# E-Governance in Trading System: Concept and Role of Data Warehousing Techniques

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## ABSTRACT
This paper proposes E- governance implementation for Trading system with the use of data warehousing and data mining techniques. For this we proposed a logical architecture design for trading system. On the basis of this architecture we will develop the logical design of database. We aim at representing the advantages and techniques of using data warehouse architecture in e-governance applications, with special reference to trading system in India.

## Keywords
E-governance, Data warehousing, Data Mining, Trading

## 1. INTRODUCTION
The e-Gov is the use of information and communication technology in public administration combined with organizational change and new skills in order to improve public services and democratic process [1]. E-government is a modern way that government department provides services for the public. The level of e-government development is an important standard for a national information, e-government can improve government management efficiency, so it is very important that how to improve the public service by the public's need to e-government's development. E- government is generally recognized as a means of making government more efficient while allowing it to be more responsive to customer needs [2]. A successful E-government provides the following benefits:

- Improving efficiency of administrative processes.
- Increasing transparency, as all the information about the government and its agencies will be available, nothing ambiguous.
- Improving services, this could be by making all the services online.
- Contributing to revenue growth, citizens will feel comfortable with the E-services online, as it is fast and clear

### 1.1 Data Warehousing
A data warehouse is "a subject oriented, integrated, non volatile and time-variant collection of data in support of management's decisions"[3]. The main objective is to bring together the various data which are distributed in transactional heterogeneous databases into a single collection [4][5][6]. The centralization of voluminous amount of data allows the discovering of trends and provides hidden information that eases managers' decisions.

### 1.2 Data Mining
Data Mining is a core step, which results in the discovery of hidden but useful information from massive database and e-governance operation which involves pragmatic use of database and the technique of Data mining and Data warehousing for taking various decisions for the benefits of the society.

## 2. E-GOVERNANCE AND DATA MINING
Data mining is a process of knowledge Discovery includes methods used to recognize, generate, represent and distribute knowledge for better utilization of any system. There is large number of data and information generated and collected by the different levels of governments. In case of government, proper decision making is important to better utilization of al resources. Data mining could help administrators to extract valuable knowledge and practices out of this voluminous data, which can be used to obtained knowledge and practices for strategically reducing costs and increasing organization expansion opportunities and also detect fraud, waste and exploitation.

## 3.E-GOVERNANCE AND DATA WAREHOUSING
Data warehouse built for eGovernance can typically have data related to person's requirement. Such a data warehouse can be beneficial to both the Government decision makers and citizens in the following manner:

### 3.1 Benefits for decision makers
They do not have to deal with the heterogeneous and sporadic information generated by various state-level computerization projects as they can access current data with a high granularity from the information warehouse.

- They can take micro-level decisions in a timely manner without the need to depend on their IT staff.

- They can obtain easily decipherable and comprehensive information without the need to use sophisticated tools.

- They can perform extensive analysis of stored data to provide answers to the exhaustive queries to the administrative cadre. This helps them to formulate more effective strategies and policies for citizen facilitation.

### 3.2 How can citizens benefit
-They are the ultimate beneficiaries of the new policies formulated by the decision makers and policy planner's extensive analysis on person and land-related data.

- They can view frequently asked queries whose results will already be there in the database and will be immediately shown to the user saving the time required for processing.

- They can have easy access to the Government policies of the state.

- The web access to Information Warehouse enables them to access the public domain data from

## 4. BENEFITS OF DATA MINING IN TRADING SYSTEM

Data mining is used to identify customers loyalty by analyzing the data of customer's purchasing activities such as the data of frequency of purchase in a period of time, total monetary value of all purchase and when was the last purchases. After analyzing those dimensions, the relative measure is generated for each customer. The higher of the score, the more relative loyal is the customer is

## 5. PROPOSED ARCHITECTURE

The proposed architecture for trading system is depicted in fig1. In the following section we will propose the possible implementation of the solution.

### 5.1 Logical Structure of data warehouse for trading system

A data warehouse brings together data from multiple operational (internal) and external data sources into common physically separated repository, the main purpose of the Data Warehouse is to serve as a central reporting and data distribution environment.

The Data Warehouse acts as a hub, to facilitate the exchange of information between systems and therefore serves as the enterprise information infrastructure.[7]

**5.2 The User Interface Layer** conveys the idea that users should have a single point of access for related functions that they use. This might be implemented as one or more portals.

The user interface layer is responsible for acquiring data from the user and rendering data to the user. In the user interface the admin, buyer and supplier portal view the application of the trading system through proper registration.

In the trading system the at most users are the Admin, Buyer and Supplier. Admin concentrates on the applications, services and data involved in the system. The other user who can be a buyer or supplier communicates with each other and outside world.

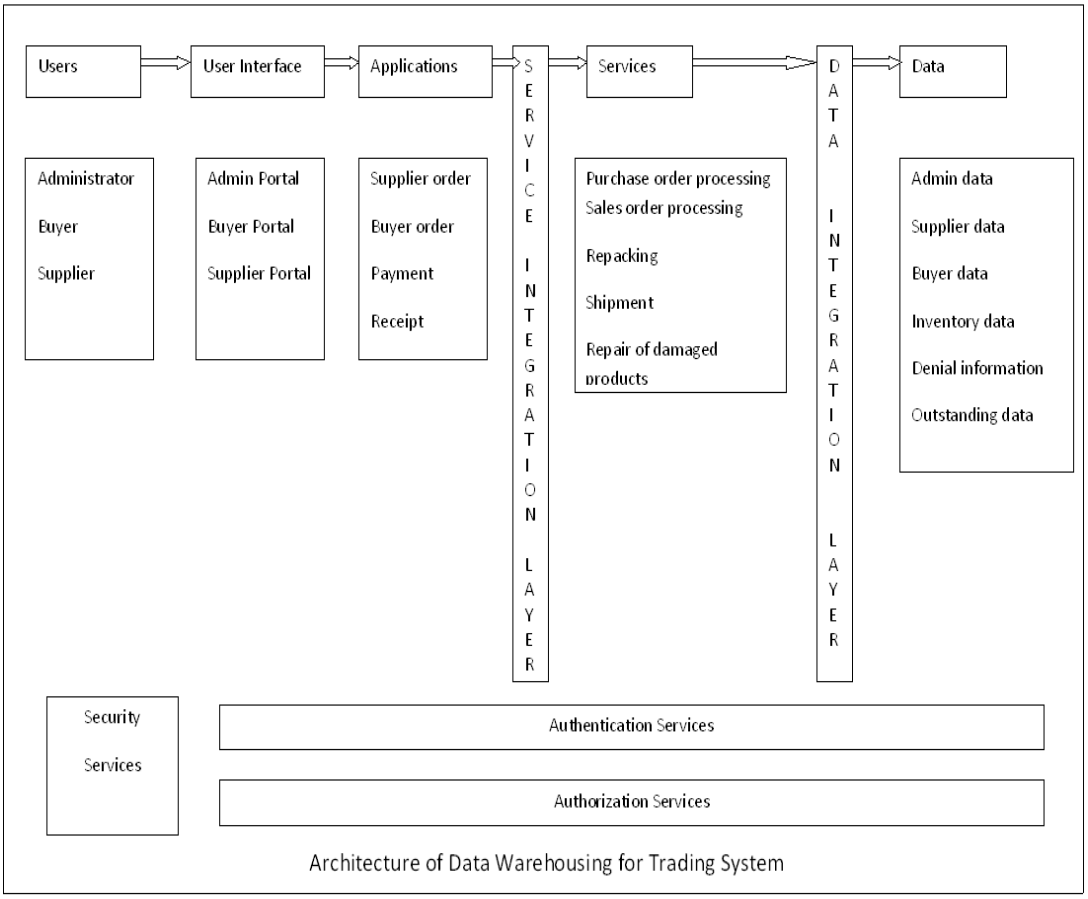
**5.3 The Applications Layer** shows groupings of applications that are built for specific purposes. By leveraging services available in the architecture, applications should generally be quicker to develop and easier to maintain.

The application layer of this system involves the buyer order, supplier order, payment details and receipt associated with the business.

**5.4 The Service layer** defines an application's boundary with a layer of services that establishes as a set of available operations and coordinates the application's response in each operation.

The operation involves the processing of orders for buyer and supplier. Purchase order for the buyer and Sales order for the supplier. According to the proper payment of the order, the shipment process for deliver is made. Other services like repair of damaged products is also maintained.

**5.5 The Service Integration Layer** may expose some of its functionality as a service that other applications can use. It also presents the service to the outside world and encapsulates the interface, protocol and code required to use such services




Architecture of Data Warehousing for Trading System

**5.6 The Data Layer** enhances most business applications to access data that is stored in databases, which are most often relational databases. This layer is responsible for exposing the data stored in these databases to the service layer.

The data associated with admin, seller, purchaser is preserved in the data layer.

The stock details according to each item in grade wise is maintained as inventory data.

**5.7 The Security Layer** have to be deployed since this is an insecure environment. All operations, which are initiated over a connection can rely on data that was exchanged earlier. This is used to implement access control mechanisms. At the beginning of a connection the client's identity is established during the authentication stage. For each subsequent operation requested by the client, the server checks whether the client is authorized[8].

## 6. CONCLUSION

Even though e-governance affairs enhanced the government part work efficiency and transparency greatly, the services were facing with the problem of accumulated massive data and thus it was far from decision and forecasting in trading system. Implementing e-governance application in trading system will produce voluminous data storage and a small confusion in screening material as in the case of trading system.

## 7. REFERENCES

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