CURRENT TRENDS OF BUSINESS INTELLIGENCE

ASSESSMENT 1

Module: Data Handling & Business Intelligence

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Introduction

Business intelligence is constantly evolving due to advances in technology and the increased demands of organisations in today's market.

Companies increasingly require tools and technologies to save costs, to speed up internal and external processes, to improve operational efficiencies, to monitor business performance in real time, and to secure internal security.

These may be just some of the benefits these tools can provide. However, in recent years, companies of all sizes and operating in a variety of fields are keeping a watchful eye on the business intelligence trends that are increasingly making their way into the market and to find the best solutions for their market strategies.

Below, we look at some of the business intelligence trends that are in evidence these days, and which are certain to have an unprecedented evolution in the coming years.

Artificial Intelligence (AI)

Artificial Intelligence has revolutionised the world in recent years. Growing steadily, it has practically revolutionised the everyday life of people and organisations.

Organisations' reliance on artificial intelligence is growing as the use of these technologies leads to improved human compression of complex systems and automated and faster decision-making processes (Sestino & De Mauro, 2022).

The applications of Artificial Intelligence can be manifold and relate to different fields, in recent years a very rapid growth has been seen in the medical industry.

The availability of a vast and varied store of information, also called Big Data, in the health sector makes it easier to create artificial intelligence. We can take Deep Learning as an example, which is based on a data-intensive technology using Imaging techniques for diagnosis, which consists of analysing a simple input image and output an analysis in a short time and with optimal precision, highlighting any abnormalities or problems (Manisha, Deergha, & Himani, 2022).

According to Manisha, Deergha and Himani (2022), in the future, a diagnosis could be made simply with a remote 'selfie' without having to visit a doctor or clinical centre. Therefore, there is a strong investment by healthcare companies on these technologies and techniques to make the healthcare environment very fast and efficient.

Cloud BI

In recent years, companies around the world have decided to turn to the Cloud. Companies have had to turn to Cloud Business Intelligence to successfully expand their internal and external strategies to try to keep up with modern times.

According to Chang (2014) the Cloud in business intelligence has many advantages, including:

- Minimal costs: cloud service does not need any costs in terms of purchasing applications, hardware, or licences.
- Scalability: most business applications have high loading peaks during the day, and this can cause a slowdown or interruptions in processing. Therefore, cloud tools can help you gain control over scalability.
- Improved accessibility and distribution of data: the cloud allows remote access to data and sharing via the internet, with short timeframes, on which business strategies can then be built.

However, for some companies, as emphasised Obeidat *et al. (*2015), data are sometimes very sensitive and cannot be transferred to the cloud for various reasons. The future of Cloud BI is evolving to find solutions to these kinds of problems.

BI collaborative

A fundamental part of any business is based on interaction. Lack of integration of internal and external information leads to business failures that affect efficiency; managers and employees must interact with each other and with customers to remain competitive in the market (Obeidat, North, Richardson, Rattanak, & North, 2015).

To respond to these needs, there has been a strong emergence of Collaborative Business Intelligence, a combination of different tools, including social media and other modern technologies.

According to Bogdan *et al. (*2014), CBI is an ideal way to gain control and profit both inside and outside the company, such as:

- Internally, a manager or executive can have access to all and control all present projects without any limitations. To be always in control and to share any information in real time.
- Externally, one can think of how a customer can participate in all stages of the production process and not just see the project at the end of the process. This point can also be useful to the company as it can acquire useful information from customers and then use it for internal promotion campaigns.

Collaborative information, information improvement and collective decision-making are at the heart of new collaborative BI solutions, which will see increasing adoption during the coming years.

BI Self-Service

Data Analysis is a frenetic process involving Data Scientists. However, this could be simplified with the advent of Self-Service BI (SSBI). The purpose of SSBI is to enable business users to access and work with corporate data even if they have no background in that area.

SSBI tools allow users, without the help of technicians, to analyse, filter, sort and visualise available data. It enables companies to save time, but above all to save costs, for example in IT departments

(Mikael *et al*., 2019). Ultimately, the focus is increasingly on a self-service approach to data and flexibility in analysis and reporting.

According to Obeidat *et al. (*2015), SSBI is increasingly becoming a top priority for many companies, expanding the use of data and accelerating decision-making can make an organisation more agile, which can help it create or maintain a competitive advantage in the marketplace through the ability to make more effective decisions in a timely manner.

Ultimately, SSBI is expected to grow in the coming years as both small and large companies are looking to infuse this culture into their world.

Data security

Data security and data protection are among the most relevant topics for digital transformation today. Companies are forced to invest and, in these technologies, to remain compliant with regulations and protect their data from cyber-attacks.

One of the commonly used protection technologies in recent years is the so-called two-factor authentication (MFA). MFA is a two-step identification process that secures people accessing all digital services (Amanda & Paz, 2018). For example, an employee who wants to access any information on a cloud, using MFM, the system asks employees for a password and a code that is generated by an algorithm, to identify whether one has the premises to consult or view that information.

Calzon (2022) emphasises, global expenditure on information security technologies is expected to reach 1.75 trillion dollars in the next five years. This is also since most companies have moved from a physical to a digital business environment, due to the Covid 19 pandemic, leaving a vacuum for cybercriminals.

Conclusion

As seen, these Business Intelligence trends aim to create an environment for companies that are more efficient, more aware of their target market and more profitable.

The advantages internally can be speeding up one's own processes, having internal control and collaboration, having lower economic expenses and a secure and reliable system. Advantages externally can be integrating customers into processes and gathering information.

In general, BI trends help companies find the right strategy, stay relevant and competitive, in their market.

With these needs on the part of companies in any field, the coming years will see an ever-increasing demand and close monitoring of these trends.

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