

INDEX

- 1. Introduction of Data Mining**
- 2. Data Mining Steps**
- 3. Benefits of Data Mining**
- 4. Drawbacks to Data Mining**
- 5. Data Mining Applications**
- 6. Marketing**
- 7. Retail**
- 8. SCM Websites-Magazines**
- 9. Top Companies in SCM & Logistics**

1. Data Mining

We are living in an information-rich, data-driven world. While it's comforting to know there's a plethora of readily available knowledge, the sheer volume creates challenges. **The more information available, the longer it can find the useful insights you need.**

That's why today we're discussing data mining. We'll be exploring all aspects of data mining, including what it means, its stages, data mining techniques, the benefits it offers, data mining tools, and more. Let's kick things off with a data mining definition, then tackle data mining concepts and techniques.

Data Mining

Typically, when someone talks about “mining,” it involves people wearing helmets with lamps attached to them, digging underground for natural resources. And while it could be funny picturing guys in tunnels mining for batches of zeroes and ones, that doesn't exactly answer “what is data mining.”

Data mining is the process of analyzing enormous amounts of information and datasets, extracting (or “mining”) useful intelligence to help organizations solve problems, predict trends, mitigate risks, and find new opportunities. Data mining is like actual mining because, in both cases, the miners are sifting through mountains of material to find valuable resources and elements.

Data Mining

Data mining also includes establishing relationships & finding patterns, anomalies, and correlations to tackle issues, creating actionable information in the process. Data mining is a wide-ranging and varied process that includes many different components, some of which are even confused for data mining itself.

Additionally, both data mining and machine learning fall under the general heading of data science, and though they have some similarities, each process works with data in a different way. If you want to know more about their relationship, read up on data mining vs. machine learning.

2. Data Mining steps

a. Understand business

What is the company's current situation, the project's objectives, and what defines success?

b. Understand the data

Figure out what kind of data is needed to solve the issue, and then collect it from the proper sources.

c. Prepare the data

Resolve data quality problems like duplicate, missing, or corrupted data, then prepare the data in a format suitable to resolve the business problem.

d. Model the data

Employ algorithms to ascertain data patterns. Data scientists create, test, and evaluate the model.

Data Mining steps

e. Evaluate the data

Decide whether and how effective the results delivered by a particular model will help meet the business goal or remedy the problem. Sometimes there's an iterative phase for finding the best algorithm, especially if the data scientists don't get it quite right the first time. There may be some data mining algorithms shopping around.

f. Deploy the solution

Give the results of the project to the people in charge of making decisions.

To extend our learning on what data mining is, we will next look at the benefits.

3. Benefits of Data Mining

Data mining benefits include

- a. It helps companies gather **reliable information**
- b. It's an **efficient, cost-effective** solution compared to other data applications
- c. It helps businesses make **profitable production and operational adjustments**
- d. Data mining uses both new and legacy **systems**
- e. It helps businesses make **informed decisions**
- f. It helps **detect credit risks and fraud**
- g. It helps data scientists **easily analyze enormous amounts of data quickly**
- h. Data scientists can use the information to detect fraud, **build risk models, and improve product safety**
- i. It helps data scientists quickly **initiate automated predictions** of behaviors and trends and discover hidden patterns

4. Drawbacks to Data Mining

- Many data analytics tools are complex and challenging to use. **Data scientists need the right training to use the tools effectively.**
- Speaking of the tools, different ones work with varying types of data mining, depending on the algorithms they employ. **Thus, data analysts must be sure to choose the correct tools.**
- Data mining techniques are not infallible, so there's always the risk that the information isn't entirely accurate. This obstacle is especially relevant if there's a **lack of diversity in the dataset.**
- Companies can potentially sell the customer data they have gleaned to other businesses & organizations, **raising privacy concerns.**

5. Data Mining applications

Banks

Data mining helps banks work with credit ratings and anti-fraud systems, analyzing customer financial data, purchasing transactions, and card transactions. Data mining also helps banks better understand their customers' online habits and preferences, which helps when designing a new marketing campaign.

Healthcare

Data mining helps doctors create more accurate diagnoses by bringing together every patient's medical history, physical examination results, medications, and treatment patterns. Mining also helps fight fraud and waste and bring about a more cost-effective health resource management strategy.

6. Marketing

If there was ever an application that benefitted from data mining, it's marketing! After all, marketing's heart and soul is all about targeting customers effectively for maximum results. Of course, the best way to target your audience is to know as much about them as possible. Data mining helps bring together data on age, gender, tastes, income level, location, and spending habits to create more effective personalized loyalty campaigns. Data marketing can even predict which customers will more likely unsubscribe to a mailing list or other related service. Armed with that information, companies can take steps to retain those customers before they get the chance to leave!

7. Retail

The world of retail and marketing go hand-in-hand, but the former still warrants its separate listing. Retail stores and supermarkets can use purchasing patterns to narrow down product associations and determine which items should be stocked in the store and where they should go. Data mining also pinpoints which campaigns get the most response.

8. SCM Websites-Magazines

- Supply Chain Dive
- Supply Chain Brain
- Supply Management Magazine
- Supply Chain 247
- Financial Times
- Supply Chain Digest
- Supply Chain Management Review
- The Loadstar
- Supply chain digital
- Procurement magazine

9. Top companies in SCM & logistics

- Blue Dart Logistics Services
- **Delhivery eCommerce Logistics**
- FedEx Logistics
- **Ekart Logistics**
- DHL Logistics
- **Ecom Express Logistics Service Provider**
- Shadowfax Company for Ecommerce Logistics
- **XpressBees Logistics**
- Apollo LogiSolutions Limited
- **Blue Dart Express Limited**
- Container Corporation of India
- **Mahindra Logistics Limited**
- TCI Express Limited
- **VRL Logistics Limited**
- Gati Limited
- **TVS Supply Chain Solutions Limited**
- Allcargo