

There is a huge amount of data available in the Information Industry. This data is of no use until it is converted into useful information. It is necessary to analyze this huge amount of data and extract useful information from it.

Extraction of information is not the only process we need to perform; data mining also involves other processes such as Data Cleaning, Data Integration, Data Transformation, Data Mining, Pattern Evaluation and Data Presentation. Once all these processes are over, we would be able to use this information in many applications such as Fraud Detection, Market Analysis, Production Control, Science Exploration, etc.

What is Data Mining?

Data Mining is defined as extracting information from huge sets of data. In other words, we can say that data mining is the procedure of mining knowledge from data. The information or knowledge extracted so can be used for any of the following applications –

- Market Analysis
- Fraud Detection
- Customer Retention
- Production Control
- Science Exploration

Data Mining Applications

Data mining is highly useful in the following domains –

- Market Analysis and Management
- Corporate Analysis & Risk Management
- Fraud Detection

Apart from these, data mining can also be used in the areas of production control, customer retention, science exploration, sports, astrology, and Internet Web Surf-Aid.

Market Analysis and Management

Listed below are the various fields of market where data mining is used –

- **Customer Profiling** – Data mining helps determine what kind of people buy what kind of products.
- **Identifying Customer Requirements** – Data mining helps in identifying the best products for different customers. It uses prediction to find the factors that may attract new customers.
- **Cross Market Analysis** – Data mining performs association/correlations between product sales.
- **Target Marketing** – Data mining helps to find clusters of model customers who share the same characteristics such as interests, spending habits, income, etc.
- **Determining Customer purchasing pattern** – Data mining helps in determining customer purchasing pattern.
- **Providing Summary Information** – Data mining provides us various multidimensional summary reports.

Corporate Analysis and Risk Management

Data mining is used in the following fields of the Corporate Sector –

- **Finance Planning and Asset Evaluation** – It involves cash flow analysis and prediction, contingent claim analysis to evaluate assets.
- **Resource Planning** – It involves summarizing and comparing the resources and spending.
- **Competition** – It involves monitoring competitors and market directions.

Fraud Detection

Data mining is also used in the fields of credit card services and telecommunication to detect frauds. In fraud telephone calls, it helps to find the destination of the call, duration of the call, time of the day or week, etc. It also analyzes the patterns that deviate from expected norms.