

# BAIT 3013

# Business Intelligence

## Lecture 2

## DETERMINANTS FOR BUSINESS INTELLIGENCE (BI)

# Origins and Drivers of Business Intelligence

- Managers need the *right information* at the *right time* and in the *right place*

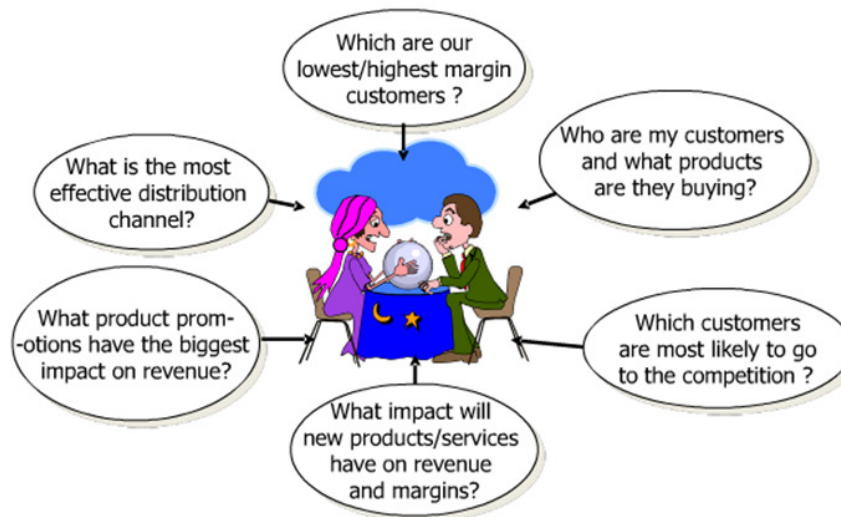


# Growing Important of BI

- In the year 2020, data science of analytics appear top 5 priority of many CIO.
- CIOs will focus on talent, culture and organizational challenges in 2020. “CIOs will get a chance to step forward as business leaders, further developing their tech-driven innovation, people management, and ecosystem-building skills,” according to [Forrester Research’s CIO predictions report](#).
- Enterprise data strategy continues to be a top initiative for CIOs, who see it as a necessary part of their firm’s transformation plans.

# Business Value of BI

- The methodologies of assessing BI values are complex – due to many intangible benefits
- One way to present the business value of BI is to pose business questions and show how they are answered with the support of BI



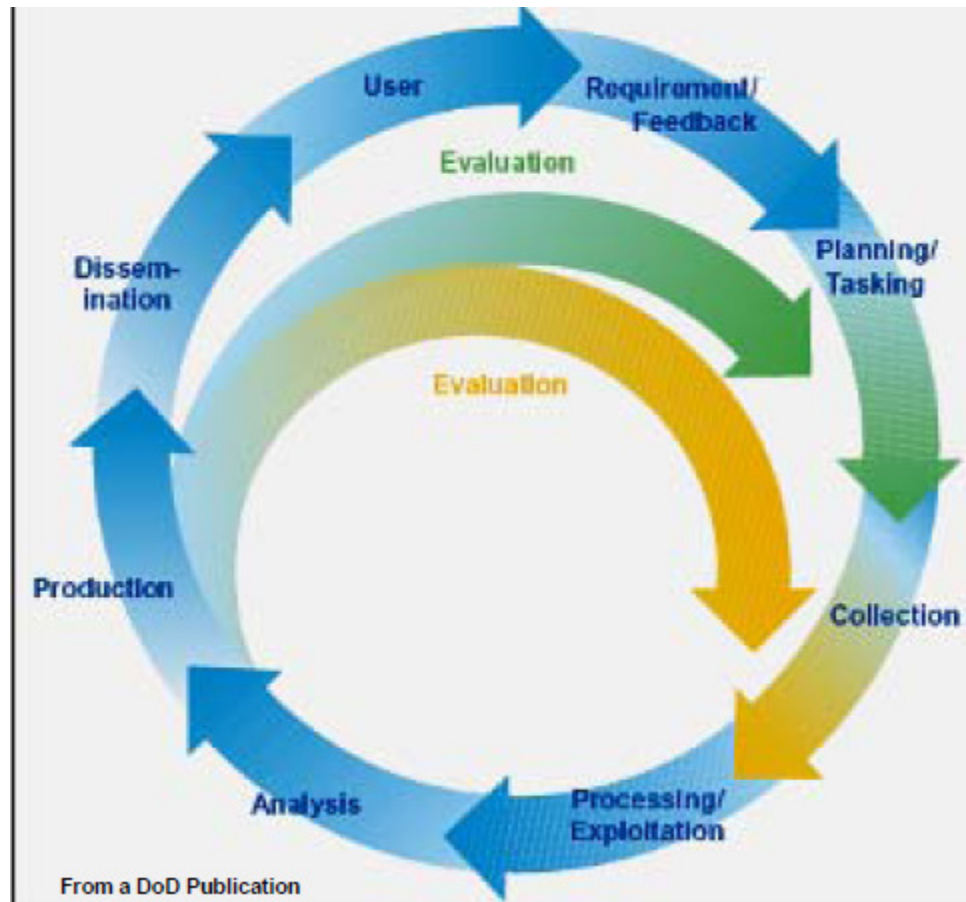
# Business Value of BI

- Key questions as a framework for BI analysis:
  - How can enterprises maximize their BI investments?
  - What BI functionality do enterprises need, and what are they using today?
  - What are some of the hidden costs associated with BI initiatives?

# Process Intelligence (PI)

- Process Intelligence (PI) is technologies which unlock knowledge that is hidden in process data and tell us how to use it more effectively.
- Process Intelligence helps us to use process data for competitive advantage.

# Process of intelligence creation and use



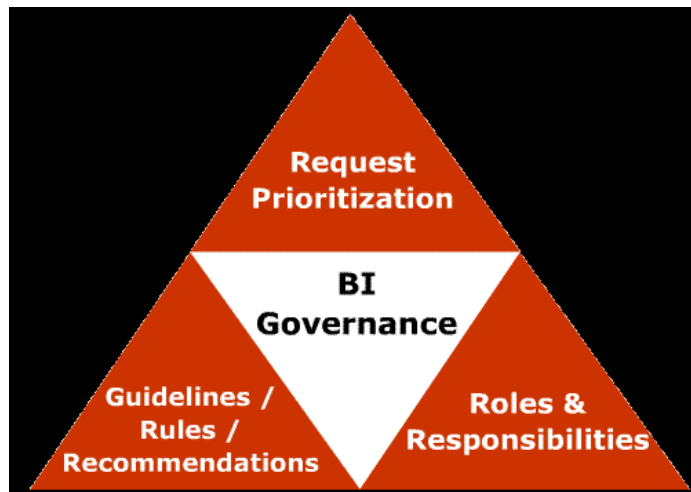
# BI governance

- Governance is the decision making and oversight process that priorities investment, allocates resources and monitors result to ensure the BI program is aligned with corporate objectives, produces desired business actions and behavior and create value.



# BI governance

- Can be define in three perspective :
  - As a resource rationalization exercise
  - As a series of guidelines/rules /recommendations
  - As the definition of roles and responsibilities for both IT and Business stakeholders



# BI governance

- As a resource rationalization exercise
  - Prioritization mechanism by which projects can be approved, rejected and sequenced based on specific criteria.
  - Many companies today have some kind of process to prioritize BI requests; however most of them still rely on subjective factors to determine how a project should move forward.

# BI governance

- As a series of guidelines/rules/recommendations
  - What decisions need to be made?
  - Who will make those decisions?
  - How will the decisions be made?
  - How will the decisions be monitored?

# BI governance

- Establishing the organizational structure of a BI Governance Committee
  - Business
  - IT
  - CFO

# BI governance

- Creating categories of projects
- Defining criteria for project selection
- Determining and setting a framework for managing project risk

# Major Characteristics of Business Intelligence

- Business intelligence is NOT transaction processing
  - Online analytical processing (OLAP)
    - An information system that enables the user, while at a PC, to query the system, conduct an analysis, and so on. The result is generated in seconds

# OLTP VS OLAP

Attributes	OLTP	OLAP
Support	Support the operational business activities in an efficient manner.	Support strategic and tactical activities by giving the right information and new insights to the business.
Characteristic	Operational processing	Informational processing
Purpose	Transaction	Analysis
Volatility	Dynamic data	Static data
Function	Day-to-day operations	Long-term informational requirements, decision support
Type of user	Frontline worker, operational staff	Knowledge worker, managerial staff
Timeliness	Current data only	Current and historical data
Number of records accessed	Tens	millions
Size	Megabytes to gigabytes	Gigabytes to terabytes
Number of users	Large number	Relatively small number

# Major Characteristics of Business Intelligence

- The information factory view
  - *Enterprise information factory* as a way to describe how companies conduct and organize BI efforts.
  - A cornerstone component of that factory concept is the DW



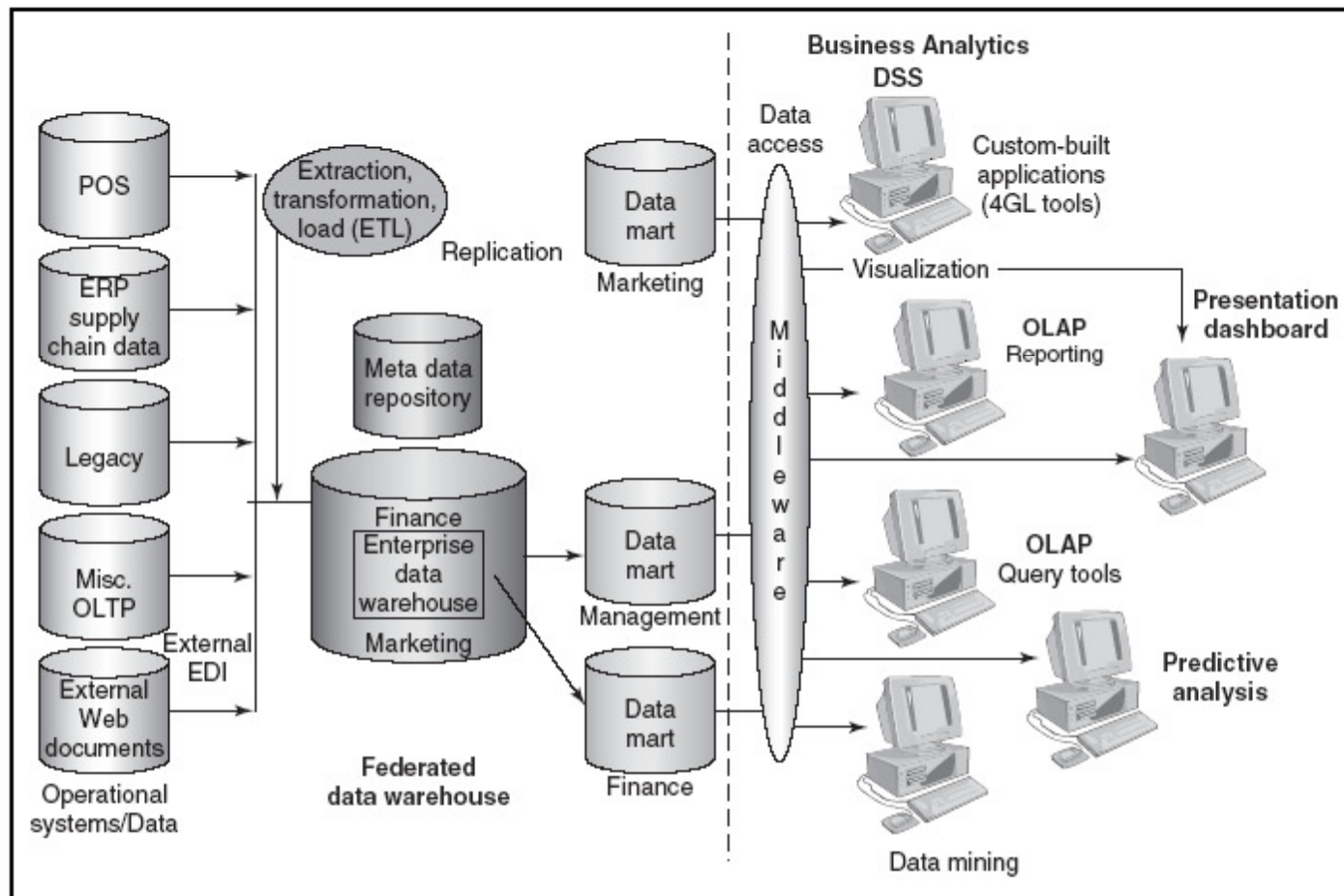
# Major Characteristics of Business Intelligence

- An information factory has:
  - Inputs
    - Data sources
    - Acquisition
  - Storage
    - DW
    - Data marts

# Major Characteristics of Business Intelligence

- An information factory has:
  - Processing of inputs
    - Analysis
    - Data mining
  - Outputs
    - Data delivery
    - BI applications

**FIGURE S.4** The Major Components of Business Intelligence



# Structure and Components of Business Intelligence

- Data warehouse
  - Data flows from operational systems (e.g., CRM, ERP) to a DW, which is a special database or repository of data that has been prepared to support decision-making applications ranging from those for simple reporting and querying to complex optimization

# Structure and Components of Business Intelligence

- Business analytics
  - Online analytical processing (OLAP)
    - Software tools that allow users to create on-demand reports and queries and to conduct analysis of data

# Structure and Components of Business Intelligence

- Data mining
  - *Data mining* is a class of database information analysis that looks for hidden patterns in a group of data that can be used to predict future behavior
  - Used to replace or enhance human intelligence by scanning through massive storehouses of data to discover meaningful new correlations, patterns, and trends, by using pattern recognition technologies and advanced statistics

# Structure and Components of Business Intelligence

- Business performance management (BPM)
  - Based on the *balanced scorecard* methodology—a framework for defining, implementing, and managing an enterprise's business strategy by linking objectives with factual measures
  - Dashboards

A visual presentation of critical data for executives to view. It allows executives to see hot spots in seconds and explore the situation

# Toward Competitive Intelligence and Advantage

- The Strategic Imperative of BI

- A strategic imperative is an action that must be taken, or a capability that must exist, if an organization is to survive and prosper. It is not optional.
- Companies today must change or advance strategy in order to stay on step ahead of increasing competitive pressures, hence the studies of Competitive Intelligence



# Toward Competitive Intelligence and Advantage

- The Strategic Imperative of BI
  - BI is a strategic imperative because it enables managers to make better decisions than they could without it. If some firms in an industry or market are making better decisions and the rest are not, those that do not make better decisions will fail.

# Toward Competitive Intelligence and Advantage

- Competitive intelligence (CI)
  - CI implies tracking what competitors are doing by gathering sources of materials on their recent and in-process activities
  - BI initiatives use some outside sources of data are included in the analysis process, but they are often available from third-party vendors

# Toward Competitive Intelligence and Advantage

- Competitive strategy in an industry
  - Competitor analysis is a component of *industry analysis*, which serves as a basis for strategic planning processes
  - BI applications in this context might include scrutinizing quality metrics associated with specific production processes, analyzing raw materials from various suppliers to assess defect rates, tracking costs of goods sold as a percentage of run volume, and so on

# Toward Competitive Intelligence and Advantage

- Competitive strategy in an industry
  - BI applications in this context might include:
    - Making sure customer needs are met and loyalty is built
    - Tracking and remembering customer preferences in the next customer encounter

# Successful Business Intelligence Implementation

- The BI team must appreciate the different classes of potential BI users.
- Planning and alignment with business strategy.
- Organizational culture, which determines how enthusiasm for BI use can be built.
  - Upper managers must build enthusiasm for those initiatives and procedures for the intra-organizational sharing of BI best practices
  - Plans to prepare the organization for change must be in place

# BI competency center (BICC)

- Team that responsible defined task, roles to support and promote the effective use of BI across an organization.

# Tools and techniques of BI

- BI vendors
  - Microstrategy
  - Microsoft
  - IBM Cognos
  - SAP
  - Oracle
  - SAS

# References

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