Data Mining, Data Analysis, and Data Profiling

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Abstract

Enterprises thrive on being able to make the best decisions possible with the best knowledge available. Advances in technology allow for more and more data to be collected both internal and external to the company. While technology has not fully replaced human intelligence, it has managed to augment it. Business Intelligence is the name of the field that has developed wherein technology tools assist humans in making intelligent decisions faster. Areas of business intelligence that are growing because they are helping companies see more growth in sales success are: data analysis, data mining, and data profiling.
Data Mining, Data Analysis, and Data Profiling

Enterprises thrive on being able to make the best decisions possible with the best knowledge available. Advances in technology allow for more and more data to be collected both internal and external to the company. While technology has not fully replaced human intelligence, it has managed to augment it. Business Intelligence is the name of the field that has developed wherein technology tools assist humans in making intelligent decisions faster. Areas of business intelligence that are growing because they are helping companies see more growth in sales success are: data analysis, data mining, and data profiling.

Data Analysis

While many enterprises collect vast amounts of data about everything such as customer purchasing habits, vendors, and suppliers, there still exists a need to understand the data in a meaningful way. Obviously accessing and analyzing large amounts of data manually requires lots of man power and time. In this type of scenario, by the time the information is received to make a crucial decision, the time for making the decision has passed. Not to mention, the man power would prove quite costly all for a process that delivered no valuable results.

A segment of business intelligence that uses data tools to analyze and understand data is called analytics. “Analytics facilitates realization of business objectives through reporting of data to analyze trends, creating predictive models to foresee future problems and opportunities and analyzing/optimizing business processes to enhance organizational performance” (Delen & Demirkan, 2012). According to Hodge (2011), many companies are using analytics to cross-sell to customers such as online retailer Amazon. In this use of data analytics, Amazon offers customers items related to previously viewed or purchased items that the customer might not have considered or known about. The strategy is successful for the company.
Data Mining

Once a company begins collecting data, it needs to have a system to gather the data in such a way that it can be understood. Data Mining is not without issues because data may be formatted in various ways depending upon where it may have been collected. Data may or may not have metadata attached, which helps provide context to make the data easier to understand. According to Hodge (2011), “…harnessing data analytics is not without problems, the key challenge being that organizations need to mine historic data to predict future customer trends.” The importance of mining data properly is illustrated Hodge’s 2011 article where there was a case of an airline sending discounted rates to customers at airports far away from their location which is often fairly useless to the customer.

Data Profiling

When done correctly, data profiling allows retail companies to take information gained about its customers and predict trends about them. In Hodge’s 2011 article, retail companies have now changed from pushing products onto customers to offering complementary products based on what customers are already purchasing. Dutch insurance company FTBO’s data profiling was able to increase online sales from 40 to 60 percent (Hodge, 2011). Many companies are seeing success upselling additional, complementary products that customers may be interested in based on previous or current purchases.
References
