

# Data Mining In Business

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**Abstract:** This article will give you valuable information on how data mining works - and can help businesses to scale, grow and organize information in a better way.

**Keywords:** data mining, technology, digital, information.

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## I. INTRODUCTION

Years ago, there was data businesses used to make decisions. And with the given flow of data - there wasn't any need to scaling, not mentioning any problems that businesses faced. Nowadays, the advancement of technology made gathering data a reality for every business. And while most of the businesses try to achieve superiority over their competition, in most cases they fail to see how the data they gather can actually help their business to succeed. This defines data mining, or in other words gathering piles of data and making an accurate analysis for the future.

## II. GAINING A COMPETITIVE EDGE THROUGH DATA

### A. How Data Has Become A Key Factor Towards Success:

According to Bose & Mahapatra, two scientists who predicted and propagated the future of data, the proactive approach of information is the one that leads the pattern for the future to every single organization. Therefore, identifying the future trends and patterns in the market will help every company to focus and prove the customers that they tailor the service to their needs.

On the other hand, data mining will help the company itself to analyze the buying trends and shape up a strategy which uses the customers' behaviour as a leading factor in the past - and the vital one that is going to predict the future. Data mining has already helped a lot of businesses to operate in unstable and dynamic environments where checking the customers' tastes, meeting their expectations and keeping to their preferences is of utmost importance. That is how data mining works wonders and provides businesses with vital information.

### B. The Role of Information in Data Mining - Data Tables

In reality, anything can be stored as valuable data. When it comes to customers, data mining can be done only with customer information as a backbone. Generating information about every customer can be done through online polls, surveys but also incentives for signing up such as promotional discounts and loyalty programs.

Here is an example of a data mining table with customer information.

**TABLE I: Data Mining Table**

Customer No.	Customer Name	Address	Items Purchased	Date Purchased
245	John Newman	St Pierre, NY 1435	12676-1, 12324-6	13.10.2015
246	Mary Elliott	Ave Uptown, CA 3563	1343-5,4355-4	02.02.2016
247	Johan Aldridge	Gore Ave, TN 2345	21255-2, 54454-2,34545-3	03.01.2016
248	Robert Thompson	22nd Dec, CA 2343	23424-3, 3543-5,45464-3,5453-3	01.12.2014

As you can clearly see, this is a table presenting 4 different customers, their main information as well as shopping activity, which is the main link to data mining. Even with only two columns showing the items purchased and the date purchased by a certain customer, you can group the results and see whether there should be a change in the products or their sale is going well. Also, the date purchased can be a clear indicator of loyalty and percentage of returning customers.

This is only a fraction of how data mining can work. There are numerous ways to leverage its potential with advanced information and come up with even better decisions to reinforce a business' strategy.

### ***C. Companies Can Make Better Decisions***

In reality, data mining helps companies to make better decisions. It is an approach that is not based on judgements, but on the basis of statistics and reports as actionable information. It is obvious that the solid information used is always better than judgements or statements without proof, and data mining agrees on this premise with every single one of its techniques.

Companies that launch new products, extend their services or start a new venture should leverage the potential of data mining the most. Analyzing the important and relevant information will therefore minimize the information to fail and will position data mining as a knowledge-based technique that answers questions which were traditionally unanswered.

Data mining helps businesses to segment their market on the premise of concrete information, divide it by demographics and characteristics, but also behaviour and preferences. This will result in unique information gathered and a tremendous benefit of producing products or services which are targeted, reasonable and analyzed well.

When talking about costs, data mining is one of the very few techniques that is able to save costs for the businesses utilizing a cost-efficient approach in the first place. Since it consists of analysis as the main basis of comparing with a competitors cost - it is a technique that helps in cost saving and helps the business to reduce the rejection or faults rate on their products or services.

## **III. CONCLUSION**

In the end, the competitive marketplace of nowadays definitely demands actionable ways of research and targeting the customers. Aside from that, the average customer is overwhelmed with the presence of brands in every industry and gets to choose as never before. With that in mind, the customer loyalty level is constantly changing - and data mining can help in creating loyal customers but also target the potential ones more efficiently.

Data mining is an important tool for gaining a competitive edge over the marketplace, building brand authority and eventually dominating the marketplace - if done right. Moreover, reducing the chances of making mistakes is what every business wants nowadays, and data mining definitely allows that.