Variable Selection of Customers for Churn Analysis in Telecommunication Industry

Vishal Mahajan, AGM, HCL Technologies, Noida, India
Renuka Mahajan, Assistant Professor, Jaipuria Institute of Management, Noida, India

ABSTRACT

The telecommunication industry considers customer relationship management as a significant issue for organizational adaptation. Mobile service providers have enforced CRM with the objective to reduce the number of customers that churn. The objective of this article is to detect high impact factors leading to customer churn in the mobile industry over the present-day market situation in Delhi-NCR by using a questionnaire survey and examine their importance. The study is done to understand usage patterns of customers using mobile data services. The data collected was analyzed using descriptive statistics to identify the most common issues to identify attributes of selecting a service provider, cellular usage, and service quality. Thus, the authors have selected possible variables for modeling the decision tree to build a churn prediction model. A renewed customer service, after analyzing this experience, could predict those customers who are at risk of switching to a different provider.

KEYWORDS

Churn Prediction, Customer Churn, Customer Relationship Management (CRM), Customer Satisfaction, Mobile Number Portability, Mobile Service Provider, Telecommunication Industry

1. INTRODUCTION

In current scenario, customers expect competitive prices, a high-quality service and above all, value for money. He won’t hesitate to switch providers if he doesn’t find what he is looking for. As dependence on smartphones is increasing, so is the customer’s expectation for a flawless operational experience. Yet, given the range of applications a user can download, smartphones occasionally malfunction leading to their frustration and eventually churn. ‘Customer Churn’ is the term used in the telecom company to represent the customer movement from one provider to another in search of cheaper and better products and services (Berson et al., 2000), Van Den Poel and Larivi (2004). Kentrias (2001) explains ‘Churn management’ as an operator’s process to retain customers. Churn management plays a crucial role in the development and survival of the telecommunication industry. By managing churn, the companies can proactively identify high-value customers and identify the ones that are likely to switch. Operators can better plan their actions, such as launching tailored products, target one-to-one marketing and decrease customer attrition. This makes churn management, major challenge for the companies in present times.

DOI: 10.4018/IJVCSN.2018010102
According to Misra (2014), telecom revenues have merely gone up 1.9% in the last ten years as compared to 10.8% inflation during the same period. Another finding of the 2014 Acquisition and Retention Study Report states that recommendations from family and friends affect the decision to switch operators. Subscribers who have switched operators recently reported two key influential sources in their decision: the Internet and the recommendation of family and friends. Further, with implementation of national wide mobile number portability, which was implemented on March 31, 2015, there is probability of big jump in subscriber churn. Hence, it becomes very important to analyze the impact of this change in customer behavior on the “Churn” and this will eventually help telecom operators to minimize their losses.

2. RELATED WORK

Various studies have been done on factors pertaining to churn (Kotler and Keller, 2006), (Reichheld and Sasser, 1990); (Cronin et al., 2001); (Kang and James, 2004); (Yoon and Suh, 2004); (Omotayo and Joachim, 2008);(Khan, Jamwal and Sepehri, 2010); (Bitner and Hubbert, 1994); (Cronin and Taylor, 1992); (Zeithaml, Berry and Parasuraman, 1996); (Lee and Murphy 2008); (Al-Rousan et al., 2010); (Cardozo, 1965); (Parasuman, Zeithaml and Berry, 1991); Loya & Bhatt (2013); Hussain et al. (2016); Bhatia & Chanda (2016).

The subscribers use their cell phones as cameras, address and contact lists, as web browsers, navigation devices and many other functions. There has been very scarce research on analyzing the impact of data usage on customer churn. Further, due to the cost involved, most of the studies involving surveys are using small data sample of customer records (Keaveney, 1995; Bolton et al., 2000; Gerpottet al., 2001; Lee et al., 2003; Kim et al., 2004), which may undermine the reliability and validity of analysis results. All these studies are based on subscribers belonging to some specific area and no study was conducted on subscribers in Delhi/NCR region.

Voice usage has decreased as compared to data usage. In less than 7 years, the number of smartphone users has already gone beyond 1 billion, as against 1.5 billion users using Personal Computers. Worldwide, the number of users using internet is more than 2.4 billion, out of which 1.5 billion users are using mobile as a primary or secondary medium to access internet. “More traditional mobile services, such as mobile voice and texting, are being joined by Skype, Facebook, Google+, WhatsApp, ICQ and Twitter. Skype, for example, reported 207 billion minutes of voice and video chats and messages in 2010 between 170 million users” (CISCO, 2014). With seven major players already competing in Delhi-NCR region- Airtel, Vodafone, Idea, Reliance, Tata Docomo, Aircel, MNTL, the telecommunication market has become more competitive than before. As these phones become smarter, they have become essential accessories in our everyday lives. Smartphones do more than merely connect people – they stream videos and music, monitor our health, manage finances and offer easy access to the web. Almost all smart operating systems are downloading, using and tracking data. It is important for operators to identify the most common issues. According to Balasubramanian, 2014, this variable extraction can be generated to understand the usage behavior of the customers. This paper addresses the research question that what are the most important factors that cause customer churn, especially in context of ‘data usage services’ by the service providers at this present time.

Thus the research objectives in this customer behavior study are:

1. To understand the various attributes related to telecom subscribers:
   a. How many respondents may be characterized as prepaid or postpaid users?
   b. What is the age distribution of the respondents?
   c. How many respondents may be characterized as Males and Females?
   d. How many respondents may be characterized as married and unmarried?
The Role of Social Media in the Globalized World of Education
Janelle Christine Simmons (2018). Social Media in Education: Breakthroughs in Research and Practice (pp. 56-72).
www.igi-global.com/chapter/the-role-of-social-media-in-the-globalized-world-of-education/205699?camid=4v1a