEW OF LITERATURE

Sana Salman (2013) and Silvia Trif (2013) explained the effects of customer churn that affects the market share, revenue, dissatisfied customers dent the brand image increases operational cost as it requires marketing interventions to win back. Benjamin Oghojafor (2012) mentioned the major challenge facing telecom business providers in Nigeria due to high churn and competition. Hadden et al. (2007) explained the impact of customer churn in the developed countries. Fildes, (2002) pointed out the cost of acquiring new customers would be very high when compared with the cost of retaining the existing customers and emphasized the importance of churn prediction. Song et al. (2007) stressed that a robust churn prediction system required to identify the potential churners and to enhance customer loyalty. Preventing customer churn is critical for the survival of mobile service providers because it is estimated that the cost of acquiring a new customer is more if the advertising, marketing, and technical support etc are all taken into consideration. On the other hand, the cost of retaining a current customer is usually as low as the cost of a single customer retention call or a single mail solicitation (Berson et al. 2002). The high acquisition cost makes it imperative for mobile service providers to devise ways to predict the churn behavior and execute appropriate proactive actions before customers leave the company.

In addition to lost revenue, customer churn means increased activation and deactivation costs. In the global wireless industry, these amount to $10 billion

1. http://trak.in/mobiles/prepaid-mobile-users-india-global-comparison/
2. http://www.wirelessweek.com/articles/2011/09/mobile-data-pricing-signs-market-maturity

per year, according to an August 2001 study by International Data Corporation (Geppert, 2002).

Geppert (2002) indicated that a high churn rate also puts pressure on companies to win new customers. The cost of acquiring each new customer ranges from $350 to $475 and providers need to retain these new customers for more than four years to break even. Replacing old customers with new ones carries other burdens. In addition to marketing and advertising, companies incur costs associated with provisioning new customers, as well as increased risks associated with billing issues and other revenue assurance matters.

Further, the deactivation and disconnection of customers brings inherent risk of revenue and margin deterioration, particularly when multiple service providers are involved. Finally, the potential impacts on profitability that come from inactive, underutilized, and otherwise unprofitable network facilities must be considered (Ahn et al., 2006).

L.J.S.M. Alberts (2006), Churn prevention, through churn prediction, is one way to keep customers 'in house'. This study was focused solely on prepaid customers. In contrast to post-paid customers, prepaid customers are not bound by a contract. The central problem concerning prepaid customers is that the actual churn date in most cases is difficult to assess. This is a direct consequence of the difficulty in providing a unequivocal definition of churning and a lack of understanding in churn behavior.

Carole MANERO, France (2008), emphasized that sustaining customers is one of the most significanttasks in the maturing mobile telecommunications service industry. Customer churn negatively affects mobile telecom operators because they set to lose animmense deal in price premium, declining profits levels and also loss of referrals from ongoing service customers..

Angela Stainthorpe (2008), explained that, mobile Number Portability (MNP) implementation is gathering pace across the world. Much of Western Europe and North America is used to the easy freedom subscribers have to move operators, and many operators in the rest of the world will soon learn first-hand what this freedom will mean for their business. But MNP does not necessarily mean increased churn and increased costs; thorough preparation is central to turning MNP implementation from threat to opportunity.

3. RESEARCH QUESTIONS

1. Do customers are happy and satisfied with the current service provider?
2. Why customers are radically churning their prepaid service providers?

4. PROBLEM FOCUS

India deliberately possesses 15 mobile operators in an immensely competitive, predominantly pre-paid market. Nearly 96% of the mobile subscribers are drastically changing the mobile service providers .It faces nearly 6% of monthly churn rate. It mainly varies from different operators as this market is highly aggressive. Customer loyalty automatically declines and increases to churn rise as markets tend to radical changes.Topical churners often toggle because of expansion in data attributes and promotional offers from competing providers. And also India is prodigiously large with prepaid market, there is space for more disloyalty among the subscribers as they have no commitment with respect to this services. The current statistics highlights that churn rate has marked up to 14 per cent per month while incremental net additions are at 8-10 million. It is acute and predominant especially in youth segment. It is always a critical task for the mobile operators to balance the system as churn happens within 24 months of subscription.

5. RESEARCH OBJECTIVES

1. To find out the factors triggering the level of customer satisfaction with regard to their purchasing decision, internet usage, performance of mobile operator, customer Relationship Management process, Service quality.
2. To inspect the factors of customer churn with respect to Indian prepaid mobile services.

6. RESEARCH METHODOLOGY

6.1 Research design

The study was descriptive as it mainly deals with the factors influencing customer satisfaction for the prepaid mobile users. For this survey method was employed by administering structured questionnaire for primary data collection. The secondary data were collected from the telecommunication reports and the related literatures. Tamil Nadu is selected as sampling framework as it was second largest in prepaid mobile subscription among the states in India. It has accounted 10% of total prepaid subscription as of December 2013 and 50% of the monthly average churn was reflected from this state. Hence it was chosen as sampling framework for better representation. Ten major district headquarters of TamilNadu were chosen and they were Chennai, Madurai, Dindugul, Coimbatore, Trichy, Salem, erode, Vellore, Tirunelveli, Thanjavurdue to their potency of prepaid subscription and churn rate of 2013[3]. Primary data were gathered from 2014 to 2015 and secondary data were drawn from 2010 onwards. Sampling method was purposive and sample size was 1102.

3. http://www.trai.gov.in/

6.2 Reliability & validity

Reliability

Inter item reliability score was 0.94 using chronbach alpha value with spss package 20.

Validity

Content and face validity were assessed and evaluated through respective experts and supported by literatures. With respect to content validity totally twelve panel experts validated the questionnaire. The Content validity rate was closer to 0.86 approximately for each question taken in the questionnaire hence those questions was finalized for the final study.

Pilot study

Pilot study was conducted in Chennai and finally the questionnaire was pretested and finalised.

7. DATA ANALYSIS

7.1 Research objective

To determine the factors influencing the level of customer satisfaction with regard to their purchasing decision, internet usage, performance of mobile operator, customer Relationship Management process, Service quality.

7.1 Statistical tool

Exploratory Factor Analysis

7.2 Exploratory Factor Analysis

Principle

To carry out data reduction and to take out the factors that is distinct, reliable and directive to the research objectives. A principal component Analysis (PCA) was performed on 199 items of predictors and criterions using orthogonal rotation of VARIMAX.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy

This measure differs between 0 and 1, and values nearer to 1 are better. The KMO value is 0.85. The KMO for all Individual items from Anti image correlation matrix is above 0.76 empahasizing the sampling sufficiency. On behalf of this index, it is confirmed that the data holds the use of factor analysis

Bartlett's Test of Sphericity ($\chi 2$)

This tests the null hypothesis that the correlation matrix is an identity matrix. Since Barlett's test is highly significant ($p<0.001$) and therefore factor analysis is fitting since the correlation among the items are sufficiently large.

Eigen Values

The analysis was first run to obtain the Eigen Values for each component in the data and Maximum four components had Eigen values over Kaiser's criterion of 1and in combination explained 75% of the variance. Based on the rule of thumb in exploratory factor analysis, loadings should be 0.7, the following factors were extracted.

Table 1.
List of predictors

Constructs/Latent Variables	*Items/Manifest Variables*	*Correlation Coefficients*
Internet usage	Type of the data card(ZIU2)	0.938
	Place of purchase(ZIU3)	0.938
	Awareness(ZIU4)	0.938
	Personal Use(ZIU5)	0.938
	Alternative choice due to non-availability(ZIU6)	0.938
	Tariff(ZIU7)	0.938
	Changing the brand(ZIU8)	0.94
SUM_CRM	Customer Care(ZCRM1)	0.752
	Time taken for Complaint Resolution(ZCRM2)	0.790
	Attitude and social responsibility(ZCRM12)	0.755
Service Quality	Quality of Coverage(ZSQ1)	0.754
	Easiness in Subscription(ZSQ2)	0.878
	Recharge Process(ZSQ36)	0.880
	Functional Product(ZSQ37)	0.896
	Quick customer complaint redressed(ZSQ38)	0.923
	Application Process(ZSQ39)	0.913
	Reach of Customer services(ZSQ40)	0.909
	Readiness of Customer care(ZSQ41)	0.924
	Availability and Easiness of services(ZSQ42)	0.915
	Front End services(ZSQ43)	0.890
	Customer Services(ZSQ44)	0.931
	Call centers(ZSQ45)	0.902
	Personalization(ZSQ47)	0.884

Source –primary data

Table 2. Criterions

Constructs/Latent Variable	*Items/Manifest Variable*	*Correlation Coefficient*
Prepaid_churn	Psychologically feeling better to churn (ZCh10)	0.792
	Tariff (ZCh11)	0.822
	Accessibility (ZCh18)	0.861
	Preferred applications (ZCh21)	0.820
	Social Media (ZCh22)	0.890
	Internet (ZCh23)	0.769
	Moral/Ethical values (ZCh25)	0.811
	Regulatory certainty by mobile Operators (ZCh27)	0.817

Extracted from Rotated component matrix
Extraction Method: Principal Axis Factoring.
Rotation Method: Varimax with Kaiser Normalization.

7.3 Research objective 2

To inspect the factors of customer churn with respect to Indian prepaid mobile services.

7.4 Statistical tool

AMOS-Structured Equation modeling

From the below mentioned standardized regression coefficients it was clear that the internet usage had the highest regression coefficient (1.00)and followed by service quality(0.9) except the quality of coverage and Easiness in subscription. It was then followed by CRM (0.8).Hence it was oblivious that based on the attributes of internet usage, service quality and CRM, there was the radical change in the subscriber's churn behavior. Based on the above mentioned factors they were changing the service providers due to the advancement in the internet facilities offered by the service providers. These were the factors responsible for the abrupt or radical change in the service providers.

Chi square test functions as a statistical method for evaluating models. Fit indexes describe and evaluate the residuals that result from fitting a model to the data. A chi square probability value greater than .05 indicates acceptable model fit and suggesting that the proposed model is consistent with the observed data.

Table 3.
Standardized Regression Weighgts

Factors			*Estimate*
PREPAID_CHURN	←	Internet_usage	.866
PREPAID_CHURN	←	SUM_CRM	.890
PREPAID_CHURN	←	service_quality	.916
ZIU8	←	Internet_usage	1.000
ZIU7	←	Internet_usage	1.000
ZIU6	←	Internet_usage	1.000
ZIU5	←	Internet_usage	1.000
ZIU4	←	Internet_usage	1.000
ZIU3	←	Internet_usage	1.000
ZIU2	←	Internet_usage	1.000
ZCRM12	←	SUM_CRM	.465
ZCRM3	←	SUM_CRM	.871
ZCRM2	←	SUM_CRM	.828
ZSQ46	←	service_quality	.916
ZSQ45	←	service_quality	.963
ZSQ44	←	service_quality	.909
ZSQ43	←	service_quality	.962
ZSQ42	←	service_quality	.975
ZSQ41	←	service_quality	.970
ZSQ40	←	service_quality	.966
ZSQ39	←	service_quality	.961
ZSQ38	←	service_quality	.958
ZSQ37	←	service_quality	.953
ZSQ36	←	service_quality	.945
ZSQ2	←	service_quality	.360
ZSQ1	←	service_quality	.360
Zch10	←	PREPAID_CHURN	.218
Zch11	←	PREPAID_CHURN	.245
Zch18	←	PREPAID_CHURN	.854
Zch21	←	PREPAID_CHURN	.860
Zch22	←	PREPAID_CHURN	.891
Zch23	←	PREPAID_CHURN	.887
Zch25	←	PREPAID_CHURN	.861
Zch27	←	PREPAID_CHURN	.839

Table 4.
Model Fit Summary

Model	*CMIN*	*RMR*	*GFI*	*AGFI*	*CFI*	*NFI Delta1*	*RFI rho1*	*IFI Delta2*
Default model	73.947	.044	.987	.961	.996	.992	.978	.996
Saturated model	.000	.000	1.000		1.000	1.000		1.000
Independence model	9066.017	16.581	.173	.055	.000	.000	.000	.000

RMR (root mean square residual), the smaller the RMR, the better the model. An RMR of zero indicates a perfect fit. The closer the RMR to 0 for a model being tested, the better the model fit. Here, the value of RMR is less than 0.05 and hence it indicates good fit. GFI should be equal to or greater than .90 to indicate good fit. GFI is less than or equal to 1. GFI index is roughly analogous to the multiple R square in multiple regression in that it represents the overall amount of the co-variation among the observed variables that can be accounted for by the hypothesized model.

AGFI (adjusted GFI), AGFI adjusts the GFI for degree of freedom, resulting in lower values for models with more parameters. AGFI should also be at least .90, close to 1 indicates good fit. AGFI may underestimate fit for small sample sizes. AGFI's use has been declining and it is no longer considered a preferred measure of goodness of fit. AGFI > 0.9 indicates good fit.

CFI (comparative fix index), close to 1 indicates a very good fit, > 0.9 or close to 0.95 indicates good fit, by convention, CFI should be equal to or greater than .90 to accept the model. CFI is independent of sample size. CFI is more appropriate than NFI in finite samples. NFI behaves erratically across ML and GLS, whereas CFI behaved consistently across the two estimation methods. CFI is recommended for routine use. Gerbing and Anderson (1993) recommended RNI and CFI, DELTA2 (IFI). When the sample size is small, both the CFI and TLI decrease as we increase the number of variables in the models.

IFI (incremental fit index, which is also known as DELTA2, should be equal to or greater than .90 to accept the model. IFI value close to 1 indicates good fit.

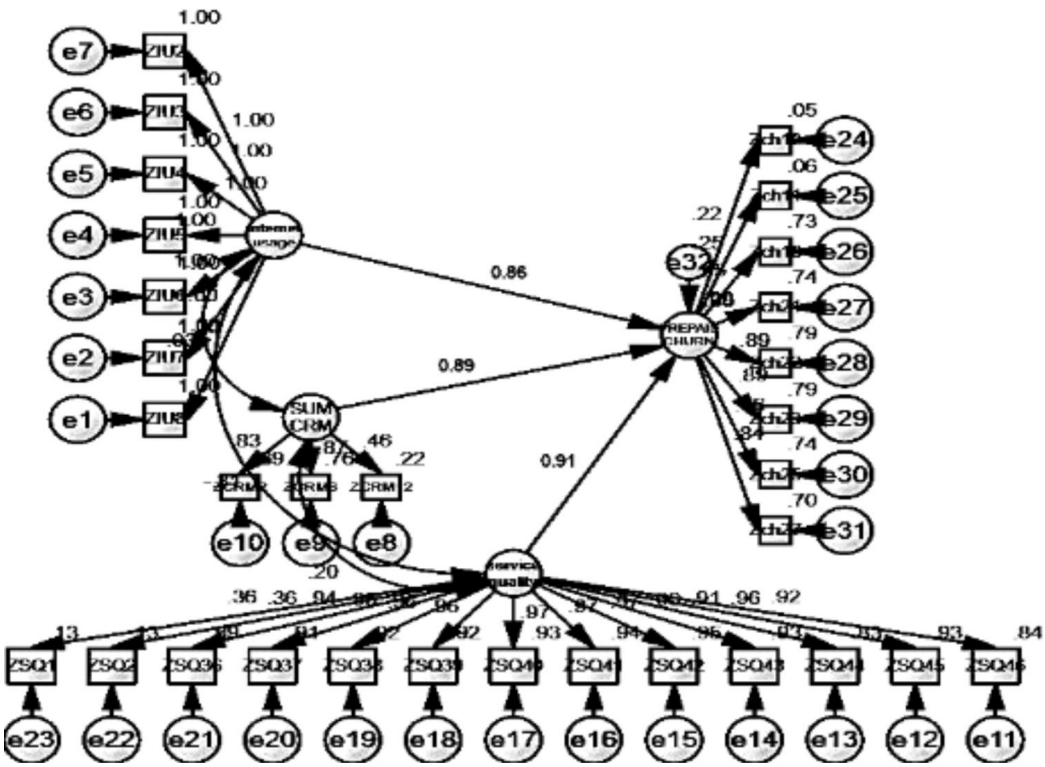
NFI (normed fit index, also known as the Bentler-Bonett normed fit index,DELTA1), 1 = perfect fit. NFI values above .95 are good RFI (relative fit index, RHO1) is not guaranteed to vary from 0 to 1. RFI close to 1 indicates a good fit.

TABLE 5. RMSEA

Model	*RMSEA*	*LO 90*	*HI 90*	*PCLOSE*
Default model	.035	.022	.047	.985
Independence model	.338	.332	.343	.000

RMSEA (root mean square error of approximation), there is good model fit if RMSEA less than or equal to .05. The RMSEA values are classified into four categories: close fit (.00–.05), fair fit (.05–.08), mediocre fit (.08–.10), and poor fit (over .10). RMSEA smaller than 0.05 indicates good fit. RMSEA tends to improve as we add variables to the model, especially with larger sample size. One limitation of RMSEA is that it ignores the complexity of the model. The lack of fit of the hypothesized model to the population is known as the error of approximation. The RMSEA is a standardized measure of error of approximation. RMSEA value of .05 or less indicates a close approximation. PCLOSE tests the null hypothesis that RMSEA is no greater than .05. If PCLOSE is greater than .05, depicted the computed RMSEA is lesser than .05, indicating close fit.

Figure 1: SEM



8. CONCLUSIONS AND RECOMMENDATIONS

Mobile operators can implement the following operational strategies.

8.1 Multifaceted customer care centers

Mobile operators can revamp their pattern of services through affiliate marketing .They can also have the community groups in web portal, online sites to give immediate resolutions and act like the complaint desk to resolve the issues instant. Personalized platform is predominant to attract and facilitate the customers. Techno savvy services will pave a better way even to tap the unsought segment in this division.

8.2 Differential pricing strategy

The mobile operators are advised to concentrate on differential pricing strategy. They can devise varieties of data service plans based on the recent trends to attune with the market.They also can focus on recharge plans on data packs to magnetize internet users.

8.3 Promotional campaigning

Novel and unique promotional campaigns can pitch up the immediate results. Awareness and motivation are the immediate attributes required to trigger the customers to pull in to the segments. Most of the customers have voiced the importance of data usage henceforth the data plans and their related offers may be kept as the centrifugal force of attraction.

8.4 High speed Internet connectivity

Mobile operators have to ensure high internet connectivity in their handsets with uninterrupted speedy internet connections.Since customers have the paradigm shift of computers with their advanced smart phones mobile operators have to upgrade their technology particularly in network coverage, net speed, and high technology.

8.5 Subsidized handsets

Mobile operators can offer subsidized handsets that are compatible to recent technology. It may facilitate all functional requirements of the customers without any network or data distortions.

8.6 Customer relationship management

It is highly pivotal for the mobile operators to maintain customer's database to understand their account details. Database management is to be functionally

improved in prepaid segment when compared with postpaid. By conducting events and campaigns in various public spots, mobile operators can enhance customer relationship. They can organize message or concept contests for the customers.

8.7 Participative Marketing

Customers can be asked to suggest their ideas on mobile services and open discussions can be organized to receive their opinions on various services attributes.

9. SUMMARY

Research is all about the comprehensive assessment of the level of customer satisfaction on Indian prepaid mobile services that are directive on the churn reasons. Operational factors are identified and they are related to technology based services, network coverage, net speed, service quality and CRM. Mobile operators have to attend these driving factors proactively by building customer bondage through effective customer relationship management. They are in need to devise strategies building customer values on moral and ethical values to enhance the customers trust and beliefs over the services. Rigor social media campaigning required to advertise the new arrivals in terms of service packs to attract the prepaid market. Mobile operators need to radically transform their images that they are master in rendering high tech service ends.

9.1 Research limitations/implications

The paper examines on the Indian prepaid segment by taking one of the states in India.

9.2 Practical implications

The outcome of this study will enlighten the Indian mobile operators to calibrate the operational strategies to increase the level of customer loyalty.

9.3 Usefulness of study

The major outcome of this study highlights the importance about the customization of mobile phones and their designs in predicting churn. It also mentions the significance of social media and affiliate marketing to control churn.

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