

BUSINESS INTELLIGENCE

Write a note on the following terms:

i) Data Warehouse:

- a) A data warehouse is a large collection of business data used to help an organisation make decisions.
- b) The data in a data warehouses comes from different places such as internal applications such as marketing sales, and finance customer facing apps and external partner systems.
- c) The data warehouse is a core of BI system which is built for data analysis and reporting.
- d) A data warehouse is typically used to connect and analyze business data from heterogeneous sources.
- e) Data warehousing is a process of transforming data into information and making it available to users in a timely manner to make a difference.

ii) ODS : Operational Data Store:

- a) ODS are nothing but data store required when neither data warehouse or any curated database are present.
- b) ODS are is refreshed in real time.
- c) ODS is widely preferred for routine activities like storing records of employees.

iii) Data Mart

- a) A data mart is a subset of data warehouse
- b) It specially designed particular type of business.
- c) Data marts are tailor-made designed for specific type of business.
- d) Data mart gets data from specific sources if they are meant for some specific purpose.
- e) Data marts which are just for secondary storages gets information data from all sources.

iv) EDW : Enterprise Data Warehouse

- a) Enterprise Data Warehouse is a centralized warehouse
- b) It supports decision support service across the enterprise.
- c) It offers unified approach for organizing and representing data.
- d) It also provides the ability to classify data according to the subject and give access according to those divisions.

Explain the core and additional characteristics of Data Warehouse

Subject Oriented:

- i) A data warehouse is subject oriented as it provides information on a topic rather than ongoing operations of organisations
- ii) It emphasizes modelling and analyzing decision making data

iii) It ~~also~~ provides a simple and succinct description of the particular subject by excluding details that would not be useful.

2] Integrated:

- i) Data warehouse has to maintain consistencies in ~~a~~ types of data that are collected from different target data sources.
- ii) A piece of data in a data warehouse must get stored in universally acceptable manner.
- iii) Data integrity in a data warehouse assists the application in robust data analysis.

3] Time - Variant:

- i) Data warehouse contains historic data.
- ii) ~~The~~ Data warehouse contains a temporal element implicitly or explicitly.
- iii) The data from warehouse is used for decision making trends, forecasting markets, therefore it makes necessary for warehouse to validate that DW contains primary key with atleast one temporal element.

4] Non - Volatile:

- i) Data - warehouse is a non-volatile that implies data will not be erased when new data is added to it.
- ii) Data is read-only, only updated when it is needed.
- iii) It helps in analysing historical data.
- iv) In operational environment, activities such as deleting updating and inserting are omitted.

List the benefits of EDW:

i) Reduced Infrastructure Expense:

By using data mart consolidation, the cost slides down to almost half of original.

ii) Reduced Warranty Expense:

iii) Improved cost of quality

iv) Accurate environment performance reporting.

v) Standardized IT architecture.