

Unit 14

Business Intelligence

BI BENEFITS FOR ORGANIZATION AND LEGAL ISSUES

BI stats

- Global business intelligence market is expected to grow from \$29.42 billion in 2023 to \$54.27 billion by 2030, achieving Compound Annual Growth Rate (CAGR) of 9.1%.
- In 2023, 33% of large enterprises employed analysts proficient in decision intelligence.
- CEOs making data-driven decisions are 77% more likely to succeed.
- 49% of companies increased their utilization of business intelligence analytics compared to pre-pandemic level.

Data Security

Data Security

- Processes, practices, and tools that help organizations to protect sensitive digital information from unauthorized access, theft, or corruption.
- Data security categories:
 - Data encryption: data is encoded and can only be decoded by key.
 - Data Loss Prevention (DLP): set of tools and processes helps to identify unsafe, unauthorized or inappropriate sharing or use of the data.
 - Data resilience: having data always available and accessible despite cyber attacks.
 - Data destruction: the process of eliminating data from systems.

Protecting Data

- Data move through processing at every stage.
- Businesses have to protect its data against malware or breaches within their infrastructure.
- Up to May 2024, 35,900,145,035 known record breached and 9,478 publicly disclosed incident globally.
- By 2023:
 - The average cost of a data breach was \$4.2 Million.
 - The average savings for organization that use security AI and automation was \$1.76 Million compared to organizations that don't.

Protecting Clients

- Protect the interest of your client.
- Security measures:
 - Authentication: two-factor verification.
 - Access control: Row-level security (RLS).

Reasons for Security Measures

- Lowering risk (financial risks, legal risks).
- Mitigating concerns.
- Gaining trust of your clients.

Exercise

Prepare a report about types of data security, challenges, and solutions.

Legal Issues

Legal issues

- Compliance with industry regulations.
- Contractual Agreements: Organizations should carefully review and negotiate contractual agreements with BI solution providers.
- Compliance with anti-discrimination laws: must be cautious about potential biases and discrimination.

Data Visualization

- Misrepresentation of data.
- Reveal identities.
- Violation of intellectual property rights.

External Data Sources

- Must be align with legal standards and regulations in terms of:
 - Intellectual property rights.
 - Data usage agreement.
 - Privacy regulations.

Risks

- Identity theft.
- Reputational damage.
- Decrease customer loyalty.
- Legal consequences.
- Financial risks.

Protection

- Accurate and reliable sources.
- Establish strong foundation for data accuracy.
- Transparency in used methods.

Benefits of BI to Organizations

Benefits of BI functions in decision making

- Better knowledge processing.
 - Knowledge can be viewed as a strategic resource.
 - BI enhance knowledge creation and processing.
- Reduced decision time.
 - Preparing information in timely manner.
 - Conclude the decision-making process in the shortest possible time.
- Reduced decision cost, cost includes:
 - Gathering data manually, acquiring and storing data.
 - Wasting ahead opportunities.
 - Time.

Organization Benefits

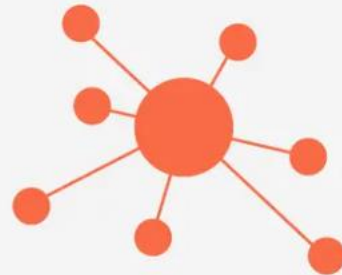
- Effective Decisions.
- Competitive Advantage.
 - Have an entire overview of critical information at all times.
- Stakeholders' satisfaction.

Decentralize Data

- Data Centralization: Store data in a central location.
- Problems with Centralization:
 - Delay business insights.
 - Do not work with advanced analytics.
 - Undermines data-drive business cultures.

Benefits of data decentralization:

- Enable each department to explore its required data units.
- Simplify data integration process.
- Cost Efficiency.



Centralised



Decentralised

Data Bottleneck

- Happens when there is an imbalance between the input data volume and the processing capacity.
- Causes:
 - Insufficient processing power.
 - Limited memory capacity.
 - Slow network connections.
 - Inefficient data storage system.

Implications:

- Delayed decision-making.
- Missed opportunities.
- Reduced efficiency in operations.



Reddit eliminates a bottleneck

- Social media website aggregates news and community discussion.
- Over 430 monthly visitors globally.
- To complete one-off request, it would take a long time, and limit access to data by other teams.
- Employees requested using Chartio to query data on their own.
- Sales team benefited from BI solution to:
 - Identify when brands or products got mentioned among more than 2 million communities and visualize how brands naturally enter the discussion.

Coca-cola: using social media



- Collected followers' data.
- Investigated the kind of content people post with their products.
- Inferred who drinks their beverages the most.
- Inferred which location prefer which location, thus, some flavors only available in specific locations.

Walmart: studying consumer details



- Use consumer data and purchase history information.
- Determine bestsellers and least preferred products among customers.
- Learn how often the same customer buy an item.
- Walmart creates its store plan and discount its customers.
- Find detail about their loyal customers and keep them engaged with unique discounts on special occasions.

