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Assessment 1

BUSINESS INTELLIGENCE TRENDS

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DATA HANDLING & BUSINESS INTELLIGENCE

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Introduction

Business intelligence, commonly known as BI, is a combination of tools such as business analysis, data mining, data visualisation, data infrastructure to help companies in making informed decisions and creating more data. Business intelligence is essential for any organisation because its role in transforming raw data and information into useful knowledge, which can generate development plans and decision-making processes through business investigation, data warehousing, and analysis by utilising various procedures, innovations, and tools (Raisinghani, 2004).

Business intelligence focuses on organising data and presenting it in a way that makes it easier to understand and derive insights for business decision making (Sisense, 2021). By researching actual and historical data, BI can determine companies to develop better solutions and decisions, and analysts can use BI to provide key information, allowing organisations implement better and more efficient processes, and identify market trends that can be used to generate more sales and revenue, or assist with everything from compliance to recruitment.

Covid-19 changed the way the world functioned by limiting travelling, imposing lockdowns and social distancing, which increased the use of Internet and online environment, and companies had to adapt to new ways of operating, therefor Business Intelligence became more important than ever to stay ahead of competitors, new trends emerged and continue to evolve.

In this work we will look at some of these trends that already developed in 2022 and will continue to expand and create new ways to analyse the evermore increasing amount of big data generated every moment.

Artificial intelligence (AI)

AI is the science of creating machines to perform complex tasks comparable with what human intelligence does. Although they are not intended to replace humans, the way society is functioning will change immensely as a result of AI power, with virtual assistants such as Alexa and Siri, self-driving machines like Tesla, and chatbots becoming a normality in our everyday life whether we like it or not (Marr, 2022).

People's interactions with analytics and data management are changing as a result of AI and machine learning, finding themselves working alongside machines, and businesses are adapting in a variety of ways, such as using the Internet to monitor what is going on and forecast future trends in marketing with tools to leads and values expected from customers, in engineering by providing predictive maintenance such as servicing and repairs, or intelligent tools to help sorting out the increasing amount of data (Marr, 2022).

More and more businesses are evolving from static, passive reports from past to proactive analytics that help them evaluate what is happening in real time, creating alerts when something is not working properly with AI algorithms based on the most advanced networks analytics and demonstrating high accuracy in detecting anomalies as it learns from historical trends and patterns. Modern AI technologies will develop to eliminate the need for human intervention, yet some human input is still needed to record information. While some fear that businesses will replace humans with machines, it shouldn't be the case, as AI are reshaping working environments and create opportunities for employees to develop new skills to work with these robots.

Data discovery

Data discovery represents the procedures of collecting data from various sources and interpreting then using advanced analytics and visualisations. It helps businesses to keep their relevant stakeholders up to date with information by allowing them to analyse and manipulate the data in an intuitive manner, resulting in future planning and forecasting. Therefor companies big or small use modern solutions such as BI tools, which provide data integration, interactive visualisations, an easy-to-use interface, and the ability to work with large amounts of data in an efficient and intuitive way. Business users are consistently empowered by new trends in BI data discovery tools and rely on processes that can generate business revenue and future development.

Data discovery through visualisation has developed into a method to present and interpret multiple charts on screen through graphical representation from which different teams in business can notice trends and information immediately, and this trend is expected to develop in near future.

As people tend to process visual information better, more and more businesses companies are using KPI dashboards with interactive features, increasing the demand for data discovery, which leads to increased data usage and insight. In 2023, online data discovery could become extremely valuable (Calzon, 2022).

Data governance

This concept refers to a set of processes, policies, and roles that ensure appropriate business data usage through authentication protocols and auditing in all operational levels. It defines who can manipulate data and for which purpose, the tools and methods used, with the goal of ensuring a secure and efficient data management process.

Tighter regulations such as GDPR in EU, and ICLG in USA are committed to ensure a secure environment for sensitive data, increasing the necessity for stronger governance processes, as businesses are vulnerable to attacks and breaches, risking the misuse of sensitive information from employees and stakeholders. Therefore, implementing a well-crafted governance plan will assist organisations in being compliant with government regulations by using quality data and achieve their objectives while minimising risks, reducing costs, improving internal and external communication, and achieving strategic goals. (IBM).

In today's highly competitive business environment, where the amount of data collected is increasing constantly, data governance has become a must-have tool to improve data quality and security.

Through Data governance businesses can develop their own methods and policies for security and accessibility while remaining compliant with standards and regulations and ensuring data is accurate and reduce inconsistencies that may lead to errors affecting overall BI analytics accuracy. Misuse of data may lead also to costly penalties.

Data Security

Data security is the process of implementing policies and procedures to prevent unauthorised access, corruption, or theft of digital information until the end of its life, and it concerns all aspects of data security and software applications, from physical storage devices security to administrative tools and access permissions.

Data security is currently a major concern and companies are investing heavily in information security products to reduce online business risk, as more use of analytics to improve operations increases the risk of cyber breaches. As a result, there will be major investments in data security, with more defensive AI (artificial intelligence) developments to meet this security need to predict future threats by using historical patterns and real-time data.

Companies can use analytics to proactively identify potential cyber-attacks and enable timely defence against such attacks. Big data security analytics have the capability to search through massive amounts of data generated both inside and outside the organisation, detect hidden relationships and patterns, resulting in reduced risk of security threats. Instead of waiting for a cyber-attack, businesses can prevent it by using security software and services, policies, automated blocking tasks, which can protect against data theft and unwanted intrusion systems.

On the other hand, analysing Data from Internet, social media, and smart devices, can help law enforcement detect criminal threats and collect evidence more effectively (Ariwala, 2022).

Collaborative BI

Collaborative BI is a relatively new type of business intelligence and combines various tools, such as online media and other technologies, with interactive business intelligence tools to address the challenges in the business environment, where high volumes of operations are performed, and reports are analysed and edited.

These BI tools facilitate sharing by generating automated reports that can be scheduled for specific times and recipients by setting up BI alerts and share public or fixed dashboards with a flexible level of interactivity. All these options are available on all devices, which improves decision-making and problem-solving processes, which are critical in today's ever-changing environment and the trends of businesses to adopt working from home or office dynamic in which collaboration is more important than ever. Collaborative BI can use self-service tools that do not require an IT team to access, interpret, and understand all data.

By 2023, collaborative BI will represent more than simply sharing insights, beginning with data exploration and progressing through the entire analytical workflow for a more efficient decision-making process that includes all stakeholders, regardless of location. Implementing a collaborative BI approach holds every stakeholder and data user accountable for the decisions they make, resulting in a more secure workflow, especially with the growing security concerns that many businesses face today.

Collaborative BI is gaining popularity as organisations seek to extend the decision-making process through collaboration and data sharing with other businesses and organisations and address problems that necessitate more analysis, by tools accessible on various devices improving problem-solving processes (Gordon, 2021).

Conclusion

Businesses must be prepared to evolve and adjust to changes in technology by delivering increased business value through data management. The future of business intelligence and analytics is likely to be automated and actively used, with fewer limitations and increasing data sharing between companies and understanding the trends can improve the processes and policies to generate business growth.

No doubt BI landscape is changing, and many businesses want to be in control of their data to be able to use it in decision making processes, therefore highly analytics skills and tools are required as well as staying up-to-date with the latest trends.

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