

## Intelligent Recommender System

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**Abstract** - Marketing as a discipline involves researching and developing a product and facilitating its sale and distribution to the general public. The concept of marketing has existed since long and is changing as per the need and purchasing behaviors of consumers. Data mining can be categorized as the technology which incorporates the statistical techniques and mathematical equations that are used in an attempt to identify the significant relationship between variables in the historical data, to forecast or perform analysis on the data; or determine any significant relationship within the captured data. Data mining is the search for relationships and global patterns that exist in large data bases but are hidden among vast amounts of data, such as the relationship between patient data and their medical diagnostics relationships represents valuable knowledge about the data base and the objects in the database. Data mining is an essential process where intelligent methods are applied in order to extract data pattern. Data mining is the exploration and analysis of large quantities of data in order to discover meaningful patterns and rules.

**Key Words:** Data Mining, Database, Pattern.

### 1. INTRODUCTION

Today's marketing is very different from what it used to be a few decades ago, mainly due to a rapidly changing world economy and the advancement in the technology, which together led to free and speedy knowledge distribution and exchange. With this, local markets were exposed to MNC's as the cost and complexity of operating overseas was reduced by globalization thereby contributing to a wider competition. As markets have become more deregulated, there has been a major change in the way in which and the speed with which knowledge is disseminated. Almost everything we do, like taking a long walk in the woods, leaves little bits of electronic data behind. Every time the Internet or mobile phone is used, data is punched and there's a giant industry right behind sucking up all that data and using it to figure out how to sell you something. From selling toothpaste down to life insurance policies, every activity generates some amount of data, courtesy globalization and technical advancements, which if analyzed properly can provide a competitive edge in the international market by discovering hidden patterns and explicit relationships among large data sets. One such technique that can be

employed to analyze such large amount of data is known as data mining.

### 2. PROPOSED APPROACH

Many organizations like insurers, telecommunications providers, manufacturers, banks, and retailers use data mining to predict the outcomes of their marketing campaigns and to find out everything about their demographics. Data mining also helps them find the best way to promote their products, services, and optimize their prices to become more competitive. Similarly we have also used data mining to help our client understand their best selling products, highest selling categories, best selling seasons or time frame etc. Using this information business owners can devise a sales strategy which can boost their sales performance or where they can take informed decisions about a particular product or any strategy.

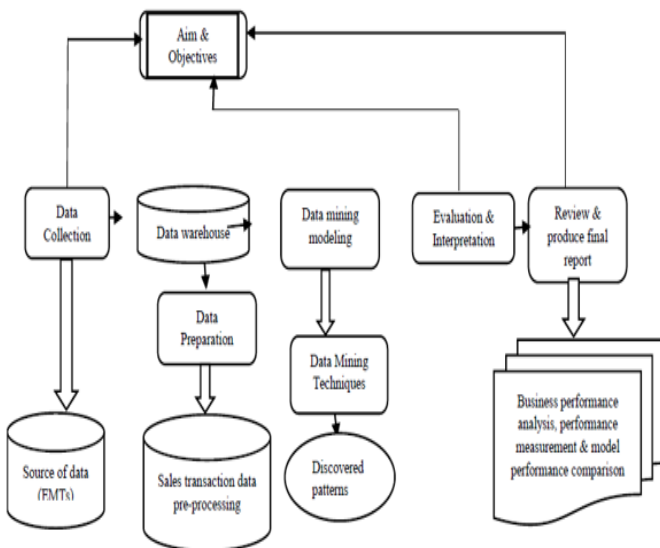
### 3. LITERATURE SURVEY

Intelligent Decision Analytical System requires integration of decision analysis and predictions. Most of the business organizations heavily depend on a knowledge base and demand prediction of sales trends. The accuracy in sales forecast provides a big impact in business. Data mining techniques are very effective tools in extracting hidden knowledge from an enormous dataset to enhance accuracy and efficiency of forecasting. The detailed study and analysis of comprehensible predictive models to improve future sales predictions are carried out in this research. Traditional forecast systems are difficult to deal with the big data and accuracy of sales forecasting. These issues could be overcome by using various data mining techniques. In this paper, we briefly analyzed the concept of sales data and sales forecast. The various techniques and measures for sales predictions are described in the later part of the research work. On the basis of a performance evaluation, a best suited predictive model is suggested for the sales trend forecast. The results are summarized in terms of reliability and accuracy of efficient techniques taken for prediction and forecasting. The studies found that the best fit model is Gradient Boost Algorithm, which shows maximum accuracy in forecasting and future sales prediction[3].

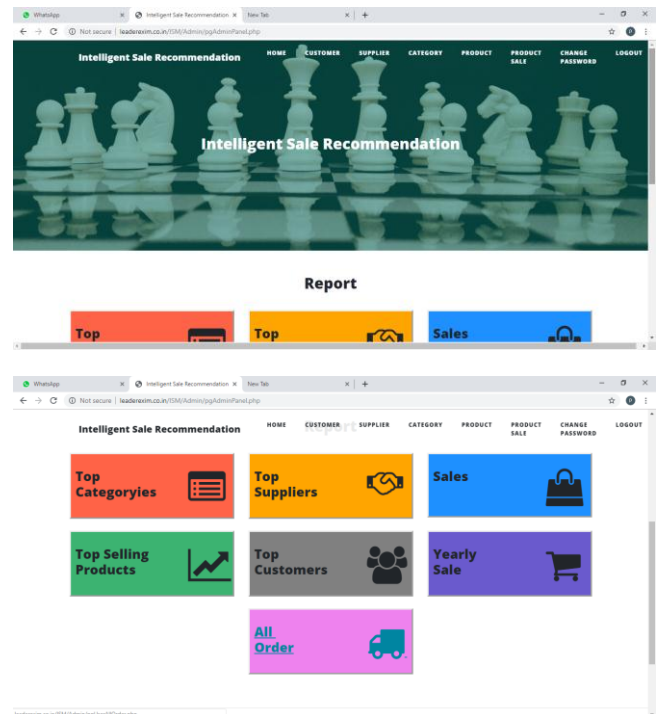
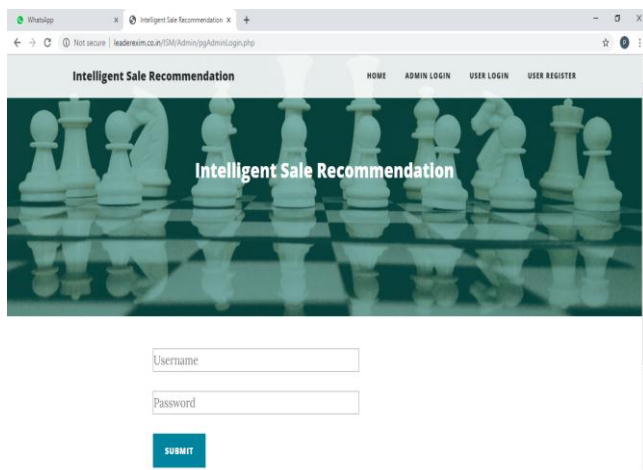
Proposed approach to forecasting marketing costs using dynamic planning models allows apply transfer "carry-

over”, proposed by L.M. Koyck, taking into account the rate of customers or rejection of the goods or services of the enterprise. Future study on a purchasing decision-making process should examine further incorporating the decision analysis software tools into an integrated marketing information system. Process control of purchasing decision making system using databases and marketing models includes evaluating distributed lag model with the determination of the maximum lag. The easiest way of evaluating it is to take a model with a sufficiently large lag and test hypothesis[4].

#### 4. BLOCK DIAGRAM



#### 5. RESULTS AND DISCUSSIONS



#### 6. CONCLUSION

Marketing has changed drastically over the last few years, the involvement of technology has made it more efficient for generation of sales. In this paper, we present a web application which uses the day to day data collected by the consumers to predict the demands of different products of the company. Also, we may find out the reason for rejection of products etc.

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