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BUSINESS INTELLIGENCE AND BIG DATA ANALYTICS: INSIGHTS FROM FORTUNE 1000 COMPANIES' LITERATURE

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DOI: <https://doi.org/10.5281/zenodo.17062298>

Abstract: This study provides a comprehensive literature review on the integration of business intelligence and big data analytics within Fortune 1000 companies, focusing on their impact on operational efficiency and decision-making. It explores the opportunities and challenges faced by these organizations, including the rapid growth of data from diverse sources, difficulties in data integration, and shortages of skilled personnel. The review highlights the critical role of advanced analytics technologies in processing large datasets to uncover valuable insights that inform strategic decisions. Case studies, such as Walmart, demonstrate successful implementations and the obstacles encountered. Findings suggest that while big data analytics significantly improves corporate performance, organizations must address data quality issues, invest in talent, and foster a data-driven culture to fully leverage these benefits. The study concludes with recommendations for enhancing big data initiatives, including adopting cutting-edge tools and optimizing integration processes to sustain competitive advantage.

Keywords: Business Analytics, Business Intelligence, Big Data, Data Technologies, Fortune 1000 Companies

Introduction

In the age of digital transformation, companies rely mostly on big data analytics to foster business innovation and gain a competitive advantage. Growing technical developments in data processing have made it possible for companies to collect, analyse, and extract insightful information from massive, complex data sets (Akter et al., 2020). Big data analytics and business intelligence (BI) are crucial for enhancing strategic decision-making and operational efficiency in Fortune 1000 organisations like Walmart (Singh & Kumar Shukla, 2023). These companies can potentially gain a competitive edge by integrating state-of-the-art analytics approaches to extract valuable information from massive datasets. The purpose of this study is to examine the body of research on business intelligence and big data analytics for Fortune 1000 firms, such as Walmart.

Company Description

Walmart is a multinational retail firm based in the United States that runs a huge chain of grocery stores, discount department stores, and hypermarkets. Since its founding in 1962, Walmart has created opportunities and added value for customers and communities all around the world. The company operates numerous eCommerce websites and more than 10,500 outlets throughout 19 countries. Approximately 1.6 million of their 2.1 million

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associates are employed in the US alone. Walmart, a publicly listed, family-owned company with 2.1 million employees, is the largest private employer in the world (Walmart, 2024).

Walmart has 210 distribution centres, some of the largest in the world, and serves stores, clubs, and direct delivery. The network uses a fleet of 11,000 drivers, 80,000 trailers, and 9,000 tractors to distribute dry goods and other goods every day. In order to react swiftly to natural disasters, Walmart also keeps six emergency distribution centres in key locations across the country. Each centre serves 90 to 100 establishments within a 150-mile radius. Walmart is working with Symbiotic to optimise systems and restructure its supply chain.

Walmart International uses its distinct global viewpoint to provide millions of customers in 18 non-US countries with value and convenience. The corporation employs 550,000 people worldwide and operates more than 5,400 retail locations. Through the Walmart Responsible Sourcing Program, Walmart Global Sourcing collaborates with manufacturers to market their goods while routinely evaluating the behaviours of its suppliers. Walmart has operations in China, India, Mexico, Africa, Canada, Central America, and Chile. Walmart began investing in the Seiyu retail business in Japan in 2002 and raised its ownership to 100% in 2008. Walmart announced that Mohsin and Zuber Issa, supported by TDR Capital, would purchase Asda in the UK with equal stakes (Walmart, 2024). Walmart's five-year cumulative total return, when compared to the S&P 500 and S&P 500 Retailing Index, demonstrates its market position and financial performance. Walmart's total return increased significantly between 2020 and 2021, reflecting the rise in the S&P 500 Retailing Index, notwithstanding market volatility during COVID-19 (Walmart Annual Report, 2024). Net income per share computations, regular share repurchases programs, and common stock trades on the New York Stock Exchange all demonstrate Walmart's market dominance and strategic positioning. Walmart made more than \$648 billion worldwide in the fiscal year that ended on January 31, 2024. The retailer's revenue increased by 6% from the year before.

Background of Literature Reviewed

One of the top Fortune 1000 corporations in the US, Walmart makes significant investments in business intelligence and big data analytics to improve its operations. To keep its competitive advantage in the retail industry, the company forecasts product trends and optimises in-store experiences. These businesses usually own enormous volumes of data from a variety of sources, such as market trends, sales transactions, and consumer interactions. Nevertheless, despite its advancements, Walmart continues to struggle with effectively implementing big data analytics, according to Olaniyi et al. (2023). The company has to deal with security issues and the high expense of putting innovative solutions into practice. These challenges could make their data-driven methods less effective overall. Additionally, Walmart uses sophisticated data analytics tools like MapReduce and Apache Spark, which are necessary for successful big data initiatives, according to their report. To complement its analytics efforts, the organisation has built a data-driven culture and infrastructure, which includes the Data Café. To increase the accuracy of data analysis and decision-making procedures, job plans should be better included into their models. Despite its sophisticated analytics skills, Walmart confronts obstacles such data silos that impede data integration and real-time analytics, according to another study by Alam et al. (2024). Its wide-ranging activities have led to these silos, which impede the smooth exchange of information required for efficient decision-making. On the other hand, Walmart uses predictive analytics to increase supply chain and inventory efficiency. They can effectively estimate demand by examining consumer preferences and purchase trends. This

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lowers excess inventory and stockouts, improving customer happiness while cutting expenses. Additionally, the business uses dynamic pricing tactics to maximise sales and profitability by instantly adjusting prices in response to market conditions. However, Walmart's capacity to conduct effective real-time analytics is limited by data silos due to data integration issues. Decision-making delays and decreased operational efficiency may result from this problem. According to Booker, M. D. (2021), the company's inability to obtain a comprehensive understanding of its operations made it difficult for it to effectively manage resources and react to market dynamics. The company claimed that the main issue was the requirement to lower management costs while concurrently growing revenue and market share. To overcome these problems, Walmart's leadership understood that big data analytics and business intelligence (BI) needed to be integrated. Additionally, Walmart successfully combined BI and big data analytics to improve decision-making processes, according to their article. Forecasting, supply chain management, and resource allocation were all enhanced by this connection. The business analysed large datasets, including sales and expense reports, using cutting-edge technologies like Apache Spark and Hadoop to find trends and insights that inform business plans. Despite the developments, Walmart had trouble implementing BI at first since it necessitated a major revision of their current business procedures. Although difficult, this change management component was crucial. If the business is not sufficiently equipped to adjust to changes, worries about the retail market's dynamic character may result in losses. Bhargav et al. (2023), on the other hand, noted that many Fortune 1000 businesses struggle to use big data analytics efficiently. Lack of system integration, data silos, and challenges in gleaning useful insights from the data are typical problems. Their capacity to make wellinformed, data-driven judgements may be hampered by these issues. The study also found that these businesses are using sophisticated analytics tools more frequently, which enable the processing and analysis of big data sets and uncover hidden patterns and trends that can guide strategic choices. They concentrate on diagnostic and descriptive analytics, which aid in understanding current operational state and historical performance, facilitating improved planning and forecasting. Some businesses, however, have trouble with data quality, which results in erroneous analysis and poorly thought-out initiatives. The efficiency of their analytics initiatives is limited since there is frequently a shortage of qualified staff who can evaluate complex data. Many Fortune 1000 firms, including Walmart, struggle to use big data efficiently, according to a paper by Adewusi et al., 2024. Among these problems is data quality, which can result in inconsistent or erroneous data and impair decision-making. Second, thorough analysis is hampered by the challenge of combining data from many sources. The third major obstacle is the dearth of qualified experts who can evaluate and comprehend large amounts of data. Predictive analytics, which uses previous data to predict future patterns and behaviours, is one of the sophisticated analytical tools and processes that successful businesses are implementing. The use of machine learning to automate data analysis and find trends and insights comes next. Finally, based on up-to-date data, real-time analytics facilitate prompt decision-making. Modern BI technologies that improve data visualisation and reporting capabilities are being purchased by many businesses. Strong data governance mechanisms should also be put in place to guarantee the security and quality of data. BI tools are also underutilised when talent development is neglected through a lack of investment in staff training and development. In a similar vein, corporations may be exposed to dangers and compliance concerns if they neglect data security. Organisations fail to distinguish between business intelligence (BI), big data (BD), and big data analytics (BDA), according to an

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article by Alnoukari (2021). Ineffective tactics and lost chances to use data to inform decisions can result from this ambiguity. Additionally, Fortune 1000 firms such as Walmart use BDA to help executive managers plan both short- and long-term organisational goals, improve strategic decision-making, and use BI as a decision support system (DSS) that helps them achieve corporate objectives and boost performance. The transition to a data-driven organisation, on the other hand, may be impeded by ineffectively integrating BD activities. The best utilisation of analytics capabilities is achieved when BI, BD, and BDA are not completely understood in connection to one another. According to Kumar et al. (2024), many Fortune 1000 companies find big data analytics to be challenging. Among the issues are difficulties in turning data insights into practical plans, data silos, and a lack of departmental contact. These problems may limit their ability to respond swiftly to changes in the market and meet customer expectations. Additionally, these businesses are employing sophisticated analytics tools to extract insights from large datasets and structuring their data analysis using the elements of the marketing mix (product, promotion, pricing, and place), which aids in locating knowledge sources and methods for improved decision-making. However, the overall business strategy and data analytics projects are not aligned. Additionally, employees may underuse analytics capabilities if they receive insufficient training on how to comprehend and act upon data insights. In a similar vein, Drimie (2023) observed that Fortune 1000 companies, such as Walmart, struggle to effectively use big data analytics. Typical issues include data silos, a lack of skilled personnel, and the inability to incorporate analytics into existing company procedures. These problems could impair their ability to glean insightful information from data. These businesses include establishing a datadriven culture that promotes decision-making based on data insights, working with technology partners to improve their analytics capabilities, and putting advanced analytics tools into practice to handle massive datasets quickly. Conversely, not spending enough money on staff training on data analytics tools. Problems with data security and quality arise when data governance is not given priority. Neglecting the significance of matching corporate goals with analytics methods. According to another researcher, Ramírez et al. (2019), the exponential growth of data from both structured and unstructured sources is a major problem that Fortune businesses face. Organizations find it challenging to swiftly extract relevant insights due to the complexity of data administration and analysis caused by this heterogeneity. This volume and diversity of data are frequently too much for traditional data processing systems to handle, which results in lost chances for competitive advantage. Additionally, in order to improve their business intelligence skills, many Fortune 1000 organizations are implementing Big Data technologies, including data mining and warehousing. These technologies make it possible to store, analyze, and analyze massive datasets more effectively, which speeds up decisionmaking and increases operational effectiveness. To obtain insights into consumer behavior, market trends, and operational efficiency, all of which can result in strategic advantages, businesses are increasingly utilizing advanced analytics. Nevertheless, integrating diverse data sources can be difficult for certain Fortune 1000 companies, which might result in studies that are either erroneous or incomplete. Poor decision-making and lost opportunities may arise from this. The potential benefits of Big Data technologies are often hampered by a shortage of qualified staff who can use them effectively.

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Table 1: Identified Research gap in the literature Reviewed

| Author (s) | Title | Research Gap |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Olaniyi et al. (2023) | Utilizing big data analytics and business intelligence for improved decision-making at a leading Fortune company. | Big data analytics and business intelligence (BI) can be effectively integrated to lower management costs while increasing revenue and market share, especially in huge retail operations like Walmart. |
| Alam et al. (2024) | Big data analytics for enhanced business intelligence in Fortune 1000 companies: Strategies, challenges, and outcomes. | Overcome the obstacles presented by data silos to accomplish real-time analytics and smooth data integration, both of which are essential for well-informed decision-making and operational effectiveness. |
| Booker, M. D. (2021) | Big Data and Business Intelligence Integration into Walmart. Big Data and Business Intelligence Integration into Walmart. | There is a need to reduce management costs while increasing revenue and market share using Big Data and BI. |
| Bhargav et al. (2023) | Big data analytics and its role in business intelligence. | overcoming obstacles to making wellinformed, data-driven decisions, such as data silos, a lack of system integration, and challenges in gleaning useful insights from the data. |
| Adewusi et al. (2024) | Business Intelligence in the era of Big Data: A review of analytical tools and competitive advantage | Inaccurate data due to poor data quality can result in bad decisions. integration of data from several sources. insufficiently qualified experts to evaluate and understand data. |
| Alnoukari (2021) | The power of analytics. In Advances in Business Information Systems and Analytics | The distinctions between big data (BD), business intelligence (BI), and big data analytics (BDA) are difficult to define. |

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| Kumar et al. (2024) | Elucidating big data analytics by using marketing mix components for business intelligence | issues transforming data ideas into practical plans, departmental silos, and a lack of communication. |
| Drimie (2023) | Big Data Analytics and Business Intelligence | Data silos, a lack of skilled personnel, and the inability to incorporate analytics into existing business procedures are typical issues. |
| Ramírez et al. (2019) | Business Intelligence and BigData | Organizations find it challenging to swiftly extract relevant insights due to the exponential growth of data from several sources, including structured and unstructured formats, which complicate data administration and analysis. |

Research Questions in the Literature Reviewed

The literature analysis focusses on how big data analytics and business intelligence might enhance decision-making and operational efficiency in major corporations such as Walmart, highlighting a number of research questions in this area (Olaniyi et al., 2023). An additional study by Alam et al. (2024) examines how business intelligence and big data analytics change operations and strategic decision-making in Fortune 1000 firms, with a primary focus on Walmart's procedures. Walmart's decision-making and operational efficiency could be improved by integrating big data analytics and business intelligence (BI), according to Booker, M. D. (2021). The main goals of Bhargav et al. (2023) are to enhance big data analytics within the company, demonstrate how big data analytics may be integrated into business intelligence, and discuss how industries employ big data analytics to gain a competitive edge. Similar to this, Adewusi et al. (2024) investigate how businesses use big data to obtain a competitive edge, what analytical tools work best for handling massive volumes of data, and the difficulties businesses have when putting business intelligence (BI) into practice in a big data setting. Alnoukari (2021) focused on how big data analytics affects organisational performance and decision-making, how businesses define and differentiate BI (business intelligence), BD (big data), and BDA (big data analytics), and how big data initiatives are incorporated into corporate strategies. The study questions posed by Kumar et al. (2024) centre on how big data can enhance decision-making, how challenging it is to apply big data in businesses, and how marketing mix components affect big data analytics in business intelligence. Drimie (2023) and Ramírez et al. (2019) stress the value of leveraging big data to improve decision-making, the obstacles to a successful big data analytics implementation, and the influence of big data analytics on competitive advantage and corporate performance.

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Table 2: Research Questions of the Literature Reviewed

| Author (s) | Title | Research Questions |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Olaniyi et al. (2023) | Utilizing big data analytics and business intelligence for improved decision-making at a leading Fortune company. | How can sentiment analysis and consumer interaction be improved by big data analytics? What methods work best for incorporating data from social networks into sales forecasting? Which security issues arise for businesses when they use big data solutions? |
| Alam et al. (2024) | Big data analytics for enhanced business intelligence in Fortune 1000 companies: Strategies, challenges, and outcomes. | How does Walmart leverage big data for competitive advantage? What challenges does Walmart face in implementing big data analytics? |
| Booker, M. D. (2021) | Big Data and Business Intelligence Integration into Walmart. Big Data and Business Intelligence Integration into Walmart. | How does BI enhance demand prediction and operational processes? What are the tangible economic benefits derived from BI investments? |
| Bhargav et al. (2023) | Big data analytics and its role in business intelligence. | How can organizations' decision-making processes be enhanced by big data analytics? What obstacles exist for the successful application of big data analytics in business intelligence? How can big data analytics be used by various businesses to obtain a competitive edge? |
| Adewusi et al. (2024) | Business Intelligence in the era of Big Data: A review of analytical tools and competitive advantage | How can businesses successfully use big data to obtain a competitive edge? What are the best analytical tools for handling massive amounts of data? What obstacles must businesses overcome to apply BI in the big data context? |

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| Alnoukari (2021) | The power of analytics. In Advances in Business Information Systems and Analytics | How are BI, BD, and BDA defined and distinguished by organisations? What effects does BDA have on decisionmaking and organisational performance? How can businesses successfully include BD activities into their overall business plans? |
| Kumar et al. (2024) | Elucidating big data analytics by using marketing mix components for business intelligence | How can organisations' decision-making processes be enhanced by big data analytics? What obstacles must businesses overcome to apply big data analytics? What is the impact of marketing mix elements on big data analytics' efficacy in business intelligence? |
| Drimie (2023) | Big Data Analytics and Business Intelligence | How can businesses use big data to support better decision-making? What obstacles stand in the way of big data analytics being implemented successfully? How can competitive advantage and organisational performance get affected by big data analytics? |
| Ramírez et al. (2019) | Business Intelligence and Big Data | How can businesses use big data technologies to improve their decisionmaking process? What obstacles must businesses overcome in order to integrate and analyse heterogeneous data? How can competitive advantage and organisational performance get affected by big data analytics? |

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Methodology in the Literature Reviewed

This section addresses the highlighted study gap by using a variety of approaches in the research on big data analytics and business intelligence in Fortune 1000 organisations, including Walmart. Using a qualitative methodology, mostly through a literature review, Olaniyi et al. (2023) investigated recent scholarly publications on big data analytics and business intelligence (Alnoukari, 2022). The benefits and drawbacks of Walmart's current procedures can be completely understood thanks to this approach. The reviewed literature includes a variety of Fortune 1000 companies, with a focus on those that have faced challenges and effectively implemented big data initiatives. Alam et al. (2024) used a qualitative case study methodology with Walmart as the main topic. Walmart's tactics and difficulties in applying business intelligence and big data analytics may be thoroughly examined thanks to this methodology. A case study approach was used by Booker, M. D. (2021) to examine Walmart's use of BI and big data (Herschel, 2022). Walmart's sales data repository contributed datasets for this study, offering insights into consumer behaviour and business operations. In their literature evaluations, Bhargav et al. (2023) noted that while some research utilise quantitative methods to analyse numerical data, many studies use qualitative methods to gain in-depth insights. A wide range of Fortune 1000 organisations are represented in the data used for the study, enabling a thorough grasp of various BI and big data tactics. Utilising a qualitative methodology, Adewusi et al. (2024) collected information from a variety of sources by concentrating on case studies and literature reviews. A wide range of Fortune 1000 organisations are represented in the data used for the study, enabling a thorough grasp of various BI and big data tactics. Alnoukari (2021) employed a combination of case study, qualitative, and quantitative methodologies. Every technique offers a unique perspective on how well BI and BDA work. The purpose of data gathering is to learn how big data initiatives are implemented and utilised by major organisations, especially those that are part of the Fortune 1000. Kumar et al. (2024) investigated the big data analytics environment in relation to marketing mix components using a qualitative case study technique. A thorough grasp of the potential and difficulties in the field is made possible by this method. Big data analytics and business intelligence methods and experiences were examined in this study, which concentrated on Fortune 1000 businesses. In order to research big data analytics, Drimie (2023) used qualitative and quantitative approaches. One such approach was the use of surveys to collect information from different organizations to comprehend their analytics processes. In-depth examination of certain businesses' successful implementations and difficulties was done through case studies. The information gathered also includes data analysts and executives from a variety of businesses, especially those in the Fortune 1000, to learn more about their analytics approaches. The Ramírez group (2019).

Table 3: Methodology in the Reviewed Literature

| Author (s) | Data collection | Method |
|-----------------------|-----------------------------------------------------------------------------------|----------------------|
| Olaniyi et al. (2023) | Literature reviews of academic publications on big data and business intelligence | Qualitative approach |

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| Alam et al. (2024) | Reviews articles on Walmart's strategies and challenges in utilizing big data analytics and business intelligence. | qualitative case study approach, focusing on Walmart as the primary subject |
| Booker, M. D. (2021) | datasets from Walmart's sales data warehouse, which provided insights into customer behavior and operational performance | case study approach, analyzing Walmart's integration of big data and BI |
| Bhargav et al. (2023) | Examination of articles on Fortune 1000 companies | Qualitative and quantitative |
| Adewusi et al. (2024) | Literature reviews of related articles. | Qualitative approach |
| Alnoukari (2021) | Various papers on Fortune 1000 companies on the benefits and implementation of big data strategies | Qualitative, quantitative, and case study |
| Kumar et al. (2024) | Examining Fortune 1000 companies, including their practices and experiences with big data analytics and business intelligence | Qualitative case study approach |
| Drimie (2023) | Surveys and case studies | A mix of qualitative and quantitative |
| Ramírez et al. (2019) | Review of different articles on Fortune 1000 companies, including their unique challenges and successful implementation | Qualitative, quantitative, and case study |

Data Analysis and Findings

This part examines a number of data analysis techniques that have been applied in the reviewed literature on business intelligence and big data analytics in Fortune 1000 businesses, including Walmart to address the related research issues and hypotheses, Olaniyi and colleagues (2023) reviewed recent research on Walmart's procedures

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as well as those of other Fortune 1000 businesses that have effectively implemented big data strategies and those that have faced challenges. According to their findings, several theories about how well big data analytics may enhance decision-making were validated. For example, projecting revenue and consumer engagement are greatly impacted by incorporating social media data. Nonetheless, issues like resource allocation and data security continue to be common. The paper by Alam et al. (2024) examines case studies on Walmart's business intelligence and big data analytics tactics and difficulties. According to their findings, Walmart's competitive edge and operational efficiency are greatly increased by its big data analytics. The theories on how dynamic pricing and predictive analytics improve business outcomes were validated. Nonetheless, it was noted that real-time analytics and data integration issues needed to be addressed. According to Booker, M. D. (2021), Walmart was able to enhance resource management and get important insights into customer behaviour by combining big data with business intelligence. The results validated the idea that better alignment of business operations with strategic objectives can result from effective BI. The study also emphasised how crucial it is to integrate forecasts into operational procedures to achieve financial gains, showing that although Walmart made progress, execution still needed to be improved. Walmart's integration of big data and business intelligence (BI) was examined by Bhargav et al. (2023) utilizing case studies and datasets from the company's sales data warehouse, which offered insights into customer behaviors and operational performance. Their Results from numerous studies reveal that theories about the beneficial effects of big data analytics on corporate performance are often validated, demonstrating that businesses that successfully apply analytics typically outperform their rivals (Regina Rodrigues & Sotto, 2022). Nevertheless, recent research shows that not all businesses reap the anticipated rewards, frequently because of subpar data management procedures. Literature evaluations on Fortune 1000 businesses employing various BI and big data methods are used by Adewusi et al. (2024). The results demonstrate that many theories about how well BI tools can improve decision-making were validated. Businesses that combined big data analytics and business intelligence (BI) reported increased market responsiveness and operational efficiency. The report also emphasizes how Fortune 1000 companies use business intelligence and big data analytics to gain a competitive edge by turning massive amounts of data into insights that can be put to use, improving decision-making, and increasing organizational agility in response to consumer behaviour and market dynamics. To understand how Fortune 1000 businesses use and reap the benefits of big data initiatives, Alnoukari (2021) reviewed the body of research on the efficacy of BI and BDA. According to the report, businesses can greatly improve their decision-making procedures by implementing BDA. There is a substantial association between data analytics and better business outcomes, as evidenced by the frequent support for hypotheses about how BDA improves performance. In their analysis of case studies of the big data analytics environment, Kumar et al. (2024) focused on Fortune 1000 organizations and examined the components of the marketing mix. Although many businesses invest in big data analytics, the study found that integration and application are frequently difficult for them. There was broad support for the hypotheses about the beneficial effects of structured data analysis on business intelligence, demonstrating that a clear marketing mix can improve analytics efficacy. To learn more about the big data analytics strategies of executives and data analysts from a variety of businesses, especially those in the Fortune 1000, Drimie (2023) employed a survey to collect data. According to their findings from the literature, many theories about how big data analytics might improve corporate performance were validated. Businesses that

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successfully apply analytics report increased consumer satisfaction and creativity. Utilizing a case study, Ramírez et al. (2019) investigated Fortune 1000 businesses with big data analytics expertise, their difficulties, and their effective application of BD techniques. According to the results of numerous studies, businesses that successfully apply big data analytics typically outperform their rivals, confirming hypotheses about the beneficial effects of new technologies on corporate performance. However, issues like talent gaps and data integration continue to be common, pointing to areas that need improvement.

Table 4: Data Analysis and Findings in the Literature Reviewed

| Author (s) | Data Analysis | Findings |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Olaniyi et al. (2023) | Review of existing literature to address Walmart processes and other Fortune 1000 companies that have successfully adopted big data strategies and those encountered obstacles along the way, | Decision-making is improved by using big data analytics, particularly social media data, which allows for more precise sales forecasting and increases consumer interaction. This lends credence to theories about how big data analytics might enhance decision-making efficacy. But issues like resource allocation and data security continue to be major problems. |
| Alam et al. (2024) | Use of case studies articles to explore Walmart's strategies and address challenges of utilizing big data analytics and BI | It demonstrates how big data analytics greatly improves competitive advantage and operational efficiency. The theories on how dynamic pricing and predictive analytics improve business outcomes were validated. Nonetheless, it was noted that real-time analytics and data integration issues needed to be addressed. |
| Booker, M. D. (2021) | Utilized case study articles on Walmart's sales data warehouse to address Walmart's Big Data and BI integration challenge. | Walmart was able to improve resource management and obtain meaningful insights into customer behaviour by integrating big data and business intelligence. This provided credence to the idea that better alignment between business operations and strategic goals is achieved through effective BI. Furthermore, it has been demonstrated that integrating projections into operational workflows drives economic |

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| Bhargav et al. (2023) | Use existing literature to examine the unique challenges and successes in implementing big data analytics. | The results validate big data analytics' beneficial effects on corporate performance by indicating that firms that successfully use it frequently outperform their rivals. However, due mostly to subpar management practices, the anticipated benefits are not always realised. |
| Adewusi et al. (2024) | Review of existing literature and case studies to examine the different BI and big data strategies in Fortune 1000 companies | Companies that combined big data analytics and business intelligence (BI) reported increased market responsiveness and operational efficiency. There was support for theories about how well BI tools can improve decision-making. BI and big data analytics are used by Fortune |
| | | 1000 organisations to obtain a competitive advantage. These businesses improve organisational agility and decision-making by utilising data. |
| Alnoukari (2021) | Use existing literature and case studies to address the effectiveness of big data analytics and BI in Fortune 1000 companies. | indicates that companies can greatly improve their decision-making processes by implementing BDA successfully. With a high association between data analytics and better business outcomes, hypotheses about the beneficial effects of BDA on performance are regularly validated. |
| Kumar et al. (2024) | Use of case studies on the big data analytics environment within the context of marketing mix components to analyze Fortune 1000 practice and experience with big data analytics and BI | Although a lot of businesses spend money on big data analytics, they frequently have trouble integrating and using it. A clearly defined marketing mix can improve the efficacy of analytics, as evidenced by the generally positive support for hypotheses about the beneficial effects of structured data analysis on business intelligence. |

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| Drimie (2023) | Utilise case studies and surveys from executives and data analysts with Fortune 1000 companies to examine big data analytics strategies | Numerous theories on how big data analytics improve corporate performance were validated. Businesses that use analytics reports well see increases in consumer satisfaction and innovation. |
| Ramírez et al. (2019) | Use existing literature and case studies examining big data strategies' unique challenges and successful implementation. | Businesses that successfully use big data analytics typically outperform their rivals, confirming hypotheses about the beneficial effects of these technologies on corporate performance. But issues like talent gaps and data integration are still common, suggesting room for progress. |

Discussions

In this section, the literature review's discussion is covered. According to Olaniyi et al. (2023), Walmart uses business intelligence and big data analytics to improve decision-making, forecast product trends, and optimise in-store experiences. They have sophisticated infrastructure and a data-driven culture, which contribute to their success, despite issues with resource allocation and security. According to Alam et al. (2024), Walmart is a prime example of how to use business intelligence and big data analytics to improve supply chain efficiency, optimise inventory management, and increase consumer engagement. Walmart is able to keep its competitive edge, cut expenses, and properly forecast demand thanks to predictive analytics and dynamic pricing tactics. Big data analytics help Fortune 1000 firms to collect, process, and analyse massive amounts of data, improving business intelligence, according to Bhargav et al. (2023). This results in better decision-making, more efficient procedures, enhanced customer support, and more focused marketing tactics, all of which eventually increase growth and profitability. The use of a marketing mix framework, which emphasises product, promotion, price, and place, to identify knowledge sources and applications is how big data analytics can transform business intelligence, according to Kumar et al. (2024). This is especially pertinent for Fortune 1000 companies that are having marketing difficulties. Drimie (2023) noted that Fortune 1000 organisations may analyse large datasets and find hidden patterns and insights thanks to Big Data Analytics. In an increasingly data-driven company world, this method facilitates well-informed decision-making, improving operational efficiency and competitive advantage. Similar to this, Ramírez et al. (2019) talk about how Fortune 1000 businesses use analytics and Big Data technology to process heterogeneous data effectively, allowing for competitive advantages and well-informed decision-making. The problems of rapid data generation and the constraints of conventional technology are addressed by these technologies.

Recommendations

Companies should take calculated steps to optimise the potential of business intelligence (BI) and big data analytics (BDA). These include making investments in cutting-edge tools to improve real-time analytics, integration, and data quality; cultivating a data-driven culture that encourages teamwork; and putting in place

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ongoing staff training initiatives to keep up with changing technological advancements. To protect data and guarantee regulatory compliance, strong cybersecurity and data governance frameworks are necessary. While agile methodologies and successful change management techniques facilitate the smooth integration of BDA and BI into business processes, coordinating analytics activities with business objectives guarantees maximum impact. In an increasingly competitive environment, these activities work together to promote innovation, operational effectiveness, and long-term success.

Conclusion

The studied literature emphasises how business intelligence (BI) and big data analytics (BDA) may revolutionise decision-making, operational effectiveness, and corporate performance. The substantial advantages of BDA and BI in boosting competitive advantage through predictive analytics, dynamic pricing, and improved data utilisation are shown by studies, such as those on Fortune 1000 organisations and Walmart. Organisations can use these technologies to make well-informed decisions, optimise operations, and predict market trends. Notwithstanding the benefits, problems like data integration, real-time analytics, and data security still exist and must be solved with focused tactics, significant investments in cutting-edge tools, staff development, and strong governance frameworks. All things considered, sustaining a competitive edge and attaining long-term corporate success depend heavily on the efficient deployment and administration of BDA and BI.

Limitation: Recent papers were used for this review. Other reviews on Fortune 1000 businesses were added because there aren't many publications that use Walmart as a case study.

References

- Adewusi, A. O., Okoli, U. I., Adaga, E., Olorunsogo, T., Asuzu, O. F., & Daraojimba, D. O. (2024). Business intelligence in the era of big data: A review of analytical tools and competitive advantage. *Computer Science & IT Research Journal*, 5(2), 415–431. <https://doi.org/10.51594/csitrj.v5i2.791>
- Alam, M. R. U., Shabbir, S. A. R., & [Author missing title cleanup]. (2024). Big data analytics for enhanced business intelligence in Fortune 1000 companies: Strategies, challenges, and outcomes. *Academic Journal on Business Administration, Innovation & Sustainability*, 4(3), 53–65. <https://doi.org/10.69593/ajbais.v4i3.91>
- Alnoukari, M. (2021). From business intelligence to big data: The power of analytics. In *Advances in Business Information Systems and Analytics* (pp. 44–62). IGI Global.
- Alnoukari, M. (2022). From business intelligence to big data: The power of analytics. In *Research anthology on big data analytics, architectures, and applications* (pp. 823–841). IGI Global.
- Booker, M. D. (2021). *Big data and business intelligence integration into Walmart*. [Self-published or institutional publication – missing full source info].
- Drimie, S. (2023). *Big data analytics and business intelligence: Principles and applications*. [Publisher info missing].

Original Article

- Herschel, R. T. (2022). Big data, data management, and business intelligence. In *Research anthology on big data analytics, architectures, and applications* (pp. 1359–1370). IGI Global.
- Kumar, S. D., Kumar, V. M., Kumar, R. G., & Ramu, M. (2024). Elucidating big data analytics by using marketing mix components for business intelligence. In *2024 International Conference on Communication, Computing and Internet of Things (IC3IoT)*. IEEE. [https://doi.org/\[Add if available\]](https://doi.org/[Add if available])
- Olaniyi, O. O., Abalaka, A. I., & Olabanji, S. O. (2023). Utilizing big data analytics and business intelligence for improved decision-making at leading Fortune company. *Journal of Scientific Research and Reports*, 29(9), 64–72. <https://doi.org/10.9734/jsrr/2023/v29i91785>
- Ramírez, M. R., Núñez, S. O. V., Rojas, E. M., & Moreno, H. B. R. (2019). Business intelligence and big data. In *2019 14th Iberian Conference on Information Systems and Technologies (CISTI)* (pp. 1–6). IEEE.
- Rodrigues, C. R., & Sotto, E. C. S. (2022). Big data e business intelligence: Suas diferenças e importância para as organizações. *Revista Interface Tecnológica*, 19(2), 43–54. <https://doi.org/10.31510/infa.v19i2.1446>
- Singh, M., & Kumar Shukla, A. (2023). Enhancing business intelligence and decision-making through big data analytics. In *2023 3rd International Conference on Technological Advancements in Computational Sciences (ICTACS)* (pp. 319–323). IEEE.
- St. Peter's Engineering College, Bhargavi, K. Y., Bavya, S. P. N., & St. Mary's Centenary Degree College. (2023). Big data analytics and its role in business intelligence. *San International Scientific Publications*. <https://doi.org/10.59646/edbookc18/009>
- Sun, Z., Sun, L., & Strang, K. (2018). Big data analytics services for enhancing business intelligence. *Journal of Computer Information Systems*, 58(2), 162–169. <https://doi.org/10.1080/08874417.2016.1220239>
- Walmart. (2024, April 25). *Walmart releases 2024 annual report and proxy statement*. <https://corporate.walmart.com/content/dam/corporate/documents/newsroom/2024/04/25/walmart-releases-2024-annual-report-and-proxy-statement/walmart-inc-2024annual-report.pdf>
- Walmart. (2024, August 15). *Walmart releases Q2 FY25 earnings*. <https://corporate.walmart.com/content/dam/corporate/documents/newsroom/2024/08/15/walmart-releases-q2-fy25-earnings/q2-fy25-earnings-release.pdf>
- Walmart. (2024, November 10). *About Walmart*. <https://corporate.walmart.com/about>