

Chapter 3

How Business Intelligence and Data Analytics Can Leverage Business

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ABSTRACT

Business intelligence (BI) and data analytics are crucial tools that organizations can leverage to improve their business operations, decision-making processes, and overall performance. These two disciplines involve collecting, analyzing, interpreting, and presenting data to provide valuable insights and inform strategic actions. This study aims to explore how BI and data analytics can leverage business. Provide organizations with the tools to extract valuable insights from their data, leading to better decision-making, operational efficiency, customer satisfaction, and competitive advantage. Integrating these disciplines into business processes can drive growth, innovation, and success in today's data-driven business landscape. Based on the above, it is intended to systematically review the bibliometric literature on how business intelligence and data analytics can leverage business in the Scopus database with the analysis of 75 academic and/or scientific documents.

INTRODUCTION

Companies across the globe are increasingly embracing the data-driven culture. They are leveraging data technologies to improve organizational performance and operations, differentiate customers, provide personalized services, and enhance employees experiences. As a result, businesses are striving to acquire and implement data technologies such as business intelligence (BI) and data analytics. Ram et al. (2016, p.221) defines BI as “the ability of a company to make meaningful use of data it collects in the course of its day-to-day business operations.” Data analytics, on the other hand, is the process of collecting, transforming, and organizing data to draw conclusions and predictions. As a result, using BI and data analytics enables companies to identify opportunities and potential threats and improves

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decision-making by increasing access to knowledge and crucial insights. Hurbean et al. (2023) further explain that analytics technologies provide information and expertise that help eliminate nonproductive tasks and reduce the time needed to make decisions.

With the business intelligence gathered through analytics systems, businesses can identify potential areas of improvement and gaps in performance, thus aiding effective resource allocation. Therefore, BI and data analytics provide tools and opportunities to help business growth and competitiveness.

The internet and computing technologies have increased companies' access to large volumes of heterogeneous data gathered from multiple sources. This data can be either structured or unstructured, simple or complex. For instance, Ram et al. (2016) indicate that approximately 500 million tweets are published daily, Wal-Mart processes about 1 million transactions per hour, and Weibo has 776 million users daily. In addition, there are about 4.88 billion global social media users, accounting for a 59.4% penetration rate (Dixon, 2023).

This significant internet use has led to the concept of 'big data' in which unprecedented large and complex data is generated. Using analytics technologies enables enterprises to analyze big data, which provides crucial insights regarding evolving consumer behaviors and preferences and the current business state. In addition, they can analyze trends, patterns, and anomalies to identify potential opportunities, mitigate risks, and optimize business strategies. However, these data and analytics technologies are associated with multiple challenges, such as data privacy and security, scalability, and the complexity of technologies and tools.

Therefore, this systematic literature review synthesizes data from 75 sources to demonstrate how businesses can leverage BI and data analytics.

METHODOLOGICAL APPROACH

The researcher conducted a bibliometric systematic literature review to identify relevant sources and synthesize findings on how businesses use BI and data analytics. This methodology provides a robust approach to comprehensive and structured analysis of existing research.

Given the rapidly evolving nature of BI and data analytics in today's data-driven business environment, this methodology allows for the systematic identification and analysis of a vast body of literature. It allows the researcher to identify key trends, emerging themes, and the evolution of research in this field, enabling practitioners to gain insights into the current state of knowledge, research gaps, and future directions.

The bibliometric systematic literature review (LRSB) provides a comprehensive overview of the academic landscape by systematically identifying, collecting, and analyzing relevant academic publications, thereby allowing the researcher to identify key trends, emerging research themes, and gaps in the literature.

In contrast to conventional literature reviews, LRSB uses a replicable, scientific, and transparent process that thoroughly searches for both published and unpublished literature on the study topic (Rosário & Dias, 2023a, b, Rosário et al. 2023). Additionally, the researcher offers an audit trail that enables readers to evaluate the research's procedures, conclusions, and the quality of the synthesized studies.

In order to verify the veracity and accuracy of the data presented, the LRSB screens and chooses information sources in a process that consists of three phases and six steps (Rosário, & Dias, 2023a, b; Rosário et al., 2023), (Table 1).

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