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DEPARTMENT OF COMPUTER SCIENCE  
ENGINEERING

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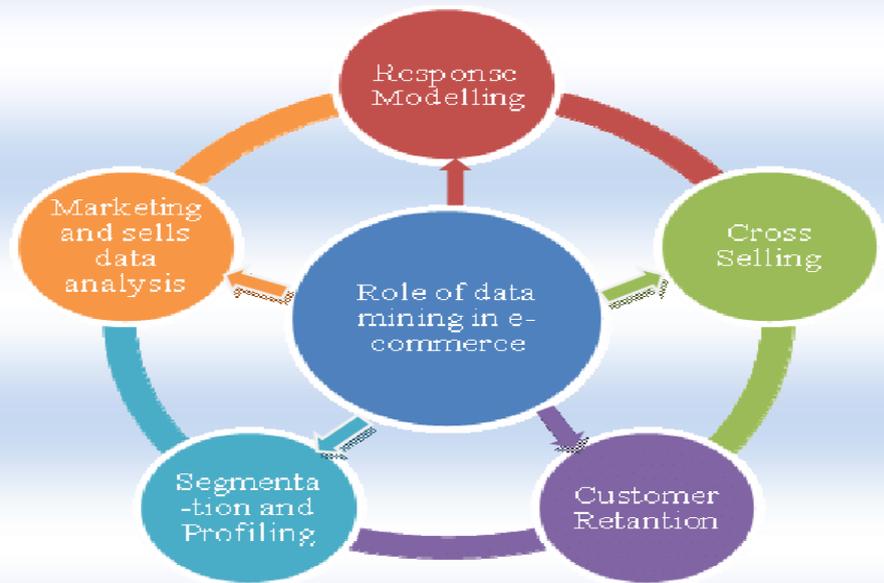
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# Trek The Tech



## E-commerce using Data Mining

E-commerce is the buying and selling of goods or services via the internet, and the transfer of money and data to complete the sales. It's also known as electronic commerce or internet commerce. *Data mining, the extraction of hidden predictive information from large databases, is a powerful new technology with great potential to help companies focus on the most important information in their data warehouses. Data mining tools predict future trends and behaviours, allowing businesses to make proactive, knowledge-driven decisions.*

### Techniques used in Data Mining

The most commonly used techniques in data mining are:

**Artificial neural networks:** Non-linear predictive models that learn through training and resemble biological neural networks in structure.

**Decision trees:** Tree-shaped structures that represent sets of decisions. These decisions generate rules for the classification of a dataset. Specific decision tree methods include Classification and Regression Trees (CART) and Chi Square Automatic Interaction Detection (CHAID) .

**Genetic algorithms:** Optimization techniques that use processes such as genetic combination, mutation, and natural selection in a design based on the concepts of evolution.

**Nearest neighbour method:** A technique that classifies each record in a dataset based on a combination of the classes of the k record(s) most similar to it in a historical dataset (where  $k \geq 1$ ). Sometimes called the k-nearest neighbour technique.

**Rule induction:** The extraction of useful if-then rules from data based on statistical significance.

## Recommendations System

E-commerce recommender systems have been converted to a very important decision-making helper for customers, and provide online personalised recommendations using information technology and customers' information. In the meantime, collaborative filtering (CF) recommender systems are one of the key components of successful e-commerce systems. Despite the popularity and successes of CF, these systems still face a series of serious limitations, including cold start, sparsity of user-item matrix, scalability and change of user interest during the time, that impede exact recommendations to customers. Although much research has been presented to overcome these limitations, no comprehensive model is yet offered to reduce them: 1) customer segmentation based on LRFM variables in the level of product category to evaluate the length of customer relationship with the company, recency, frequency, and monetary of purchasing product categories; 2) extracting association rules based on user-category matrixes in the level of each cluster; 3) customer segmentation according to demographic variables; 4) change of user-item matrix and reduction of its dimensions; 5) developing a new similarity function by weighted combination of results of segmentation methods and CF. According to the gained results, the proposed system of this research has resulted in the removal of traditional CF constraints and presents more accurate and appropriate recommendations for the preferences of customers.

## Faculty Section

- Prof. Aditya Tiwari published paper in IJMTE, UGC approved Journal S. No. 45550, Volume IX, Issue III, OCT 2019, ISSN No: 2249-7455, Page 1115-1125. DOI:16.10089.IJMTE spl.2019.V913.19.27674.(2019).
- Prof. Aditya Tiwari attended FDP on “Outcome based Education and Accreditation” held during November 2019 organized by IQAC, BIT Durg under AICTE Margdarshan Scheme.

## Students Achievement : Industrial Exposer

- As per the prerequisite of curriculum, the students of **3rdsemester (Batch 2018-22)** went for the industrial visit at “**BEEKAY ENGINEERING CORPORATION, Bhilai (C.G).**” **On6<sup>th</sup> October ,2019** under the guidance of Faculty members **Prof.Aditya Tiwari** and **Prof.OmprakashBarapatre**. At **BEEKAY**,The **BEEKAY officials** devoted some valuable time for our students to make them understand the working of **ERP**package for integrating the working of different departments of industry.
- **Tanuja sahu has joined as a web developer in AVETO consulting Pvt Ltd ,Bengaluru.**

