

Big Data in telecommunication: behavioural analysis of subscribers and churn prediction

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Abstract

While customers are able to switch between communication service providers, subscribers churn becomes a major problem in telecommunication industry and it is emerged as crucial. According to high concurrency in media of communication, business model in telecommunication industry must be focused on customer retention than customer acquisition. Because acquiring new clients costs five to six times more than retaining existing customers [1]. No other industries have data about clients as much as telecommunication companies. Refining acquired data from customers can be potential way for communication service providers to improve economic assets. Behavioral analyses of subscribers are based on systematic analyses of that wealth dataset and discover new profit streams.

Keywords: Big Data, churn prediction, telecommunication

1 Introduction

The aim of this paper is to demonstrate how big data techniques are used to implement behavioral analysis of subscribers and customers churn prediction. In telecommunication industry huge client base provides enormous information that can be complex systematically analysis and retrieve valuable information. Customers' requirements influence for customer service providers to spread service offerings. Since the cost of winning a new customer is far greater than the cost of retaining an existing one, mobile carriers have now shifted their focus from customer acquisition to customer retention [2]. Big Data techniques are positioned as the solution to predict potential churners and develop optimal strategies in the way of customer retention.

2 Analytics

Acquired data from different data sources does not bring wealth information itself until retrieved data is not structured. Big Data becomes value when there are business model included big data technologies to solve business challenges. This activity requires proper software tools and excellent skills to use them.

Examining local telecommunication companies' structure there is no communication service provider which engaged in big data techniques to implement customer behavioral analysis.

Churn prediction models extremely important to use algorithms to retrieve a model in data which can give wealth information about subscribers. Structured analysis of that data can bring information about customers who about to churn. If communication service providers are able to

predict which customer is potential churner, they can avoid unfavorable results in customer retention way.

3 Recommendations

Survey in big data techniques clearly gives understanding that big data is right thing for telecommunication industry. Analysis of coming data is important to identify potential churners and focus on customer retention activities. This paper is aimed to give recommendation to extract more wealth from big data.

Social media analysis. Social network is the right way to acquire most of customer feedback to services and deeper insights customers' needs and expectations. Also social media analysis is the way to monitor resonation from subscribers by providing new services.

Analysis data from call-centers. By transcription into plain text call-center conversations between operator and customer provides implement sentiment analysis retrieved information from client. There can be text classification like client needs and expectations and problems caused in providing services.

It is important to start analysis of existing data. Customer service providers are everyday provided information form clients with different classification. And the first thing for telecommunication companies is to extract wealth information from existing data.

Big data blueprint development. Before to be engaged in big data the first thing is to implement blueprint in using big data. Blueprint comprises requirements and strategy in embedding big data in business model. It is important to consider business model expectation and current IT structure of company. It helps to get common vision how company tries to imbed big data in process.

7 Conclusions

Churn prediction model is positioned as the major activity in telecommunication industry and big data must be the crucial aspect as the future of telecommunication companies

to extract more beneficial information and pass new business challenges. Systematic analysis and acquiring wealth information based on the historical data about customers opens new ways for telecommunication industry in customer retention methodologies.

References

- [1] Verbeke W, Dejaeger K, Martens D, Hurc J, Baesens B 2012 New insights into churn prediction in the telecommunication sector: A profit driven data mining approach *European Journal of Operational Research* **218**
- [2] Qureshi S A, Rehman A S, Qamar A M, Kamal A, Rehman A 2013 Telecommunication Subscribers' Churn Prediction *Digital Information Management (ICDIM), Eighth International Conference*