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BA BUSINESS MANAGEMENT

Assessment 1 - Report

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INTRODUCTION

Organisations are on a collision course with digital transformation to better position themselves for the future in the face of changing circumstances. Companies are linking their data transformation decisions to primary considerations ranging from data management and governance to design. Most people will see this as guaranteeing data quality and utilising diverse channels to acquire insight through data visualisation overlays. The intelligent business evolution trend accelerates with private and governmental investment, resulting in the diversity of new intelligent business systems of various sizes and forms. Businesses are getting increasingly innovative as artificial intelligence advances. Thanks to artificial intelligence, it allows monitoring and real-time security (Obeidat et al., 2015).

MANAGEMENT AND HIGH DATA QUALITY

Because organisations live on converting data into choices, it is critical to guarantee that data is correct and current. Data management aims to collect and disseminate data across many systems while also having platform interaction capabilities. Adequate data quality practises are closely related to an organisation's capacity to make sound judgements and ensure financial success. As a result, organisations must recognise the multidimensional nature of decision-making when designing their customer, supplier, or product master data. (Bi4dynamics, 2022).

A data quality cycle is the best practice for guaranteeing excellent data quality.

The cycle consists of recurrent data analysis, cleaning, and monitoring process. The notion of a cycle emphasises that data quality is an ongoing endeavour rather than a one-time exercise.

Phases of data quality cycle:

1. Business requirements must develop data quality targets or metrics. These objectives should also be included in the overall data quality plan. What data to be analysed should be well understood. Is it essential that some data is incomplete? How does one define a data domain (for example, a customer)?
2. The data is then analysed, using queries such as "Which values can the data have?" and "Is the data valid and accurate?" must be guided.
3. Data purification is often performed following unique business requirements.
4. Data enrichment can benefit systems and business processes.

SELF-SERVICE BUSINESS INTELLIGENCE

By putting data in the right hands, BI software vendors and industry experts recognize that self-service is a critical component in eliminating the pain of timely insight and decision-making, as well as being the cost of reporting, analysis and management based on metrics. (Weber, 2013)

Companies are concerned with more than just providing self-service alternatives. Another objective is to democratise data access while maintaining consistent, high-quality data and outcomes.

A BI platform qualifies as a self-service tool if it fits the following criteria:

1. Information Sources: Users should be able to effortlessly connect to various data sources and be accessible anywhere on any device. Contextual data, not simply standard data models, should be supported data sources. If the solution includes data source metadata, it becomes more valuable.
2. Preparation of Data: It is critical to identify and eliminate outliers, address missing values, alter data types, link tables, and more when preparing data for analysis. Users must examine how much scripting is required to prepare the data for analysis and whether sophisticated SQL knowledge is required.
3. A self-service BI system should provide rapid conversions to reduce time and ensure faster analysis.
4. Reporting Interaction: Users must be able to quickly generate, alter, manipulate, and add business logic to reports utilising sophisticated capabilities—filter reports to get insights and make sound decisions.

MODERN DATA WAREHOUSE

Data warehouses can provide a competitive edge by easing decision-making and assisting in restructuring corporate processes. DW enables a comprehensive picture of company data that is clean and well-organized. As a result, DW gives more up-to-date information. Reduces data access while allowing end users to undertake

thorough analysis. By avoiding overwhelming operational databases, it improves overall IT performance.

More businesses recognise new problems and realise contemporary data warehouses' possibilities and opportunities. Data warehouse automation is a data warehouse technological breakthrough. This saves time and streamlines ETL operations.

A three-pronged approach to reducing the business risk associated with Data Warehouse implementation.

1. Business strategy identifies technical issues, including architecture, current technology, facts, dimensions, and attributes.
2. Implementation in phases: It should be done in stages based on topic areas. Reservation and billing are interconnected business entities that must be developed separately before joining.
3. Iterative Prototyping: Instead of releasing the data warehouse simultaneously, build and test it repeatedly.

REAL-TIME ANALYTICS

The real-time analysis enables the instant processing of business data. With the correct technologies to record events, organisations will be better equipped to support data analysis and visualisation.

Capture of live streaming data - Collectors, agents, and listeners are used to collect live streaming data, which is subsequently recorded in a database. This is often a NoSQL database, such as Cassandra or Hadoop's Hive. Relational databases are

unsuitable for this high-performance research; hence, the rise of NoSQL databases is vital to real-time analysis today.

Data is processed sequentially: Streaming data is handled by splitting, merging, calculating, and connecting to external data sources. The storm is one of the fault-tolerant distributed database systems. Hadoop 2.0 enables using other processing methods in place of MapReduce, allowing Hadoop to be utilised in real-time applications in the future.

The visualisation component reads the processed data: The processed data is saved in a structured manner (XML) in the NoSQL database. It then reads the display component. A charting library is often integrated into an internal BI system or as part of a broader visualisation platform such as Tableau. The refresh interval specifies how frequently the processed data in the XML file is updated.

The visualisation component constantly updates the dashboard: The visualisation component then accepts the data from the structured data file (XML) and shows it as a chart or other visualisation in the reporting interface. Specific applications, such as stock trading programmes, incorporate predefined rules that are activated based on the data stream in addition to creating a chart.

CLOUD COMPUTING

Cloud computing is changing the economics of BI and allowing smaller businesses to compete by leveraging the insights provided by BI. (S. Ouf and M. Nasr, 2011)

The cloud allows software businesses to make new technology available to evaluators as a service, eliminating the need to download and install free software. Individual business units can fund new data mart initiatives because long-term financial commitments are avoided.

This is great for proof of concept and on-demand analytic data projects. This agility enables separate business units to adapt to BI demands faster than rivals while improving strategy formulation and implementation quality.

As data volumes increase, analytic cloud projects require a database architecture that works efficiently in elastic, hosted computing environments like the cloud.

Because of its reduced cost and faster deployment, BI on the cloud is preferable for developing, deploying, and deploying reporting and analytics systems. A cloud-based business intelligence platform should ideally leverage infrastructure as a service (IaaS), complement and expand the present platform as a service (PAAS), and provide application-as-a-service (also known as software) capability. -as-a-service).

Consumers want solutions that more quickly support business process changes, offer self-service options, and improve project delivery.

Flexible BI requires an iterative development strategy with close collaboration between business and IT.

CONCLUSION

As an organisation matures, it can produce more excellent economic value from enormous volumes of information.

Companies must understand where they are, why they are there, and how to develop daily to reach their goals.

Cloud computing is a novel and vital technology that is now widely adopted by many enterprises. We included the cloud since it is critical nowadays to provide improved outcomes.

The tools we are improving are now in use and will be upgraded.

Continue along that route, and they will achieve a breakthrough in business intelligence.

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