IMPACT OF DATA MINING ON TELECOMMUNICATION COMPANY REVENUES

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The rapid advancement of technology has made the telecommunication sector very competitive. In order to keep up with the competition, telecommunication operators have to identify the exact needs of the customers and offer services in-line with the customer needs. The aim of this research is to find out how data mining can be applied to identify customer needs and how telecommunication companies can benefit from using data mining techniques in their business and how to develop a data mining framework for identifying the customer needs in order to develop products and services to increase the revenue levels of the companies. The objective of this study includes the investigation of the relationship between data mining practices and the customer behavior patterns, the relationship between customer needs and products or services, relationship between new product design initiatives and revenue increases of the companies, the impact of data mining on the revenue of telecommunications companies and the development of the data mining frame work to improve the overall ARPU levels of the industry and a Business Intelligence (BI) tool to enhance decision making for improving the overall ARPU levels of the industry. Firstly the conceptual model is developed to indicate the main information areas that the study seeks to provide insights on and is tested through a sample of employees who hold positions in the telecommunications sector. This model has four main variables; an independent variable (data mining), two intermediate variables (customer behavior and product) and a dependent variable (increased revenue). Secondly the preliminary study was carried out to test the variables and to find out how data mining can be applied to identify customer needs and how companies can benefit from using data mining techniques in their business. Thirdly, the data mining framework was developed to make sure that the expected results could be received from the data mining exercise in place. Finally the business intelligence tool was developed to validate the data mining framework. The preliminary study revealed a clear relationship between the variables of the conceptual frame work. Further, it was evident that even data mining could lead to better business decisions. Other factors such as timely delivery of services and customer satisfaction may affect the revenue of the company. The post survey validation from the target users (managers of telecom companies) indicated that the proposed BI tool was capable of retrieving much needed information for business decisions, leading to increased revenue of the company. The long term results are likely to be positive in this context and it is also evident that the role of data mining is being expanded by the companies. Such practices would eventually lead to companies providing markets with the exact requirements.