PRIVATE UNIVERSITY OF TACNA
SYSTEMS ENGINEER

TITLE:

Comparative Business Analytics vs. Business intelligence

COURSE:

BUSINESS INTELLIGENCE

TEACHER:

Ing. Patrick Cuadros Quiroga

Members:

Napa Paintings, Ra´ul Marcelo (2017057851)
Ensign Ponce, Pedro Alberto (2020066317)
Ticona Chambi, John Thomas (2018062232)

Tacna - Peru
2022

Summary

This article shows comparative business analysis and business intelligence, giving the definitions, components, phases and architectures, and ends with the conclusions.

Keyword :

Abstract

This article shows the comparative analysis of business and business intelligence, giving the definitions, components, phases and architectures, and ends with the conclusions.

Keywords :

1. Introduction

The term business intelligence-also admitted in the singular, business intelligence-(business intelligence) is a combination of architectures, tools, databases, tools
analytics, applications and methodologies. Analytics business intelligence is a term
whose implementation has grown as business intelligence has been settling in organizations and companies as a vital strategy in
corporations; in recent years, the term
coexists with Analytics, coined by providers and IT solutions consultants and which refers to tools and techniques for data analysis and comprehension; Both terms coexist and
They are often used as synonyms. With the appearance from the term Big Data, nowadays BI, BA and Big Data together with the integration of all of them in Science of Data (DataScience) constitute the pillars of the business organization.

2 Development

2.1 Business analysis

Business analysis is a set of practices, automated analysis tools and services of data that help you understand both what is happening in your business as why, for improve decision making and help you plan for the future. The term “business analytics” is often used in association with business intelligence (BI) and big data analytics.

2.2 Components

- Interview stakeholders to understand the problems to be solved and exchange views on the draft.
- Workshopping is when the technical team suggests approaches to develop the product future, and the business analyst makes sure that your ideas fit the vision, expectations, budget, deadlines, etc. the client's .
- Prototyping is necessary to visualize the concept, get feedback client snapshots, make sure that the team and the client are in the same page regarding the future product and proceed safely to the next step of business analysis in product development.
- Decomposition is the stage for work planning, as well as estimates of time and money. At this stage, the product development process is broken down into smaller, more feasible parts, and each part is estimated and checked one more time.
- Non-functional analysis. this component of business analysis may be necessary when there is a need to comply with specific legal and/or technical requirements.

2.3 Architecture

Analytical architecture refers to systems, protocols and technology used to collect, store and analyze data. The concept is
a general term for a variety of layers techniques that enable organizations to collect, organize, and analyze more effectively the multiple data streams they use.

When creating an analytics architecture, organizations must consider both the hardware (how the data will be physically stored) as the software that will be used to manage and process them.

The analysis architecture also focuses in multiple layers, starting with the architecture of the data store, which defines how the users of an organization can access and interact with the data. Storage is a
key aspect to create a reliable analytical process, since it will establish how its data, who can access it and how fast they can be referenced.

- How can I use the architecture analytics?

  Regardless of the type of organization Whatever you have, data analytics is becoming a central part of business operations. The amount of data in
  rapid increase that collect their multiple contact points means that the use of a simple spreadsheet is becoming quickly unfeasible.

The analysis architecture helps you not only to store your data, but also to plan the optimal flow of data from capture to analysis. Understanding these steps can give you a better idea of your hardware and logistics needs and give you a

clue about the best tools for use.

An important use of the architecture of analysis in your organization is the design and construction of its access mechanism and preferred data storage. Many Companies prefer a more structured approach, using traditional data warehouses or data mart models to keep data more organized and tidy

easily to access them later.

Others prefer to keep the data in a ´single storage structure, such as a data lake, which has its own benefits, but makes the data a bit less accessible and organized. Regardless, the architecture of your platform of analysis will largely define how your organization interacts with data, so as well as how it obtains information from they.

2.4 Phases

- Pre-analysis orientation

  This step requires the business analyst to understand the needs of the business, existing systems, business processes, and scope of the project before performing any high-level analysis of the business.

- Identification and management of business requirements

  Once the activities of pre-analysis, the next step is to clearly define the business objectives and project requirements that the project managers have in mind. business owners. This paper plays business analysts involves identifying detailed requirements and expectations of the company's shareholders, customers, employees and other interested parties.

- Analysis and documentation of the requirements sites

  This step serves as the backbone of the business analyst job. Here, the methods and tools necessary to carry out the analysis are clearly defined. Other key responsibilities are the structure and outline of possible solutions to the business problems that are they are analyzing and developing.

- Communication of analysis

  Before agreeing and implementing any solution, the business systems analyst must communicate the analysis plan to business stakeholders and obtain approval.

- Evaluation of solutions

  Finally, the identified solutions are Assess to align with core business goals and defined requirements initially by project managers. On In essence, the role of business analyst is incomplete if solutions do not meet initial business goals.

2.5 Business intelligence

Business intelligence (BI) combines business analysis, data mining, data visualization, tools and infrastructure of data, and recommended practices to help organizations to make more informed decisions in the data. In practice, you know you have a modern business intelligence when you have a comprehensive view of your organization's data and use them to drive change, eliminate inefficiencies and quickly adapt to market or supply changes.

2.6 Components

- Relational database servers

  Provides the first level of data collection from which knowledge is created. It's a system under client-server architecture, that provides information management, administration and protection services to through network connections, governed by protocols defined and accessed the users.

- ETL. Extract, Transform and Load

  It is the name given to the process of transforming data from a number unlimited number of sources, their organization and centralization in a single repository. It is about of transforming the information to adapt it to the needs of the company and then upload it to a shared site for consultation by interested parties.

- reporting

  Reports that can be static or dynamic, used to generate highly customized graphs, intended to be distributed to many recipients where

  one or several business processes are presented that facilitate the understanding of the information.

- OLAP

  Online analytical processing (On-Line Analytical Processing. Its objective is to speed up the consultation of large amounts of data, using diverse, multidimensional data structures or so-called Cubes OLAP, which contain summarized data from large databases or Transactional Systems.

- Comprehensive dashboard

  They serve to measure the evolution of a company's activity, its objectives and results with a general perspective.

- Data Mart

  It is a database focused on

  an area that meets the demands of a specific group of users. That is, to the departmental data store.

- EIS

  Executive information systems help monitor the status of an area or unit of

  business. These allow users with a non-technical profile building reports and browsing the company data in order to discover information that results relevant.

- DSS

  Decision support systems.
  It is defined as a set of programs and tools that allow obtaining at the precise moment all the necessary information during the decision-making process.

2.7 Architecture

A business intelligence architecture articulates technology standards and business practices. data analysis and management that support an organization's BI efforts, as well as the specific platforms and tools to be implemented. Serves as a technology model to collect, organize, and manage data BI and then make the data available for analysis, data visualization and reports. A strong BI architecture also incorporates policies to govern the use of components technological.

The implementation of such a framework allows that a BI team works in a coordinated way and disciplined to create an enterprise BI program that meets the analytics needs of your organization's data. The architecture of BI also helps data managers and BI to create an efficient process to manage and manage the data that is entered into the environment.

- Diagram and components of the business intelligence architecture

  A BI architecture can be implemented in an on-premises data center or in the cloud.

  In any case, it contains a set of core components that collectively support the different stages of the process of BI, from the collection, integration, storage and analysis of data to the data visualization, information delivery and the use of BI data in making of business decisions.

  As shown in the accompanying business intelligence architecture diagram, Major components include the following items.

- Origin systems.

  These are all systems that capture and maintain transactional and operational data identified as essential to enterprise BI software, eg, ERP, CRM, finance, manufacturing, and supply chain management systems.

They may also include secondary sources, such as market data and databases of clients of external information providers. As a result, the data sources internal and external are often incorporated to a BI architecture.

- Integration tools and data cleaning

To effectively analyze data collected for a BI program, an organization must integrate and consolidate different data sets to create views unified from them. The most widely used data integration technology for BI applications is extract software, transform and load (ETL), which extracts data from source systems in batch processes. A variant of ETL is extract, load, and transform (ELT), in which the data is extracted and loaded as is and transformed later for specific uses of BI. Other methods include the integration real-time data, such as capturing data changes and streaming integration to support analytics applications in real time, and data virtualization, that virtually combines data from different source systems.

- Analytical data stores

This encompasses the various repositories where BI data is stored and managed. The main one is a data store, which generally stores structured data in a relational database, in columns or multidimensional and makes them available for consultation and analysis. A warehouse of enterprise data can also be linked to smaller data marts configured for individual apartments and units commercials with specific data for their BI needs.

- BI tools and visualization of data

The tools used to analyze data and presenting information to business users include a set of technologies that can be integrated into a BI architecture, for example, software of ad hoc consultation, data extraction and online analytical processing, or OLAP. In addition, the growing adoption of self-service BI tools enables business analysts and managers to execute queries themselves rather than relying on IT. members of a BI team so that do it for them.

- Dashboards, portals and reports

These information delivery tools provide business users with visibility of results from BI and analytics applications, with visualizations built-in data storage and often self-service capabilities for performing analytics of additional data. For example, BI dashboards and online portals can designed to provide access to data in real time with configurable views and the ability to drill down into the data. The Reports tend to present data in a more static format.

2.8 Phases

- Observation

Business Intelligence begins its process as a powerful observer. Thanks to his work together with the Big Data, a lot of information can be treated for analysis.

- Understanding

Being able to access large amounts of information is not relevant if we are not able to understand it. For this reason, Business Intelligence offers an in-depth analysis of the information obtained thanks to crosses of data.

- Prediction

In addition to observing and understanding, this new technology is able to predict what would occur if the application scenario of the company was modified by some external cause.

- Collaboration

When the result of the data analysis is already a reality, the collaboration between company work teams is necessary. This phase is the most crucial of all,

since the interpretation of these data will give the company the success or failure of its strategies.

- Decision

  It is the last step of the process, the most awaited. In the decision phase, the company shows the result of the analysis of the data with all its interpretations and simulations and, based on these deductions, decide where to direct the company's new strategies.

2.9 Business Intelligence versus Business Analytics

- Business Intelligence or business intelligence is a term widely used by hardware and software vendors, as well such as IT consultants (information technologies) information), to describe the infrastructure for generation, storage, integration, generation of reports (reporting), analysis and visualization of data coming from business environments, including Big Data today. The BI infrastructure captures, stores, cleanses, and makes relevant information available to directors and managers, in databases, data warehouses (Data Warehouses and Data Marts), Big Data systems such as Hadoop /Spark, in-memory databases and analytical platforms, as well as the new data repositories “Data Lakes”.

- Business Analytics is also a term coined by vendors and IT consultants but focused more in tools and techniques for the analysis and understanding of the data. The tools range from analytical processing online (OLAP), statistics, models of data, data mining and more and more artificial intelligence tools, such as machine learning and deep learning. Business Analytics, although it has own solutions, it is usually integrated as subset to Business Intelligence and so on we will consider it in the book, despite the great influence on business consulting and advisory services of the term analytics.

3 Conclusions

- Try to decide if business intelligence or business analysis is better is not a effective way of approaching the administration of data. Actually, every company needs both (descriptive and predictive analysis) to achieve the success. In addition, often business people around the world They use these terms to refer to different things. Therefore, when choosing the type of technology, tools and talent in the you want to invest, you should focus less in the dilemma BI or BA and more in what you need to achieve with the data system and who will use it.

4 Recommendations

- Carry out a study on the concepts and way to carry out the automation of test cases within a project.

- Choose the test management tool according to the proposed project, each tool fulfill different functions and in priorities also according to what is you want to automate.

- Carry out an analysis of the results of the execution where to study the way to collect and interpret the results obtained of the test management tool.

references

[1] Luis Joyanes Aguilar (2019) Business intelligence and data analytics. Obtained from: https://www.alphaeditorialcloud.com/reader/business-intelligence-and-data-analytics-1?lo cation=4

[2] John, A. (nd). SISENSE. Retrieved from https://www.sisense.com/glossary/analytics architecture/: :text=Analytics

[3] George, BA (October 14, 2020). ZIP Reporting. Obtained from https://zipreporting.com/en/business-analysis/business-analysis-definition.html

[4]Microsoft. (nd). PowerBIMicrosoft. Retrieved from https://powerbi.microsoft.com/en-us/business analytics-tools/

[5] Pratt, MK (July 2020). Tech Target. Retrieved from https://www.techtarget.com/searchbusinessanalytics/definition/ intelligence-architecture