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BUSINESS INTELLIGENCE (BI) TRENDS

Assignment 1- Individual report

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Introduction

"Business intelligence" is defined by Chen et al. (2012) to refer to the systems, tools, and practices utilised by businesses to assess data and deliver relevant information so that decision-makers are able to make knowledgeable choices. BI plays a critical role in modern firms where vast volumes of data are collected. It makes unstructured data analysis easier and aids businesses in comprehending operations, market trends, and customer preferences (Davenport, 2013). This modification maintains competitiveness by increasing operational effectiveness, customer satisfaction, and strategic planning.

This paper focuses at technological advances, trends, as well as different applications to encourage the use of BI in decision-making. To use business intelligence and make timely, profitable decisions for the organisation, operational managers and decision-makers need to be aware of these trends (Shekera and I, 2023). This is due to the anticipated significant growth of the business intelligence sector during the next years. To demonstrate how contemporary business intelligence (BI) developments might enhance an organization's capacity for operational and decision-making, this consideration examines five key themes.

BI Trends – The Future of the Business

In a rapidly evolving sector, firms must adapt to the most recent business intelligence (BI) trends, technologies, and apps. Strategic planning and informed decision-making are encouraged by increased flexibility because of the unique insights, effectiveness, and adaptability of these technologies.

Machine Learning and Artificial Intelligence

Machine learning and artificial intelligence combined with BI solutions has transformed data analysis and decision-making. Without the need for human interaction, AI and ML algorithms are able to evaluate enormous amounts of data, identify patterns, forecast trends, and provide useful insights. American Express uses machine learning to quickly identify fraud by analysing transaction data and comparing it to historical trends. According to O'Neil (2016), this tactic significantly lowers false positives and increases client confidence. As demonstrated below, business intelligence skills can be revolutionised by AI and ML.

Data Visualization Tools

Business intelligence (BI) relies heavily on data visualisation platforms like Tableau and Power BI, which turn complicated statistics into interactive visualisations. With the aid of these technologies, decision-makers may swiftly comprehend complex findings and reach quicker, more informed conclusions. Tableau has been utilised by Verizon to enhance customer happiness and service quality by providing a more accurate assessment of consumer usage patterns and network performance concerns (Tableau, 2020). Visualising data in real time enables businesses to react quickly to developments in the market.

Cloud-based Programmes

Every potential business projects should have access to cloud-based business intelligence solutions that are simply accessible, affordable, and scalable. Unlike on-

premises solutions, these platforms enable companies to access and analyse data from any location. According to Li et al. (2019), Airbnb uses cloud-based business intelligence to examine data across its global marketplace to maximise property values and visitor experiences. To remain competitive in today's marketplace, companies need cloud-based business intelligence solutions which are quick to respond and highly effective.

Mobile BI

The growth of mobile business intelligence can be attributed to real-time data and decision-making. This trend guarantees that decision-making is not confined to the workplace by providing executives and managers with mobile access to business information dashboards and data. For instance, PepsiCo leverages Mobile BI to provide its field staff with real-time sales data, enabling immediate adjustments to sales strategies and inventory management (PepsiCo, 2021). Mobile BI enhances operational flexibility and responsiveness, which are vital in today's fast-paced business world.

Analysing Large Amounts of Data

Big Data analytics applies cutting-edge analytical methods to enormous, incompatible data sets that span from terabytes to zettabytes in size and comprise structured, semi-structured, and unstructured information from many sources. It is impossible to overestimate the importance of big data analytics in modern business; it allows companies to handle and analyse the enormous quantity of data that is generated daily in order to find hidden correlations, patterns, and other insights (Shepherd and E., 2010). For example, Netflix uses Big Data Analytics to analyse billions of records to suggest personalized movie recommendations to its users (Gomez-Uribe and Hunt, 2016). Increased revenue and client retention result from this level of personalisation, which also improves user engagement and satisfaction. By effectively analysing customer data, businesses can create highly targeted marketing campaigns that significantly improve the return on investment (ROI) and overall marketing efficiency. The strategic application of Big Data Analytics in targeted marketing exemplifies its potential to revolutionize business operations and customer engagement strategies. In a data-driven world, companies need to use big data analytics to stay competitive and satisfy changing customer demands.

Effective Decisions Using BI

The ability of businesses to make prompt, well-informed decisions is enhanced by the incorporation of contemporary Business Intelligence (BI) trends. We'll then look at how each pattern enhances company results.

Justification of ML and AI

Artificial Intelligence (AI) and Machine Learning (ML) have revolutionized predictive analytics, offering unprecedented predictive accuracy and operational efficiency. By automating data analysis, AI and ML enable businesses to anticipate market trends, customer behaviour, and potential operational bottlenecks with remarkable precision. For instance, AI-driven forecasting models have been shown to improve inventory management in retail, reducing stockouts and overstock situations, thereby optimizing operational costs and enhancing customer satisfaction (Treiblmaier and H. ,2019). This predictive power is essential for companies that want to remain ahead of market trends and make informed decisions.

Justification of Data Visualization Tools

Data visualization tools simplify the interpretation of complex datasets, allowing decision-makers to grasp key insights briefly. Tools like Tableau and Power BI transform raw data into intuitive charts and graphs, facilitating a quicker understanding of business performance metrics, trends, and anomalies. This immediate visual feedback supports rapid decision-making, enabling businesses to respond swiftly to market changes and operational challenges, thereby maintaining a competitive edge (Few and S, 2009).

Justification of Cloud-based Programmes

Flexibility and adaptability are key components for modern firms' growth and agility, and cloud-based BI solutions provide both. These solutions prevent businesses from having to make substantial investment expenditures in IT infrastructure and enable them to scale their BI capabilities up or down based on current demands. Moreover, cloud BI provides accessibility to critical business insights from anywhere, at any time, ensuring that

decision-makers have the information they need to make informed decisions promptly (Marston et al., 2011).

Justification of Mobile BI

Mobile business intelligence (BI) helps people make decisions by providing quick access to corporate data via tablets and smartphones. Instant communication helps decision-makers keep informed and make key decisions while travelling, improving customer service and sales. Real-time sales data helps salespeople adjust and succeed in client interactions (Saylor, 2012). Thus, salespeople can better serve clients.

Justification of Big Data Analytics

Big data analytics offers businesses comprehensive insights into customer behaviour and market patterns, enabling strategic decision-making. Big data helps businesses improve product quality, enter new markets, and tailor marketing to customer needs. McAfee and Brynjolfsson (2012) recommend this level of awareness to build strategic initiatives and sustain an organization's performance.

Conclusion

In conclusion, businesses in the data-driven sector must assess the revolutionary potential of business intelligence (BI) innovations. Big data analytics, cloud-based, mobile, AI, machine learning, and data visualisation are BI solutions that improve prediction accuracy, strategic agility, and operational efficiency. Decision-makers may use these technologies confidently since they understand the company's operations, market dynamics, and consumer behaviour. Implementing these business intelligence trends could have many benefits. AI and machine learning improve market predictions and operations. Visualising complex datasets simplifies comprehension and decision-making. Users may make smarter judgements with cloud-based and mobile corporate information solutions. These solutions are adaptable and accessible. These technological advances provide vital commercial data. Big data analytics provides organisations and clients with consumer and market information to help them make strategic decisions. Every company that wants to expand and compete needs business intelligence (BI). Business intelligence improvements help firms spot opportunities, solve challenges, and succeed long-term. Businesses must understand the value of these changes and adapt their operational and strategic planning frameworks to reflect business intelligence advances. In a complex global environment, these rules will help them make rapid, smart decisions that will help their business succeed.

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