

Data Warehousing: A Case Study

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Abstract— Today data warehousing plays a vital role in the business decision making. It is necessary to analyses the data for organization growth. It is widely used for storing and maintaining the data to generate information and report. This paper illustrates the influence of data warehousing in different fields such as organization, e-governance, and education domain. Several open source tools in data warehousing is available for analysis and integration process. This paper gives clear idea about Data mining techniques & algorithm which is useful in solving complex queries and interactive online analyzing of data.

Keywords— Data warehousing, Data mining

I. INTRODUCTION

Data Warehouse (DW) is defined as “a subject-oriented, integrated, time-variant, non-volatile collection of data in support of management’s decision-making process” [4]. It is widely accepted that all organization are interested in generating database. But the new research is risen for storing and manipulating data for further decision making in efficient manner.[1] This explains data warehousing used in the organization in a wide area of integrating the scattered data ,explains the need for separate enterprise-wide integrated information and analyze that data for decision making.[2] .Data warehousing support e-governing to ensure the data used in effective decision-making over the historical data and response to the several types of queries requiring complex analysis on data.[3]Nowadays education becomes privatized and cut throat competition is prevailing between the institutes. Institute needs to be more organized, taking better decisions and continual improvements in operational strategies are achieved by data warehousing.

II. DIFFERENT ORGANIZATION

This work has been extended to analyze multiple cases of the organizations like GPCL, ICICI prudential life insurance Ltd, Singapore road Transport etc. to know the real benefits gained after successful implementation of a data warehouse by them. Data warehouse implementation provides lots of saving for the organization and has a positive effect on the growth of the company. The determination of the system depends on the encapsulated data of the organization which is evidently stored in the information warehouse. Data across various dimensions can be integrated as a result complete performance of the company as a whole could be retrieved. It makes accurate and better decision making was possible. Data Warehouse Enhances Data Quality and Consistency .It saves precious time in retrieving data from multiple sources. The users came to know quickly if an application becomes unavailable or suffers a performance problem, the issue is likely to be identified within 15 minutes and subsequently resolved. This leads to increases customer satisfaction.

III. E-GOVERNANCE

Citizen facilitation is the core target of any governing body. Governments deal with enormous quantity of information. In parliamentary procedure that such data are used in facilitating better decision-making, a data warehouse is constructed on the historical data. When applied right, it can assist planners and decision makers in reaching informed decisions leading to a positive impact along a target group of citizens. In spite of reading loads of initiative for computerization, the Government decision makers are presently having difficulty in getting meaningful data in a timely way because they have to request and depend on IT staff for preparing special reports which often requires long time. By organizing person and land-related data into a meaningful data Warehouse, the Government decision makers can be invested with a flexible instrument that enables them to make informed insurance decisions for citizen facilitation and accessing their impact over the designated section of the population.

IV. EDUCATION

Existing facilities and databases affect the chosen data warehouse that brings them together to support decisional activities leading the whole university including faculties, administrators, and students. The data warehouse built for numerous the educational institute is from two sources, internal sources like inability of current operational systems to provide required information for parameter driven analysis and external sources like competitive factors. A survey is carried out in educational institutes to gather information about decision support systems and their findings are summarized as follows:

- The data is stored in different sources and also in distributed locations.
- Users find difficulty in locating the reports which they needed.
- The user interfaces of the current operational system not confusing and make difficult to decision makers.
- It is impossible to consolidated report from two or more different subject area when required
- It is not easy to get assistance.

A decision support system use data to accomplish, function, and evaluate educational institution in a better way. Depending on the quality and accessibility the required data is retrieved and also analyses hidden pattern in it. The useful information can be extracted from the data warehouse using data mining techniques. Data mining form three main components of the institution, such as Employees, Students and Infrastructure. Data mart of the employee can provide the users with the information such as career growth, personal details and attrition rate. Student mart can give the information related to the student like best outgoing student,

scholarship, also considering his academic and nonacademic activities. Information about assets such as the investment in a particular financial year can also be accessed.

V. CONCLUSION

This case study demonstrates the usefulness and efficiency of data warehouse in different fields. In different organization, the data ware house has predicted the future database in advance and thus influenced the managers to take strategically and tactical decisions. The consistency of data is achieved due to unified storage and also increase the returns on investment .This is the right time for introducing Data warehousing in the e-Governance and to further strengthen the e-Governance system .In education domain, it helps students and Employees in making decisions. It is the ultimate beneficiaries of the new policies formulated by the decision makers and policy planner's extensive analysis on student and employee related data.

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