



## Benefits of Data Warehousing for Sugar Factory

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**Abstract-**This paper focuses on how data warehouse is beneficial for sugar factory to store their different department's data, store crushing detail of sugar cane etc. that's why it is used for further operations on that data easily to making decisions by using different analysis technique on that data or use different data mining techniques etc.

**Keywords-** Data Warehousing, DSS, ETL, OLAP, OLTP, DW

### I. INTRODUCTION

In Sugar factory number of different departments are required for management like Employee Payroll dept, Finance dept, Harvesting dept, Cane development dept, store dept etc. Alongwith that for every season store large and huge data as crushing of sugar cane.

Generally sugar factory season start from month of October/November and end of season on month of April/May. Also every sugar factory members or share holders send sugar cane to sugar factory every year (season), so huge data is stored. Its challenge to management to take decision, On this huge data extract particular department data or particular information of member. It is time consuming process to search particular record on the huge records.

Every Sugar factory use online transaction processing (OLTP) database management system

So general database use this technology so this is useful to give direct query to database and take feedback but it is not supported to making decisions for that organization.

Data Warehouse use OLAP technique, it integrates data accurately, reform the data and transform to another stage for query processing and gives quick and accurate result. Also it is used each department of sugar factory to take decision quickly and remove problems of OLTP system.

### II. OVERVIEW OF DATA WAREHOUSE

A data warehouse is a subject-oriented, integrated, time-variant and non-volatile collection of data in support of management's decision making process.

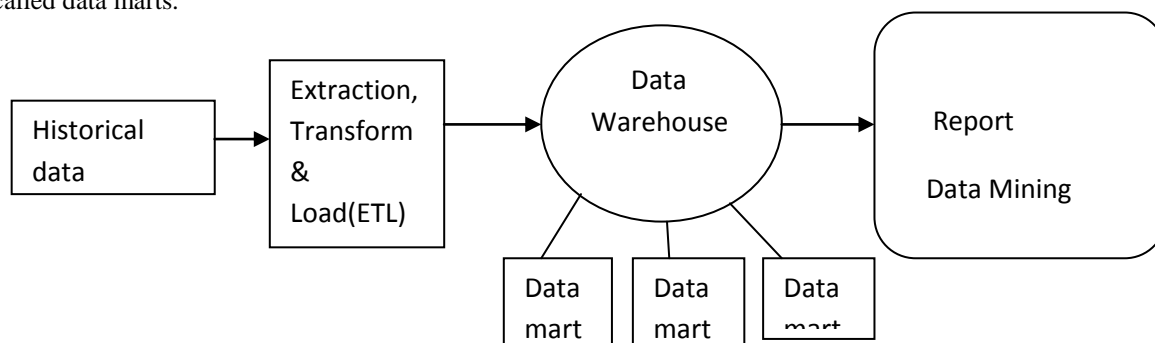
**Subject-Oriented:** A data warehouse can be used to analyze a particular area. e.g. Total crushing of Sugar cane

**Integrated:** A data warehouse integrates data from different data sources. E.g. source A and source B may have different ways of identifying a product, but in a data warehouse, there will be only a single way of identifying a product.

**Time-Variant:** Historical data is kept in a data warehouse. For example, one can retrieve data from 3 months, 6 months, 12 months, or even older data from a data warehouse. This contrasts with a transactions system, where often only the most recent data is kept. For example, a transaction system may hold the most recent address of a customer, where a data warehouse can hold all addresses associated with a customer.

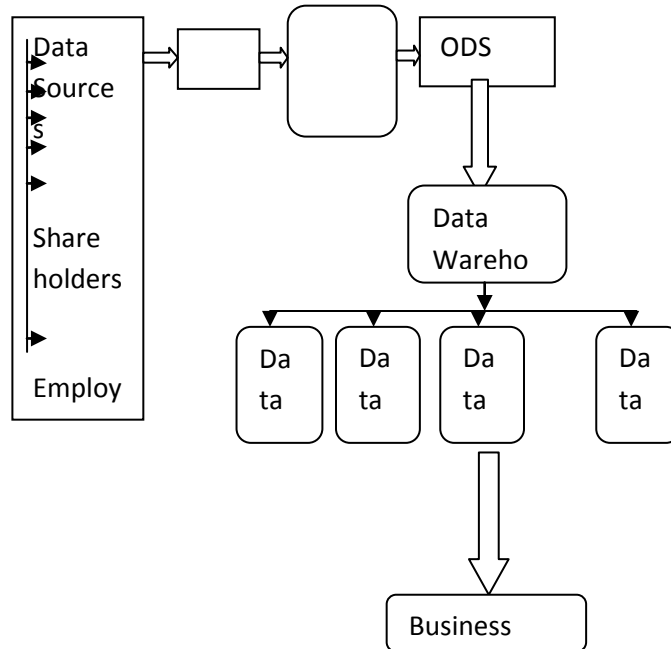
**Non-volatile:** Once data is in the data warehouse, it will not change. So, historical data in a data warehouse should never be altered.

From data warehouse data flows to various department for their customized DSS. These Individual department component are called data marts.



Architecture of data warehouse shows that data collected gathered from different external sources. It can not directly load data to warehouse because all information collected is not accurate so by using ETL tool data is cleaned and transform to data warehouse or data mart and then it can easily used for query processing. Using OLAP system it becomes available for taking decisions for organizations.

### III. MODEL OF DATA WAREHOUSING



As we have shown in above model, a DW may be used by an OLAP front-end or it may be queried directly by SQL statements, data representation with OLAP data management. Each department like Share, Finance, weigh bridge, payroll etc. store their information to database. Using ETL tool data is refined and stored into data warehouse or data mart. Data warehouse stores all information to separate data marts like season wise information is stored.

### IV. CONCLUSIONS

We present an overview of the data warehousing area and a brief description of data warehouse design model for Sugar factory.

Using Data Warehousing in sugar factory data of all departments is stored differently means season wise. So that data is easily available for future use i.e. to see report or to analyze data at the time of data extracts from database it is easily and fast retrieved, their retrieving time is less.

### REFERENCES

[1] C.S.R. Prabhu "Data Warehouse"

[2] Surajit Chaudhuri & Umeshwar Dayal "An Overview of Data Warehousing and OLAP Technology"

[3] Trupti M. Hake, Pravin S. Metkewar "Optimized Data Warehouse model through Pentaho ETL Tool" *IJJDWM (Vol 3 issue 1) 2013*