Business Intelligence

(1) Explain the factors driving BI. Discuss any one case study on how BI has helped organization to improve. State the key capabilities of BI.

Ans: The factors driving BI are
- → large amount of data
- → Complicated decision
- → Quick decision
- → Technological Process

Case Study:

Business Challenge → To improve collaboration and visibility by integrating email and calendar to ~~receive visible on~~ Visibility on University Events.

The business Solution that was devised ~~consisted~~ comprised of the following features
- → A cloud-based module on the web platform which will allow students to link MS Office 365 Outlook email with calendar
- → Get visibility on all the events scheduled by staff members or faculty, once logged in into the education portal
- → An app which provides visibility on number of read/unread emails
- → Development of web part providing links to other internal applications
- → The application was compatible for all devices which included laptop, desktop and mobile.

Business Benefit: Improve Collaboration and Visibility

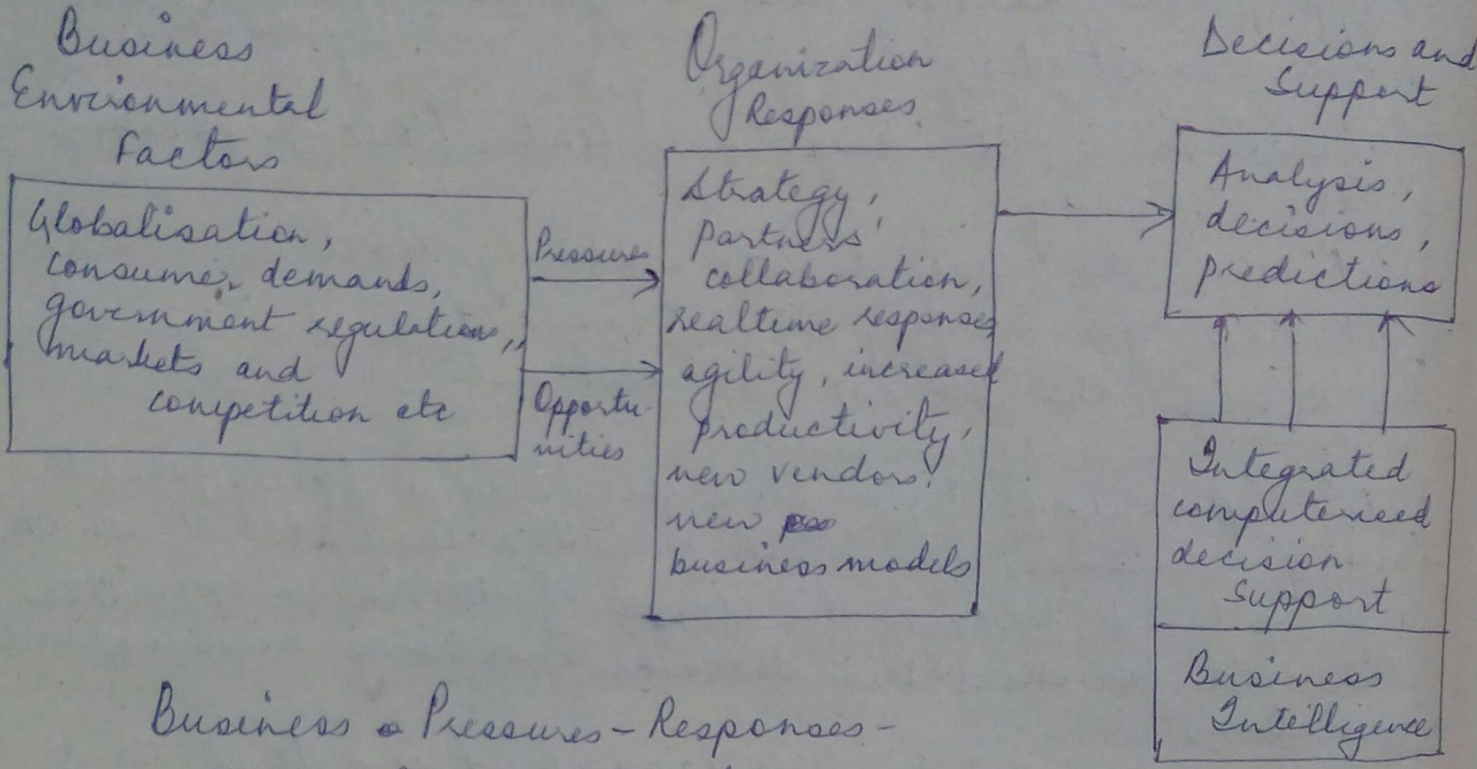
Technology: MS Office 365

The key capabilities of BI solutions are
→ Organizational Memory Capability
→ Information Integration
→ Insight Creation
→ Presentation Capabilities

Q.2 Why use computerized decision support? Discuss the phases of decision making process. Diagramatically represent the Business Pressures - Responses - Support Model

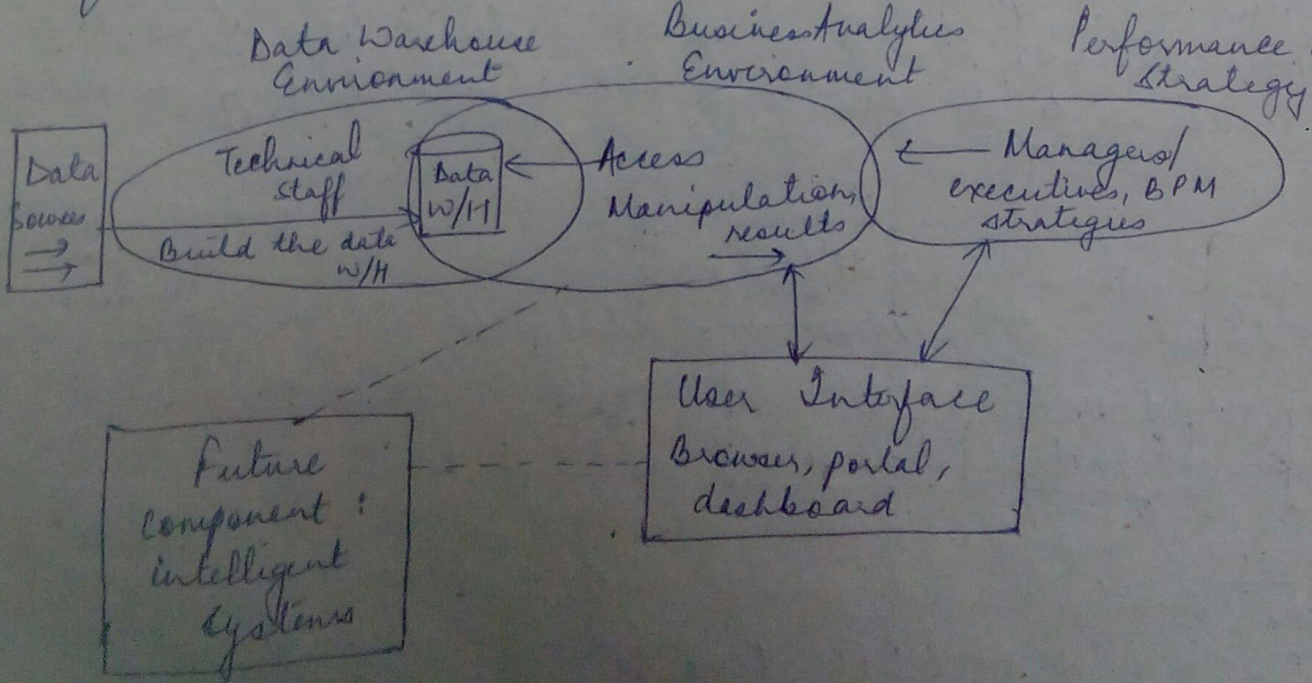
The need for Computerised Decision Support for System are listed below:
(a) Improved Communication and Collaboration
(b) Increased Productivity of Group Members
(c) Improved Data Management
(d) Managing Giant Data Warehouses becomes easy
(e) Overcoming cognitive limits in processing and storing information.

The phases of decision making process include:
(a) Intelligence Gathering - This step includes finding a problem, defining it, gathering data to solve it and constraints identification w.r.t the problem.
(b) Design Phase: Also called solution discovery, is about finding out possible solutions
(c) Choice: includes selection of best proposed solution
(d) Implementation: solving the real problem or finding out if the solution is working or can a better solution be proposed



Business - Pressures - Responses - Support Model.

Q.3 Diagrammatically represent Framework for BI. Discuss any 4 critical success factors of BI implementation. Define (i) ODS (ii) CRM.



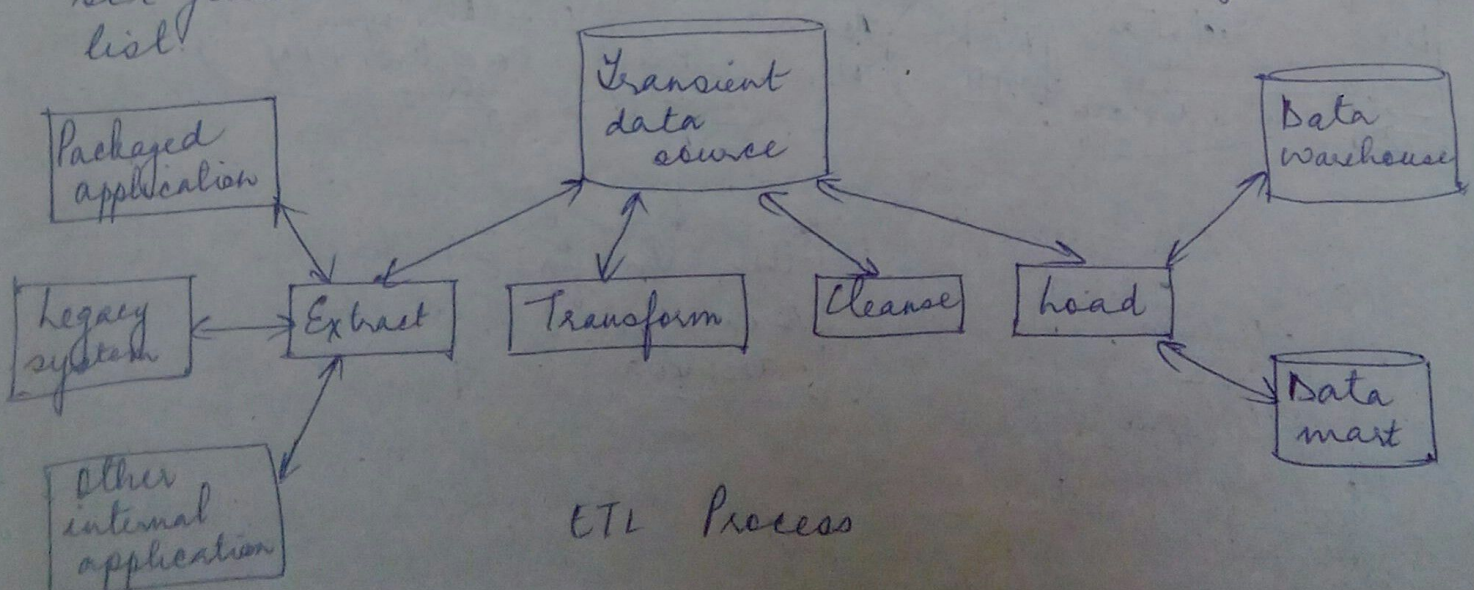
Four critical success factors of BI implementation

→ Appropriate Planning and Alignment with the Business strategy
→ Establish a BI Competency Center (BICC) within the company
→ Review the current BI maturity level
→ Review the existing IT infrastructure
→ Review the current BI tool-sets

(i) ODS: Operational Data Store provides a fairly recent form of customer information file. The contents of an ODS are updated through the course of business operations. It is used for short-term decisions involving mission-critical applications.

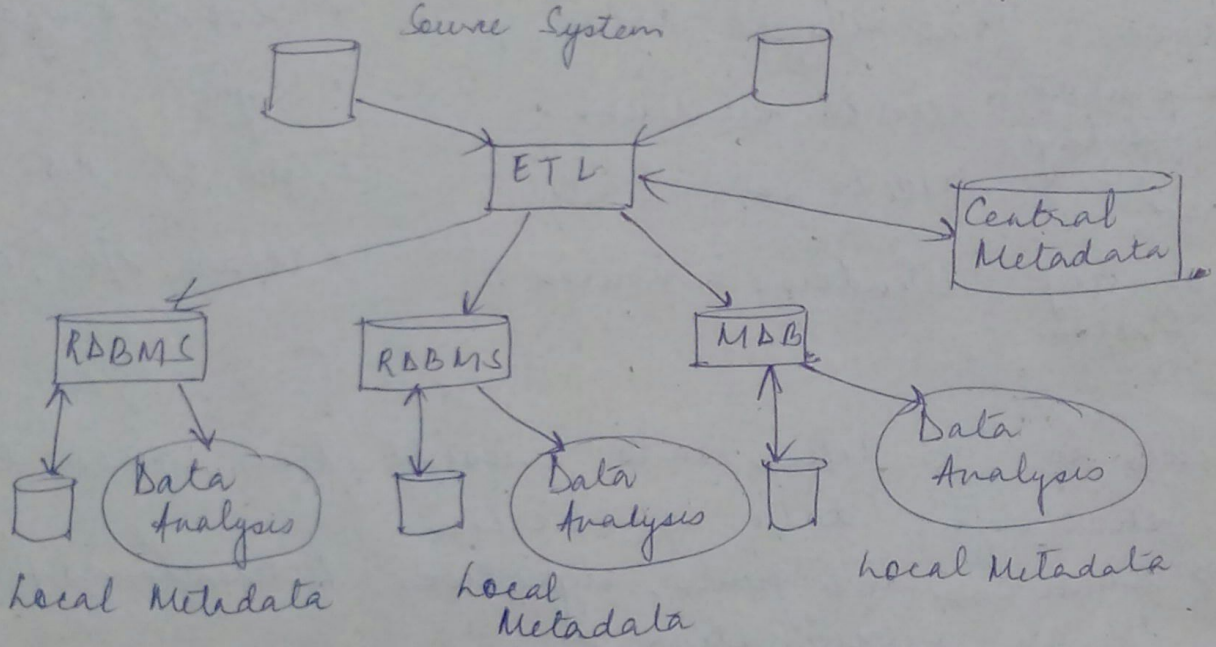
(ii). CRM: Customer Relationship Management is a term that refers to practices, strategies and technologies that companies use to manage and analyze customer interactions and data throughout the customer lifecycle, with the goal of improving business relationships & customers.

Q.4 With the help of a neat diagram, explain the ETL process. Discuss hub and spoke architecture. List the six guidelines to be considered when shortlisting a vendor list.



ETL Process

All input files are written to a staging area which are designed to facilitate the load process. Business rules are defined, along with summarization rules containing dimension algorithm. All encoded attributes must be standardized; i.e consistency across columns or table names. Data quality issues must be dealt. Business rules are stored in central metadata repository.



Hub and Spoke Architecture

→ Data mart tables can be generated on a hubs without impacting data mart users & then be published to one or many spokes.
→ Clear-cut separation of management & user workload
→ Ability to size a database as per the specific needs
→ & Provides scalability.

* Guidelines that need to be considered when developing a vendor list.

1. Financial strength of the organisation
2. Qualified consultants
3. ERP linkages
4. Market share
5. Industry experiences
6. Established partnerships

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Q.5 Explain any 4 contrasts between EDW and data mart approach. state any four issues to be considered when developing a successful data warehouse. Define (i) Alert systems (ii) Exception reporting.

	Data mart Approach	EDW Approach
• Scope	• One subject area	• Several subject areas
• Development difficulty	• low to medium	• High
• Size	• MB to several GB	• GB to PB
• Operating System	• Windows & Linux.	• Unix, z/os, OS/390

Points to be taken into consideration when developing a successful data warehouse

→ determine the goals, objectives & business practices for an organization
→ identify the data sources
→ identify the need of ODS (operational data sources)
→ identify the appropriate technology for ETL, metadata and data warehouse.

(i) Alert Systems: BI tools which send notifications to the user that a certain event or condition has happened. Eg: when daily sales figure falls under a certain % of target

(ii) Exception Reporting: This method consolidates data from multiple end-points and systems across an enterprise and performs a rules-based analysis to provide exception reports to various stakeholders in the organization.

Q6 List any 4 differences between traditional and active data warehousing environments. Discuss any four characteristics of OLAP tools. Discuss the MicroStrategy's classification of BA tools.

Traditional	Active
→ strategic decisions only	→ strategic and tactical decisions
→ results sometimes hard to measure	→ results measured with operations
→ daily, weekly, monthly updation	→ data updation is every minute
→ power users and internal users	→ operational staffs, call centers, external users.

Characteristics of OLAP tools:

→ Multidimensional conceptual view for formulating queries
→ Transparency to the user
→ Easy accessibility
→ Client-server architecture

MicroStrategy's classification of BA tools

→ Enterprise reporting: Pixel-perfect report format
→ Cube Analysis: used to provid simple OLAP, multi-dimensional slice and dice analytical capabilities
→ Ad hoc queries and analysis → perform on ROLAP to query a database for analysis
→ Statistical analysis & data mining → used to perform predictive analysis or to discover correlation bet^n two metrices
→ Alert system to notify users whenever an event occurs