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Big Data Analytics and Strategic Decision-Making in Financial Institutions

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Abstract

The growing availability of large-scale financial and consumer data has created unprecedented opportunities for organizations to improve decision-making and operational performance. Financial institutions increasingly rely on big data analytics to enhance risk management, customer relationship management, fraud detection, investment analysis, and strategic planning. This study explores the role of big data analytics in supporting strategic decision-making within financial institutions and examines its implications for organizational effectiveness and competitiveness.The research reviews contemporary developments in data analytics technologies, predictive modeling, machine learning applications, and business intelligence systems within the financial services sector. Particular attention is given to how financial institutions collect, process, and utilize large datasets to support decision-making processes and improve organizational performance. The study also evaluates the challenges associated with data quality, privacy, and governance.The findings indicate that big data analytics contributes significantly to improved forecasting accuracy, operational efficiency, and customer engagement. Institutions utilizing advanced analytical capabilities are better equipped to identify emerging opportunities, anticipate risks, and develop targeted business strategies. The analysis further demonstrates that data-driven decision-making enhances organizational agility and supports innovation within increasingly competitive financial markets.The study also identifies several challenges, including data integration complexities, cybersecurity concerns, regulatory compliance requirements, and the need for specialized analytical expertise. Effective governance structures and ethical data management practices are essential for maximizing the benefits of analytics initiatives. The paper concludes that big data analytics will remain a critical strategic resource for financial institutions seeking to achieve sustainable growth and maintain competitive advantage.

Keywords: Big data analytics, Strategic decision-making, Financial institutions, Predictive analytics, Business intelligence, Data governance, Financial technology