

# Data Mining and Its Business Applications

Dr. M. Santhi  
Academic Consultant,

Dept. of Management Studies, S.V.University,  
Tirupathi, Andhra Pradesh, India,

**Abstract:** Present, the business environment become highly challengeable in expanding its operational activities at global level. During this process, the organizations are getting large amount of data related to their stakeholders. Which this data is highly supported the managers in taking their timely decisions. But sorting and analyzing of large amount of data become a biggest challenge for managers. Data mining is a tool, which is known as knowledge discovery, analyze the enormous data and extract meaning to the data. This paper presented with the importance of data mining in different industrial sectors.

## I. INTRODUCTION

Data mining is a sequential process of extracting the information or knowledge from pool of data. Currently, in business filed, the techniques include machine learning and statistical analysis and these are the basic approaches. By the entry and development of World Wide Web, there is a drastic change in a unstructured database. It becomes a biggest challenge to data mining. Data mining is an intensive process includes large sets of data, which is segmented and distribute the data to achieve an acceptable time and space performance. It supports the business for effective functioning of business and their sustainability in business world.

There is a drastic and dynamic changes taken place in the business environment and the functioning of business are very fast in producing and delivering goods and services to the desired customers. Present, the business are profitable and rendering high quality services in delighting the customers. Data mining techniques supports a lot in fulfilling the demands of the business for their survival and sustainability. Now, for the most of the organizations decisions, the Business Intelligence (BI) is highly supporting.

## II. BUSINESS APPLICATIONS

### A. Insurance

Data mining helps insurance firms in attracting the new customers and retaining the existing customers. It correlates the designing of the policies and selection of policy. In the insurance sector, the techniques of data mining are supports in the following way:

- Identification of Risk: it helps in identifying the customer behavior patterns influenced in a strong or weaker way on insured level of risk
- Fraud detection: it helps in detecting fraud for a claim
- Customer segmentation and retention: it helps in grouping of customers and identifies the discount

Dr. P. Niranjan Reddy

Professor & HOD,  
Dept. of Management Studies, RIIMS,  
Tirupathi, Andhra Pradesh, India,

packages to each group and increase the customer loyalty.

### B. Banking

There are different financial activities, which the data mining techniques supports in the following way:

- Credit scoring: helps in knowing customer payment history related to high or low influence over loan payment.
- Profitability customer: identifies the customers on various products like which products are profitable to the customers.

In other aspects of banking services are credit analysis, loan payment, investment portfolio, credit card customers and cross selling.

### C. Retailing

The various activities of retailing are identify the customer behavior patterns, rendering of high quality services, transportation, distribution of goods and services, promotion activities, pricing, customer segmentation, sales campaigning and reducing of operating cost.

### D. Data warehouses Designing and construction

The data mining facilitate in structuring and designing of data warehouses and its development. This includes levels, dimension and process in aiding effective data mining.

### E. Tele Communication

The telecommunication data uses the visual basic tools and OLAP to identify and compare the workload of the system, traffic in data, fraudulent users and their behavior, customer loyalty status and their accounts and find the unusual pattern of customers and the data.

Classification and clustering are the data mining techniques used in **Healthcare sector**. It involves health care statistics of out-patients and medical status of database (Tipawan Silwattananusaran et al., 2012)

The data mining tools are helpful in overcoming the challenges existed in **Higher Education** in predicting the path of the students and alumni. How many and which students enroll the course programs? Did they need any assistance in guiding the course? With the support of data mining one can sort the students bulk data, analyse and present the data (Annan Naidu Paidi, 2012)

## III. CONCLUSION

Data mining facilitates the companies in analyzing the data and enhance the underlying trends in business and their decision making process. Analysis includes query and reporting of data, statistical and multidimensional way.

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