BUSINESS ANALYTICS FOR STRATEGIC DECISION-MAKING: TOOLS AND TECHNIQUES

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ABSTRACT

Business analytics is a critical driver of strategic decision-making in modern organizations. By leveraging data-driven insights, firms can improve operational efficiency, anticipate market trends, and make informed strategic choices. This article explores the tools and techniques used in business analytics, including descriptive, predictive, and prescriptive analytics. It also examines how analytics supports decision-making across marketing, finance, operations, and human resource functions. The findings highlight the importance of integrating analytics into organizational strategy to enhance competitiveness and create sustainable value.

Keywords: Business Analytics, Strategic Decision-Making, Data-Driven Insights, Predictive Analytics, Prescriptive Analytics, Descriptive Analytics, Decision Support Systems.

INTRODUCTION

The growing volume and complexity of data in today's business environment necessitate the use of analytics to guide strategic decisions (Davenport & Harris, 2017). Business analytics enables firms to transform raw data into actionable insights, supporting evidence-based decision-making and reducing uncertainty. Organizations that adopt analytics-driven strategies can gain a competitive advantage through improved performance and innovation (Sharma, Mithas & Kankanhalli, 2014).

Key Tools and Techniques in Business Analytics

Descriptive Analytics

Descriptive analytics summarizes historical data to provide insights into past performance. Tools such as dashboards, data visualization, and reporting systems help managers understand trends and patterns (Chen et al., 2012).

Predictive Analytics

Predictive analytics uses statistical models, machine learning algorithms, and forecasting techniques to anticipate future outcomes. Predictive models are particularly useful in customer segmentation, demand forecasting, and risk management (Alsaidi, 2025).

Prescriptive Analytics

Prescriptive analytics provides recommendations for optimal decision-making by combining predictive models with optimization techniques. It is widely used in supply chain optimization, pricing strategies, and resource allocation (Shmueli & Koppius, 2011).

Applications of Business Analytics in Strategic Decision-Making

Marketing Analytics

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Analytics tools enable firms to understand customer behavior, measure campaign effectiveness, and personalize offerings, thereby enhancing customer satisfaction and profitability (Wedel & Kannan, 2016)

Financial Analytics

Financial analytics supports budgeting, forecasting, and risk assessment, allowing organizations to make informed investment and resource allocation decisions.

Operations and Supply Chain Analytics

Operational analytics helps streamline processes, optimize supply chains, and improve efficiency through data-driven insights (Wamba et al., 2015).

Human Resource Analytics

People analytics assists in talent acquisition, retention, and performance management by analyzing employee data to inform HR strategies (Marler & Boudreau, 2017).

Challenges and Considerations

Despite its benefits, implementing business analytics presents challenges such as data quality issues, integration complexities, and the need for skilled personnel. Organizations must foster a data-driven culture, invest in analytics infrastructure, and ensure alignment with strategic objectives to maximize value (Provost & Fawcett, 2013).

CONCLUSION

Business analytics is a transformative tool that empowers organizations to make informed, strategic decisions. By leveraging descriptive, predictive, and prescriptive analytics across various business functions, firms can improve performance, anticipate trends, and maintain a competitive edge. Integrating analytics into organizational strategy is essential for sustainable growth and long-term success.

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