

8-4-2011

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An Analysis on the Factors Causing Telecom Churn: First Findings

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ABSTRACT

The exponential growth in number of telecom providers and unceasing competition in the market has caused telecom operators to divert their focus more towards customer retention rather than customer acquisition. Hence it becomes extremely essential to identify the factors causing a customer to switch and take proactive actions in order to retain them. The paper aims to review existing literature to bring up a holistic view of various factors and their relationships that cause a customer to churn in the telecommunication industry. A total of 140 factors related to customer churn were compiled by reviewing several studies on customer churn behavior. The identified factors are then discussed in detail with their impact on customer's switching behavior. The limitations of the existing studies and directions for future research have also been provided. The paper will aid practitioners and researchers by serving a strong base for their industrial practice and future research.

Keywords

Customer churn, churn determinants, churn behavior, telecom

INTRODUCTION

Telecommunication is one of the fastest growing industries covering 90% of the world population. It is estimated that by the end of 2010 there will be around 5.3 million mobile cellular subscriptions worldwide (Union, 2010). The rapid growth of telecom users worldwide is also accompanied with increase in number of telecom providers, leading to more fierce competition in this market. Moreover the introduction of Mobile Number Portability (MNP) in various countries has also facilitated an easier mode for a customer to switch to another provider. Hence it makes more sense for the telecom providers to retain their customers and gain profit equivalent to the investment necessary for acquisition of new customers. It becomes extremely essential for the telecom providers to understand various causes that lead a customer to churn before planning any retention strategy. This has been an active area of research since many years and several studies have also been conducted for identifying churn determinants. Although, previously there have not been any attempts to review literature specifically related to customer churn behavior hence the paper attempts to present an aggregated view of various factors and their relationships with their effects on telecom customer churn. The paper presents a comprehensive list of factors extracted by reviewing existing literature on various studies conducted for identifying determinants of customer churn in telecom industry. The paper aims to help practitioners and researchers by providing a strong base for their industrial practice and future research. The identified gaps in the previous studies have also been discussed in latter sections. Next section provides the methodology followed for the paper. Later sections provide discussion on the identified factors and their relationships. The last section provides summary of the findings as well as discussion on the identified limitations of the existing studies. The areas where future research is required have also been provided in this section.

METHODOLOGY

The relevant literature on customer churn behavior in telecom sector were identified by exploring several journal databases like ebsco, Jstor, science direct, emerald insight and others. Majority of the papers were from journals like the Telecommunication policy, Info, European journal of Information Systems and others. The identified literature was then reviewed and a list of 140 factors related to customer churn was compiled. The effects of all these factors on customer churn varied in all the studies and their relationships between them were highly interrelated. Hence in order to have more clarity on relationships between the identified factors; they were grouped into 16 groups on the basis of their definition in each of the papers. Table 1 lists all the factors groups that were defined for each of the extracted factors along with their source.

Sr. No.	Factor Groups	Factors	Source
1	Competition	Competition	(Keaveney & M., 1995)
		Corporate Image	(Aydin & Özer, 2005; Li, 2008)
		Image of Competitor	(Gerpott, Rams, & Schindler, 2001)
		Image	(Kuusik & Varblane, 2009; Martensen, Gronholdt, & Kristensen, 2000)
		Marketing efforts	(Blattberg, Malthouse, & Neslin, 2009)
2	Customer Life Time Value	Customer Life Time Value	(Blattberg, et al., 2009)
		Length	(Maicas, Polo, & Sese, 2009)
		Relationship duration	(Ranganathan, Seo, & Babad, 2006)
		Duration of subscription	(Kim & Yoon, 2004)
3	Customer Loyalty	Customer Loyalty	(Aydin & Özer, 2005; Deng, Lu, Wei, & Zhang, 2010; Gerpott, et al., 2001; Kim & Yoon, 2004; Kuusik & Varblane, 2009; Lai, Griffin, & Babin, 2009; Lee, Lee, & Feick, 2001; Li, 2008; Liu, Guo, & Lee, 2010; Martensen, et al., 2000; Min & Wan, 2009)
		Commitment	(Pura, 2005)
		Repurchase Likelihood	(Turel & Serenko, 2006)
		Loyalty Commitment	(Sweeney & Swait, 2008)
		Continuance commitment	(Sweeney & Swait, 2008)
		Cross Buying	(Blattberg, et al., 2009)
		Post purchase intention	(Kuo, Wu, & Deng, 2009)
		Intimacy	(Liu, et al., 2010)
		Loyalty	(Lai, et al., 2009)
4	Customer Payments	unpaid balances	(Ahn, Han, & Lee, 2006)
		Number of unpaid bills	
		Billed amounts	
		Monthly payment	(Kim & Yoon, 2004)
5	Customer retention	Customer retention	(Gerpott, et al., 2001)
6	Customer satisfaction	Brand Credibility	(Sweeney & Swait, 2008)
		Satisfaction	
		Customer satisfaction	(Blattberg, et al., 2009; Deng, et al., 2010; Eshghi, haughton, Teebagy, & Topi, 2006; Eshghi, Haughton, & Topi, 2007; Gerpott, et al., 2001; Kuo, et al., 2009; Kuusik & Varblane, 2009; Lai, et al., 2009; Lee, et al., 2001; Li, 2008; Liu, et al., 2010; Martensen, et al., 2000; Min & Wan, 2009; D.-H. Shin & Kim, 2008; D. H. Shin & Kim, 2007; Sweeney & Swait, 2008; Turel & Serenko, 2006)
7	Customer churn	Customer Switching Behavior	(Dong Hee, 2007; Maicas, et al., 2009; Ranganathan, et al., 2006; Roos & Friman, 2008; D. H. Shin & Kim, 2007)
		Behavioral Intention	(Pura, 2005)
		Customer churn	(Ahn, et al., 2006; Kim & Yoon, 2004)
		Switching intention	(D.-H. Shin & Kim, 2008)

		Customer Switching	(Keaveney & M., 1995)
		Propensity to switch	(Eshghi, et al., 2006; Eshghi, et al., 2007)
		Switching Propensity	(Martensen, et al., 2000)
		Intention to Switch	(D.-H. Shin & Kim, 2008)
8	Demographics	Age	(Eshghi, et al., 2007; Kim & Yoon, 2004; Maicas, et al., 2009; D.-H. Shin & Kim, 2008)
		Gender	(Kim & Yoon, 2004) (Maicas, et al., 2009; Min & Wan, 2009; Ranganathan, et al., 2006; D.-H. Shin & Kim, 2008)
		Education	(Eshghi, et al., 2007)
		Income	(Eshghi, et al., 2007; Kim & Yoon, 2004)
		Number of Cell phones	(Eshghi, et al., 2007)
		Total Spending	
9	Emotions	Annoyance	(Roos & Friman, 2008)
		Anxiety	
		Depression	
		Disappointment	
		Dissatisfaction	
		Distress	
		No Emotions	
		Rage	
		Stress	
		Tension	
		Emotional Value	(Deng, et al., 2010; Pura, 2005)
		Trust	(Aydin & Özer, 2005; Deng, et al., 2010; Liu, et al., 2010)
Trustworthiness	(Kuusik & Varblane, 2009)		
10	Other	New terminal	(Gerpott, et al., 2001)
		Phone number constancy	
		Switching experience	(Kim & Yoon, 2004)
		Social value	(Deng, et al., 2010; Pura, 2005)
		Loyalty points	(Ahn, et al., 2006)
		Ethical problems	(Keaveney & M., 1995)
		Involuntary/Other	
		Other	(Trofimoff & Walters, 2002)
Word of Mouth	(Sweeney & Swait, 2008)		
11	Perceived value	Assessment of customer care	(Gerpott, et al., 2001)
		Assessment of prices	
		Personal Benefits	
		Billing	(Kim & Yoon, 2004; Maicas, et al., 2009; Min & Wan, 2009)
		Value added services	(Kim & Yoon, 2004; D. H. Shin & Kim, 2007)

		Customer services	(Kim & Yoon, 2004)
		Tariff level	
		Brand Image	
		Handset	
		Perceived expectations	(Turel & Serenko, 2006)
		Price Structure	(Dong Hee, 2007)
		Perceived Price	(D.-H. Shin & Kim, 2008)
		Perceived value	(Deng, et al., 2010; Kuo, et al., 2009)
		Value	(Lai, et al., 2009; Martensen, et al., 2000)
		Price tolerance	(Turel & Serenko, 2006)
		Price	(D.-H. Shin & Kim, 2008; D. H. Shin & Kim, 2007)
		Customer Expectations	(Eshghi, et al., 2006)
		Conditional value	(Pura, 2005)
		Convenience Value	
		Monetary value	
		Customer value	(Li, 2008)
		Expectation	(Martensen, et al., 2000)
		Functional Value	(Deng, et al., 2010)
Subscription fee	(Dong Hee, 2007)		
12	Product/Service offering	Membership card	(Ahn, et al., 2006)
		Multichannel purchasing	(Blattberg, et al., 2009)
		Product/Service offering	(Trofimoff & Walters, 2002)
		Product	(Martensen, et al., 2000)
		Alternative attractiveness	(Min & Wan, 2009)
		Service bundling	(Ranganathan, et al., 2006)
13	Service Quality	Call failure rate	(Ahn, et al., 2006)
		Call drop rate	
		Number of complaints	
		Customer Complaint	(Turel & Serenko, 2006)
		Subscriber service	(D. H. Shin & Kim, 2007)
		Personal N/W effects perception	(Maicas, et al., 2009)
		Assessment of N/W Quality	(Gerpott, et al., 2001)
		Service quality	(Kuo, et al., 2009; Lai, et al., 2009)
		Core Service Failure	(Keaveney & M., 1995)
		Inconvenience	
		Response to failure	
		Service encounter failure	

		Call Quality	(Dong Hee, 2007; Kim & Yoon, 2004; D. H. Shin & Kim, 2007)
		Perceived Quality	(Eshghi, et al., 2006)
		Coverage & Quality of service	(Trofimoff & Walters, 2002)
		Perceived Service Quality	(Aydin & Özer, 2005)
		Service	(Martensen, et al., 2000)
		Service Fairness	(Li, 2008)
14	Service Usage	Type of Contract	(Min & Wan, 2009)
		Depth	(Maicas, et al., 2009)
		Customer status	(Ahn, et al., 2006)
		Call frequency/week	(D. H. Shin & Kim, 2007)
		Services in use	
		Usage time/week	(Ranganathan, et al., 2006)
		Peak time usage ratio	
		Total usage ratio	
		Weekend ratio usage	(Eshghi, et al., 2007)
Total Wireless Spending			
15	Switching Barrier	Opportunity cost	(Dong Hee, 2007; D. H. Shin & Kim, 2007)
		Subscriber lock in	
		Perceived Switching Cost	(Aydin & Özer, 2005)
		Switching Barriers	(Liu, et al., 2010)
		Switching Costs	(Deng, et al., 2010; Dong Hee, 2007; Lee, et al., 2001; Min & Wan, 2009; D.-H. Shin & Kim, 2008; D. H. Shin & Kim, 2007)
		Additional service fee	(Dong Hee, 2007)
		Customer lock in	(D.-H. Shin & Kim, 2008)
		Perceived switching barrier	
16	Technology Oriented	Duration of handset used	(Kim & Yoon, 2004)
		Epistemic Value	(Pura, 2005)
		Wireless Orientation	(Eshghi, et al., 2007)
		Years Connected to Internet	
		Propensity to add cell phone	
		Propensity to replace fixed with wireless	(Liu, et al., 2010)
		Playfulness	
		Sophistication	
Breath	(Maicas, et al., 2009)		

Table 1: List of all the factors and corresponding factor groups

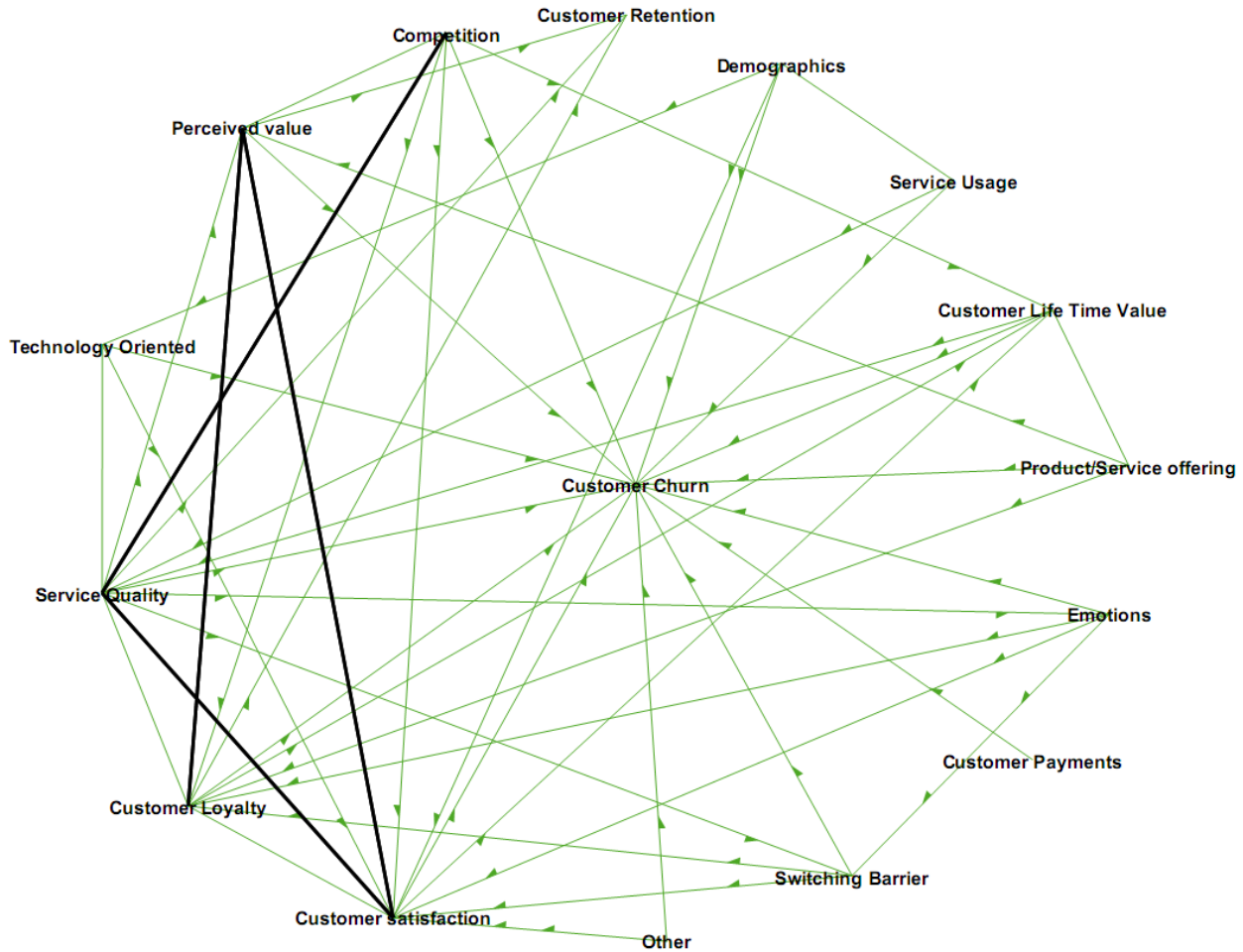


Figure 1. All Relationships between factor groups

Category	Range (papers)
Strong	Greater than or equal to five
Potential	Less than five and greater than 1
Weak	Equal to 1

Table 2. Categorizing of Relationships

Figure 1 shows the relationships between all the defined factor groups. It can be seen that all of these groups are also highly linked to each other indicating a high degree of complexity in the relationships between the identified factors. The bold lines in figure 1 indicate mutual relations between the factor groups. For analyzing each of these factor groups and their relationships, the relationships were classified into 3 categories viz. Strong, Potential and Weak based on the number of studies in which they were examined. Thus, forming an abstract view by analyzing the strong factors and their relationships and then drilling down to analysis of potential and weak factors. Table 2 defines the range in terms of paper count and the corresponding category of relationship. The hypotheses that were found to be invalid in respective studies are grouped in a separate category called insignificant relationships. The relationships between each of these groups are discussed in detail in section 3.

CHURN FACTORS AND THEIR EFFECTS

As discussed in above section, following are the various factors and their effects on customer churn. The effect of a particular factor is denoted by an arrow with the type of effect (positive (+), negative (-), no effect (*)) that it makes on the other factors. The number in the brackets indicates the count of papers in which the relation was found. In some of the reviewed literature, the type of effect that a factor makes on other factors has not been discussed, such relationships have been marked with (*) sign. The prominent findings from review of various studies have been collated and discussed in following sections.

Strong Factors and their relationships

As shown in Figure 1, perceived value and service quality are the only factors having direct impact on customer churn. (Pura, 2005) proposed a Multidimensional perceived value model with their effects on customer’s behavioral intention to switch. The study shows that various components of perceived value such as conditional value, monetary value and convenience value have a positive relation with customer churn behavior which indicates that communicating these values to the customer may help in restricting them to switch to another service provider offering new or much cheaper services. Also, various studies (Keaveney & M., 1995; Kim & Yoon, 2004) have confirmed to the fact that price is a significant determinant factor leading to customer churn. Further a wireless survey in U.S. (Trofimoff & Walters, 2002) shows that nearly 40% the subscribers have churned due to pricing issues. A model based on American Consumer Satisfaction Index (ASCI) was proposed by (Eshghi, et al., 2006) to understand customer switching behavior in case of local telephone service. The ASCI model assumes customer satisfaction to be a significant determinant of customer churn which in turn is influenced by customer expectations, perceived quality and perceived value. Service quality has been an another dominant factor leading to customer churn in terms of service failures, operator’s response to service failures or any inconvenience caused to the customers (Keaveney & M., 1995). The number of complaints made by the customers regarding the services of the operator strongly indicates their likelihood to churn in future. In certain situations, the customer might stop using the operator’s services before they churn out, this can provide the operator with an opportunity to retain such customers before they finally leave (Ahn, et al., 2006). Hence, it’s very essential for a service operator to have an efficient customer care center for attending and resolving customer issues.

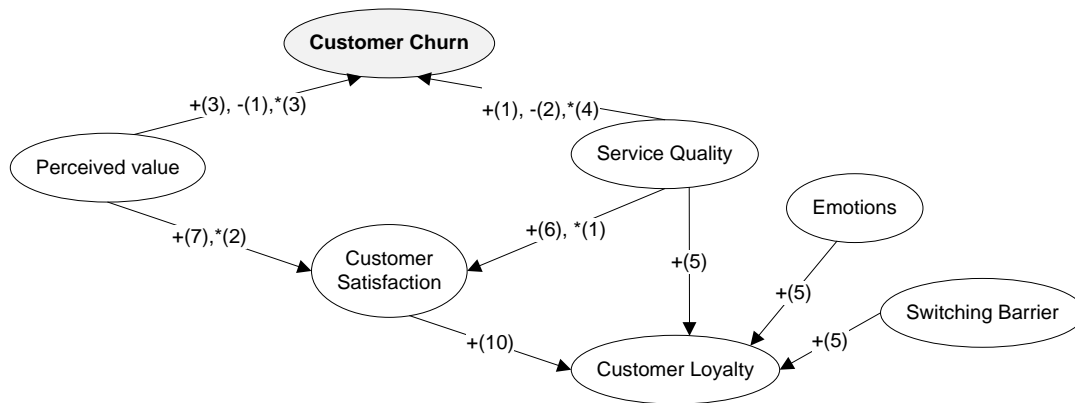


Figure 2. Strong Factors with their relationships

The primary and the most significant factor influencing customer loyalty in most of the studies, has been customer satisfaction which is based on various components or service quality and perceived value. (Deng, et al., 2010; Gerpott, et al., 2001; Kuusik & Varblane, 2009; Lai, et al., 2009; Li, 2008; Liu, et al., 2010). For a telecom operator, increase in satisfaction level of the customers may increase their loyalty through repurchasing and having higher tolerance capabilities towards operator’s price hikes or lower prices offered by the competitors (Kuo, et al., 2009; Turel & Serenko, 2006). Customer loyalty is also influences by emotional value of the customers viz. positive feelings and experiencing fun while using the services (Pura, 2005). Moreover, emotion of trust amongst the customers for their service provider play a significant role in determining their loyalty (Aydin & Özer, 2005; Deng, et al., 2010; Kuusik & Varblane, 2009; Liu, et al., 2010).

In case of MNP, studies indicate call quality and customer care services to be an insignificant factor for explaining customer switching behavior since customer care services are made more standardized and with the advancement of network technologies it has become difficult for customers to detect any major defect in call quality (Dong Hee, 2007; D. H. Shin &

Kim, 2007). This is in contrast with the findings from (Kim & Yoon, 2004) which indicates call quality to be one of the most significant factor leading to customer churn in case Korean mobile telecommunication industry. As shown in fig 1 switching barriers have a positive relation with customer loyalty, which in many situations help in reducing customer churn but if made extremely harsh can also have a negative impact on customers considering the present competitive environment (Liu, et al., 2010). Switching costs are one of the prominent switching barriers for the customer having it impact on their loyalty towards the operator. However, increased cost of switching may generate a negative impression of the operator on the subscribers which may consequently affect customer loyalty (Lee, et al., 2001). A study done by (Deng, et al., 2010) for understanding customer satisfaction and loyalty amongst mobile instant message indicates the relationship between customer switching and loyalty is much stronger in case of old customers than the new ones. This can be an important implication for operators to use switching costs as an effective tool for planning marketing strategies.

Potential Factors and their relationships

The relationships discussed under this section have been examined in comparatively less studies than those in previous section but they still have interesting relationship with customer churn, hence these relationships were termed as potential relationships. As shown in figure 2, service quality has positive relationship with perceived value which was not found amongst the stronger relationships discussed in previous section (Lai, et al., 2009; Martensen, et al., 2000; Turel & Serenko, 2006). The quality and variety of services may significantly aid in enhancing operators corporate image as well as in gaining competitive advantage over other operators (Aydin & Özer, 2005; Lai, et al., 2009). The image that customers have of their current operator’s competitor may significantly influence their degree of satisfaction and loyalty with the operator. The stronger the image of the competitor on the customers, the weaker degree of their loyalty (Gerpott, et al., 2001; Lai, et al., 2009). It can be seen from figure 2 that in several studies customer churn is directly influenced by many factors out of which customer loyalty and satisfaction are the common factors as also seen in the previous section.

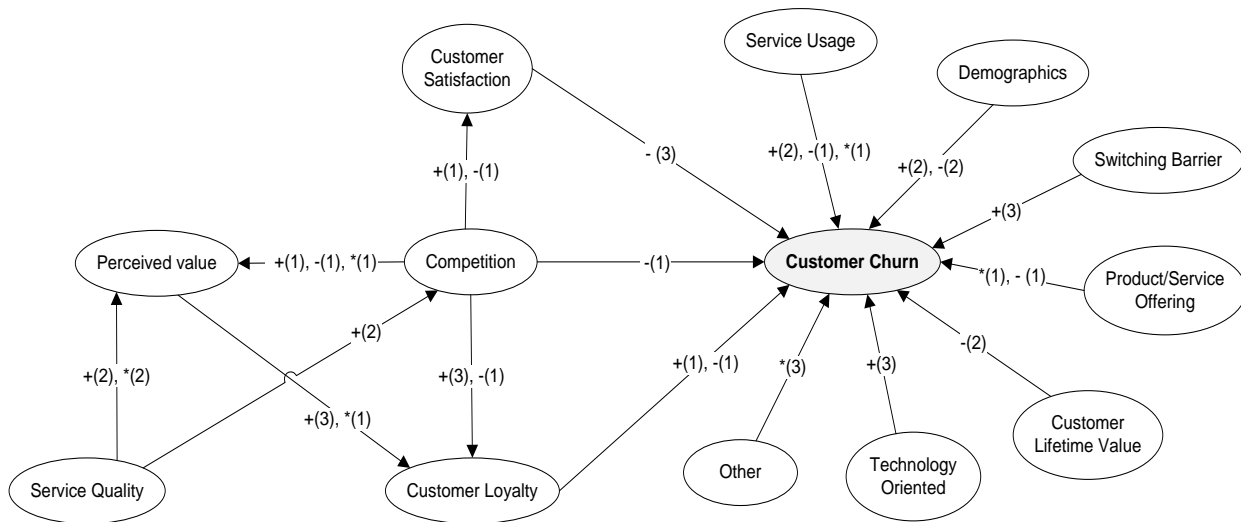


Figure 3. Potential Factors with their relationships

The type of contract (i.e. prepaid/postpaid) customers is into with the service provider and their usage of additional services may help in understanding customer churn behavior. This behavior is more often in case of postpaid customers who have a higher tendency to switch as compared to prepaid customers when targeted with attractive offers by the competitors (Maicas, et al., 2009). Demographics like customer’s age is negatively related to switching behavior, with every one year increase in age the tendency to switch decreases by 2% (Ranganathan, et al., 2006). Moreover, the tendency of male customers to churn is higher than that of female customers indicating male customers to be more prone to switch. Some other factors like ethical problems due to illegal, unsafe or overly aggressive promotional strategies may also cause a customer to switch (Keaveney & M., 1995).

The effect of various switching barriers on customer churn in case of MNP has been an active area of research in telecommunication industry. The primary switching barrier having a positive relationship with customer churn is subscriber locking which is mainly caused due to high switching costs and rigid contractual terms which prevents customer to switch to another service provider (Dong Hee, 2007; D. H. Shin & Kim, 2007). The findings from (D.-H. Shin & Kim, 2008) indicate that although MNP has been planned for reducing switching barriers but in fact it does not contribute in influencing

customer’s decision to switch. The probable reason being the dynamic changes by the operators in their pricing structure and switching provisions. The variety of services offered by the service provider has a negative relationship with customer’s switching behavior because large number services would cause a customer to accumulate service provider specific knowledge and skill which ultimately leads to customer locking-in to the service provider (Ranganathan, et al., 2006). In addition customer’s knowledge about innovations in technology also has its effect on their switching behavior (Maicas, et al., 2009). Moreover, a study done by (Kim & Yoon, 2004) indicates the mobile customers in Korea often tend to switch between the carriers for the desire of changing handsets i.e. older customers with the same handset are comparatively more prone to switch.

Weak Factors and their relationships

The relationships between various factors that were examined in only one study where regarded as weak relationships as compared to potential and strong relations. One of the factors directly effecting customer churn is customer payment which comprises of various attributes related to customers payment pattern for example: customer’s monthly bill has direct influence on customer churn which indicates that heavy users as per their monthly bill are more likely to churn (Ahn, et al., 2006). Another factor directly influencing customer churn is human emotions. A study by (Roos & Friman, 2008) shows that a customer’s decision to churn is influenced by various emotions like anxiety, disappointment, anger, tension and few others amongst which stress was found to be the most influential.

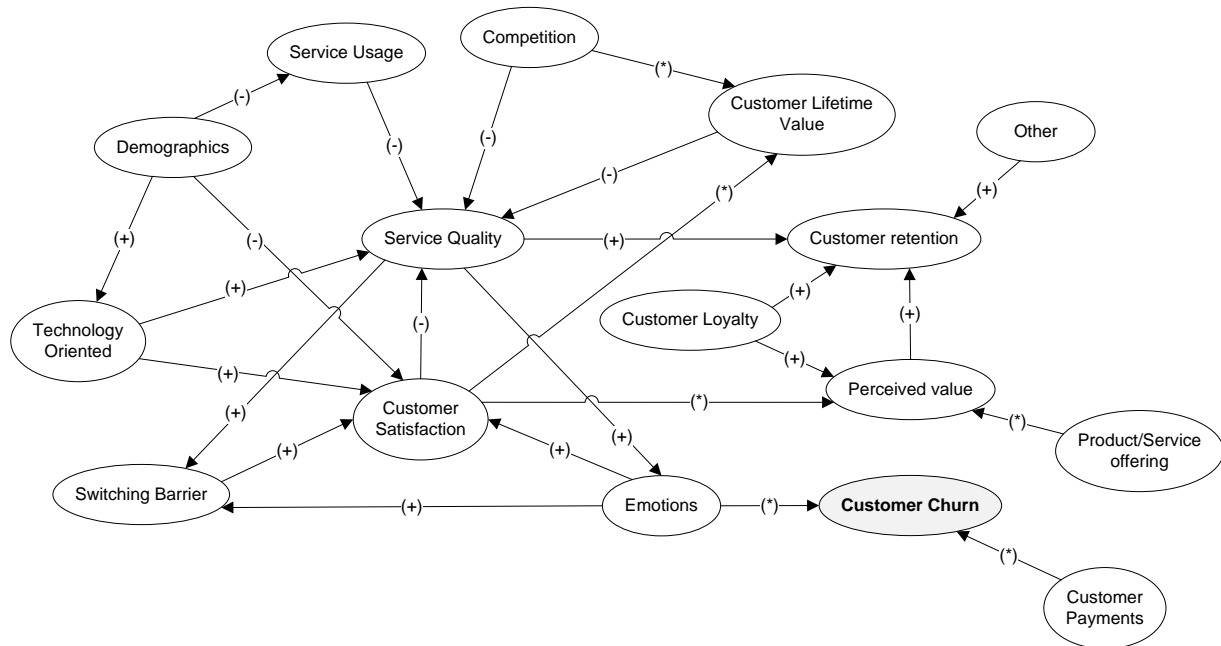


Figure 4. Weak Factors with their relationships

Figure 3 shows that customer satisfaction is positively influenced by technological orientation, switching barriers and several other factors. Demographics like income is negatively related to customer satisfaction since high income group customers might find a bit inexpensive to switch operators, however it has been considered as a weak factor for explaining customer churn (Kim & Yoon, 2004). Moreover customers age has a negative relationship with customer’s total wireless spending indicating customer’s familiarity with the wireless services (Eshghi, et al., 2007). The customer’s knowledge and attitude towards technology which has been defined as *playfulness* in (Liu, et al., 2010) may also significantly influence customer’s satisfaction level. The findings from (Maicas, et al., 2009) indicate that customer’s deep knowledge and usage of various services i.e. *breadth* has a direct effect on perception of quality provided by the network operator since the customer would then compare the services and benefits that he gets. In addition the *depth* or customer’s service usage is considered to one of the important drivers of network quality perceptions since high usage customers tend to enjoy more benefits of reduced tariffs while talking with people from their social network.. The corporate image of a service provider in customer’s mind directly influences his perception of the quality of service provided to him/her (Li, 2008). In regions where there is a lack of MNP, customers often have a strong desire to keep their phone number constant even after the expiration of the contract with service provider which indicate a direct determinant of the degree of customer retention (Gerpott, et al., 2001).

Insignificant Factors and their relationships

The factors that were found to be insignificant in various studies are discussed in this section. Although these factors were found insignificant but they may prove to be important in future research since the relationships between these factors may vary according to region where they are examined and telecommunication policies with that region. Moreover, these relationships reveal discrepancies with the studies in which they were found to be valid. Hence, these factors and relationships were also included during the literature review. Figure 5 shows that a large number of factors are directly related to customer loyalty along with customer churn. Most of the factors that have direct relations with customer loyalty also have a direct relation with customer churn.

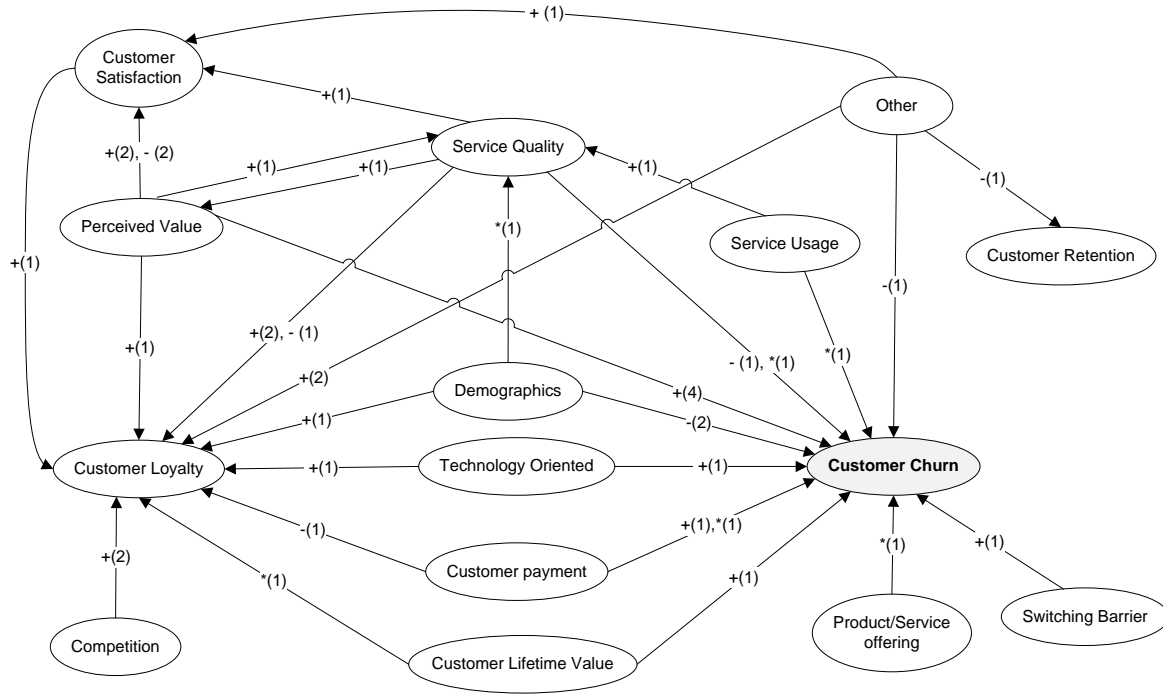


Figure 5. Insignificant Factors with their relationships

The study by (Kim & Yoon, 2004) proves that customer’s age and gender has no relation with customer loyalty and his/her intention to churn. The relation of customer payment patterns with customer loyalty and customer churn was also found to be insignificant in a couple of studies (Ahn, et al., 2006; Kim & Yoon, 2004). The relationship between service quality and customer loyalty in form of customer’s post purchase intention was found to be insignificant in (Kuo, et al., 2009), the reason probably may be the data sample under consideration which comprised of students who are more exposed to new technologies. Whereas, (Lai, et al., 2009) show that although there is now direct relationship between service quality and customer loyalty, service quality does have direct relation with perceived value and operator’s corporate image which in turn influences loyalty amongst the customers. Further, (Turel & Serenko, 2006) shows that customer’s complaints regarding services might not explain customer’s switching behavior directly but should be regarded as extremely important since a more frequently complaining customer if not managed effectively may strongly impact an operator’s market image through word of mouth. A customer’s past experience of switching to another service provider does not have any relation with their probability to churn in future (Kim & Yoon, 2004). The findings from (Dong Hee, 2007) shows that opportunity cost of switching carriers in case of MNP do not have any relations with customer’s intention to switch. In presence of MNP the findings from (D.-H. Shin & Kim, 2008) indicate that perceived price does not influence customer satisfaction which might be caused due to excessive satisfaction with operator’s service quality. The findings also indicate that customer’s gender has no relation with their intention to switch which might be due to other socio-economic factors.

DISCUSSION AND FUTURE RESEARCH

In most of the studies customer satisfaction has a strong positive relation with customer loyalty indicating customer satisfaction to be the primary determinant of customer churn. This relationship in turn is positively influenced by customer perception of quality of service and value for money. There have been several studies on examining these relationships but

their determinants vary in each study. Moreover, several studies indicated the significance of the role of human emotions which had a direct relation with customer's intention to churn. The emotional value of person is highly influenced by many external factors; hence it's not possible to completely control its influence on customer churn. Although there has been lot of work accomplished in this area but there have been several gaps in previous studies. A majority of studies lacked in doing a longitudinal study with a longer period of data. The size of the sample that was studied in some of the studies was relatively very small and inappropriate which ultimately leads to bias in the obtained results. For example, the relationship between service quality and customer loyalty was found to be insignificant in (Kuo, et al., 2009), the same relationship was found to be very strong in majority of the studies like (Kuo, et al., 2009; Li, 2008; Liu, et al., 2010). In order to identify the churn determinants in telecom, there has been a strong need for understanding the process of customer switching, which has not been focused in majority of the studies. In addition, the effect of telecom policies with in the region under examination has not been studied while determining various churn determinants. It addition, it was also found that many of the studies have derived some of the factors indirectly with limitations, which may lack appropriate theoretical explanations. In addition to above discussed gaps in the previous studies, further research can be done to identify common churn determinants of the telecommunication industry that would be valid globally. This would help telecom operators across the globe to revise and improve their quality of services as well as plan more effective CRM strategies by benchmarking with the global practices. Future research can be done by exploring more factors leading to customer churn by examining customer – service provider relationship on a larger scale. The paper serves as a strong base containing a comprehensive list of churn determinants with identified gaps in existing studies which will encourage researchers and practitioners in conducting much better research studies at a larger level for understanding customer churn behavior in telecom.

REFERENCES

1. Ahn, J.-H., Han, S.-P., & Lee, Y.-S. (2006). Customer churn analysis: Churn determinants and mediation effects of partial defection in the Korean mobile telecommunications service industry. *Telecommunications Policy*, 30(10-11), 552-568.
2. Aydin, S., & Özer, G. (2005). The analysis of antecedents of customer loyalty in the Turkish mobile telecommunication market. *European Journal of Marketing*, 39(7/8), 910 - 925.
3. Blattberg, R. C., Malthouse, E. C., & Neslin, S. A. (2009). Customer Lifetime Value: Empirical Generalizations and Some Conceptual Questions. *Journal of Interactive Marketing*, 23(2), 157-168.
4. Deng, Z., Lu, Y., Wei, K. K., & Zhang, J. (2010). Understanding customer satisfaction and loyalty: An empirical study of mobile instant messages in China. *International Journal of Information Management*, 30(4), 289-300.
5. Dong Hee, S. (2007). A study of mobile number portability effects in the United States. *Telematics and Informatics*, 24(1), 1-14.
6. Eshghi, A., haughton, D., Teebagy, N., & Topi, H. (2006). Determinants of Customer Churn Behavior: The case of the local telephone service. *Marketing Management Journal*, 16(2), 179 - 187
7. Eshghi, A., Haughton, D., & Topi, H. (2007). Determinants of customer loyalty in the wireless telecommunications industry. *Telecommunications Policy*, 31(2), 93-106.
8. Gerpott, T. J., Rams, W., & Schindler, A. (2001). Customer retention, loyalty, and satisfaction in the German mobile cellular telecommunications market. *Telecommunications Policy*, 25(4), 249-269.
9. Keaveney, & M., S. (1995). Customer Switching Behavior in Service Industries: An Exploratory Study. *The Journal of Marketing*, 59(2), 71-82.
10. Kim, H.-S., & Yoon, C.-H. (2004). Determinants of subscriber churn and customer loyalty in the Korean mobile telephony market. *Telecommunications Policy*, 28(9-10), 751-765.
11. Kuo, Y.-F., Wu, C.-M., & Deng, W.-J. (2009). The relationships among service quality, perceived value, customer satisfaction, and post-purchase intention in mobile value-added services. *Computers in Human Behavior*, 25(4), 887-896.
12. Kuusik, A., & Varblane, U. (2009). How to avoid customers leaving: the case of the Estonian telecommunication industry. *Baltic Journal of Management*, 4(1), 66 - 79.
13. Lai, F., Griffin, M., & Babin, B. J. (2009). How quality, value, image, and satisfaction create loyalty at a Chinese telecom. *Journal of Business Research*, 62(10), 980-986.

14. Lee, J., Lee, J., & Feick, L. (2001). The impact of switching costs on the customer satisfaction-loyalty link: mobile phone service in France. *Journal of Services Marketing*, 15(1), 35 - 48.
15. Li, L. (2008). *Study of the Relationship Between Customer Satisfaction and Loyalty in Telecom Enterprise*. Paper presented at the Wireless Communications, Networking and Mobile Computing, 2008. WiCOM '08. 4th International Conference on.
16. Liu, C.-T., Guo, Y. M., & Lee, C.-H. (2010). The effects of relationship quality and switching barriers on customer loyalty. *International Journal of Information Management*, *In Press, Corrected Proof*.
17. Maicas, J. P., Polo, Y., & Sese, F. J. (2009). The role of (personal) network effects and switching costs in determining mobile users' choice. *Journal of Information Technology*, 24(2), 160-171.
18. Martensen, A., Gronholdt, L., & Kristensen, K. (2000). The drivers of customer satisfaction and loyalty: Cross-industry findings from Denmark. *Total Quality Management*, 11(4), 544 - 553.
19. Min, D., & Wan, L. (2009). Switching factors of mobile customers in Korea. *Journal of Service Science*, 1(1), 105-120.
20. Pura, M. (2005). Linking perceived value and loyalty in location-based mobile services. *Managing Service Quality*, 15(6), 509 - 538.
21. Ranganathan, C., Seo, D., & Babad, Y. (2006). Switching behavior of mobile users: do users' relational investments and demographics matter? *European Journal of Information Systems*, 15(3), 269-276.
22. Roos, I., & Friman, M. (2008). Emotional experiences in customer relationships - a telecommunication study. *International Journal of Service Industry Management*, 19, 281-301.
23. Shin, D.-H., & Kim, W.-Y. (2008). Forecasting customer switching intention in mobile service: An exploratory study of predictive factors in mobile number portability. *Technological Forecasting and Social Change*, 75(6), 854-874.
24. Shin, D. H., & Kim, W. Y. (2007). Mobile number portability on customer switching behavior: in the case of the Korean mobile market. *Info*, 9(4), 38 - 54.
25. Sweeney, J., & Swait, J. (2008). The effects of brand credibility on customer loyalty. *Journal of Retailing and Consumer Services*, 15(3), 179-193.
26. Trofimoff, A., & Walters, G. M. (2002). Examining Churn Drivers (pp. 9-11): Bernstein Global Wealth Management.
27. Turel, O., & Serenko, A. (2006). Satisfaction with mobile services in Canada: An empirical investigation. *Telecommunications Policy*, 30(5-6), 314-331.
28. Union, I. T. (2010). *The World in 2010: ICT Facts and Figures*: International Telecommunication Union.