

# Study and Review on Developed Data mining systems

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**Abstract**— In this paper we will review the developed data mining system. We have developed the data mining system under two areas i.e “Product” & “Share”. For the category “Product” , we are analyzing Product under three different sub-category i.e, ‘Product Purchsed’, ‘Customer Points’, ‘Customer Bills’ & for the category “Share” , we are analyzing Share under three different sub-category i.e, ‘Share in Demand’, ‘Share Price’.

**Index Terms**— Data Mining, Data Mining System

## I. INTRODUCTION

**Data mining** refers to extracting or ‘mining’ interesting knowledge from large amounts of data [1]. It provides a means of extracting previously unknown, predictive information from the base of accessible data in data warehouses. Data mining tools use sophisticated, automated algorithms to discover hidden patterns, correlations, and relationships among organizational data. These tools are used to predict future trends and behaviors, allowing businesses to make proactive, knowledge-driven decisions [2].

Data Mining (sometimes called data or knowledge discovery) is the process of analyzing data from different perspectives and summarizing it into useful information - information that can be used to increase revenue, cuts costs, or both. Data mining software is one of a number of analytical tools for analyzing data. It allows users to analyze data from many different dimensions or angles, categorize it, and summarize the relationships identified. Technically, data mining is the process of finding correlations or patterns among dozens of fields in large relational databases.

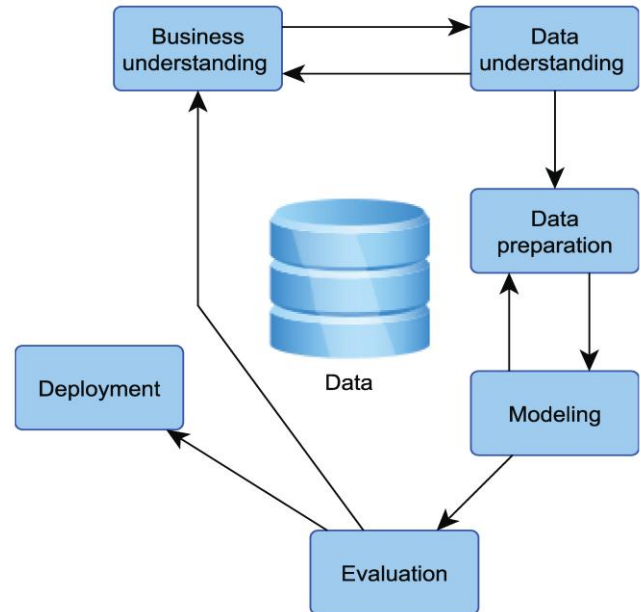
## II. PROCESS

**The process of data mining consists of three stages:**

1. The initial exploration.
2. Model building or pattern identification with validation/verification.
3. Deployment (i.e., the application of the model to new data in order to generate predictions).

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**Figure 1, Diagram of Data Mining Process**

### Stage 1: Exploration.

This stage usually starts with data preparation which may involve cleaning data, data transformations, selecting subsets of records and - in case of data sets with large numbers of variables ("fields") - performing some preliminary feature selection operations to bring the number of variables to a manageable range (depending on the statistical methods which are being considered). Then, depending on the nature of the analytic problem, this first stage of the process of data mining may involve anywhere between a simple choice of straightforward predictors for a regression model, to elaborate exploratory analyses using a wide variety of graphical and statistical methods (see Exploratory Data Analysis (EDA)) in order to identify the most relevant variables and determine the complexity and/or the general nature of models that can be taken into account in the next stage.

### Stage 2: Model building and validation.

This stage involves considering various models and choosing the best one based on their predictive performance (i.e., explaining the variability in question and producing stable results across samples). This may sound like a simple operation, but in fact, it sometimes involves a very elaborate process. There are a variety of techniques developed to achieve that goal - many of which are based on so-called "competitive evaluation of models," that is, applying different models to the same data set and then comparing their performance to choose the best. These techniques - which are often considered the core of predictive data mining - include: Bagging (Voting, Averaging), Boosting, Stacking (Stacked Generalizations), and Meta-Learning.

### Stage 3: Deployment.

That final stage involves using the model selected as best in the previous stage and applying it to new data in order to generate predictions or estimates of the expected outcome.

The concept of Data Mining is becoming increasingly popular as a business information management tool where it is expected to reveal knowledge structures that can guide decisions in conditions of limited certainty. Recently, there has been increased interest in developing new analytic techniques specifically designed to address the issues relevant to business Data Mining (e.g., Classification Trees), but Data Mining is still based on the conceptual principles of statistics including the traditional Exploratory Data Analysis (EDA) and modeling and it shares with them both some components of its general approaches and specific techniques.

### III. PRIOR WORK

In the field of data mining the prior work which has been done in the area of data mining are as follows:-

**ADAM** : ADaM is a data mining toolkit designed for use with scientific and image data. It includes pattern recognition, image processing, optimization, and association rule mining capabilities. ADaM does not contain grid projection, advanced subsetting, advanced statistical analysis, format conversion, visualization or other types of tools that may be useful in the analysis of scientific data sets. The system consists of a set of individual components that can be used together to perform complex tasks.

**AlphaMiner** : AlphaMiner is developed by the E-Business Technology Institute (ETI) of the University of Hong Kong under the support from the Innovation and Technology Fund (ITF) of the Government of the Hong Kong Special Administrative Region (HKSAR). It is an open source data mining platform that provides the best cost and-performance ratio for data mining applications.

**KNIME** : KNIME is the leading open platform for data-driven innovation helping organizations to stay ahead of change. Use our open-source, enterprise-grade analytics platform to discover the potential hidden in your data, mine for fresh insights or predict new futures.

### IV. PROPOSE WORK

In this research work, we aimed to develop a Data Mining application for two areas i.e for Product and Share. It was aimed to develop an Open Source based Data Mining Application .The Developed Application will work on any of the browser and the user of the application can predict which product is under requirement and which is not under requirement, which product is in most demanded by the consumer who are coming for purchase, which customer is having the maximum points and who is having the minimum one, which share is in demand and which share is of high coast .

### V. RESULT

The developed Data Mining system using Open Source, which can be shown in the below figure. By the use of developed system the user can take managerial decision , which is ultimate goal of any Developed Data Mining System.



**Fig 2, Gateway of Data Mining System**

### VI. DISCUSSION

In this research work, we explored the problem of Data Mining that how we can store the data, how to retrieve record on front so that it can be proven beneficial to take any managerial decision.

The Developed data mining system will decide which product is in demand & according to which the data is mined from the stored data for that product, what is the actual profit & loss, who is the competitor of this product, what wrong , where the company or industry is lacking, what to do to increase the consumption, how to launch any product. It will be very helpful to industry who is interested in doing market analysis in the particular field. It is very fast in processing and user using that developed system can get the result quickly. The developed system can be used for online information extraction by implementing the developed data mining system online.

### VII. CONCLUSION

As we can see in the above fig 2, the first page of the developed Data Mining System. Into the developed system we can do the mining into two areas i.e, Product & Share. In both the area we will get refined information to take any decision.

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