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The Role of Data Analytics in Strategic Decision Making in Multinational Companies

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ABSTRACT

In an increasingly competitive era of globalization, multinational companies face complex challenges in making strategic decisions. This research aims to explore the role of data analytics in supporting strategic decision making in multinational companies. The methodology used is a quantitative approach with data analysis from case studies on several multinational companies that integrate data analytics in their business processes. The results show that the use of data analytics contributes significantly to improving the efficiency of strategic decision-making processes, including the identification of market opportunities, risk mitigation, and product development. In addition, data analytics enables companies to understand market dynamics in real-time, thereby strengthening their competitive advantage. Factors such as technology infrastructure, data quality, and team analytics capabilities are key to the successful implementation of data analytics. This research concludes that data analytics plays a crucial role in supporting strategic decision-making based on accurate and relevant information. Thus, multinational companies are advised to continue developing their data analytics capabilities as part of a sustainable business strategy.

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1. INTRODUCTION

The rapid development of information and communication technology has brought significant changes in the way companies operate, especially multinational companies that have high scale and complexity. In a dynamic global business environment, strategic decision-making becomes one of the key elements to maintain the competitiveness and sustainability of the company. [1] A strategic decision-making process based on accurate information and data analysis has become an absolute necessity in the digital era. This brings up the important role of data analytics in supporting the success of the process. [2]

Data analytics has become one of the main tools in managing and processing information sourced from big data. [3] With its ability to generate relevant insights, data analytics allows companies to understand market trends, consumer behavior, and business risks more deeply. [4] The use of data analytics also helps multinational companies to identify new opportunities and strategize more effectively based on measurable and valid information. [5]

However, despite the huge potential of data analytics in strategic decision-making, its implementation still faces various challenges. [6]Some of them include inconsistent data quality, lack of human resource capabilities in analyzing data, and limited technological infrastructure in some companies.[7] In addition, utilizing data analytics also requires a paradigm shift at the managerial level to integrate data-driven insights into the decision-making process. [8]

This research aims to explore the role of data analytics in supporting strategic decision-making in multinational companies. [9] The main focus of this research is to analyze how data analytics is integrated into the strategic decision-making process, the factors that influence the effectiveness of its implementation, and the resulting impact on company performance. [10]By using a quantitative approach through case studies on several multinational companies, this research is expected to make theoretical and practical contributions in the fields of strategic management and business technology. [11]

The results of this study are expected to provide insight for stakeholders in multinational companies to maximize the potential of data analytics as a strategic tool in improving global competitiveness. [12] In addition, the findings of this research can also serve as a foundation for the development of policies and business strategies based on the optimal utilization of data analytics technology. [13]

2. METHOD

This research method is designed to explore the role of data analytics in supporting strategic decision-making in multinational companies. This research uses a quantitative approach with a combination of case studies to identify and analyze best practices, challenges, and impacts of data analytics implementation. [14]

This research uses a quantitative descriptive design to describe the phenomenon of using data analytics in strategic decision making. Case studies were chosen to explore the application of data analytics in several multinational companies in various industrial sectors. This approach allows the collection of in-depth empirical data on the relationship between data analytics and strategic decision effectiveness. [15]

The research population includes multinational companies operating in Indonesia and have units or divisions that handle data analytics. The research sample was selected using a purposive sampling method, with the following criteria: a. The company must have an active data analytics infrastructure. b. The company has integrated data analytics in the strategic decision-making process for at least three years. c. Interviewees consisted of top-level managers, data analysts, and relevant staff directly involved in the decision-making process. From the population, five multinational companies in the technology, manufacturing, retail, banking, and telecommunications sectors were selected as research subjects.

Data Collection Data was collected through the following methods: a. Questionnaires: Questionnaires were distributed to respondents to collect quantitative data regarding data analytics implementation, strategic decision effectiveness, and supporting and inhibiting factors. b. Semi-Structured Interviews: Interviews were conducted to obtain more in-depth qualitative data regarding respondents' experiences and views regarding the use of data analytics. c. Documentation: Additional data was drawn from company reports, internal policies, and documents related to the implementation of data analytics.

Data Analysis Techniques : a. Quantitative Analysis: Data from the questionnaire was analyzed using descriptive statistics to identify common patterns and trends. Correlation tests were conducted to see the relationship between the use of data analytics and the effectiveness of strategic decision-making. b.Qualitative Analysis: Interview and documentation data were analyzed using thematic analysis techniques to identify key themes, such as challenges and opportunities in data analytics implementation.

To ensure the validity and reliability of the data, this study used source triangulation techniques, comparing results from questionnaires, interviews, and documentation. In addition, a reliability test using Cronbach's Alpha was conducted on quantitative data to ensure consistency of results.

This research adheres to the ethical principles of research, including maintaining the confidentiality of the identity of the company and respondents, obtaining consent for participation from all relevant parties, and providing clear information regarding the purpose of the research. The designed method is expected to produce comprehensive and relevant findings in understanding the role of data analytics in supporting strategic decision-making in multinational companies.

3. RESULTS AND DISCUSSION

This research produces relevant findings regarding the role of data analytics in supporting strategic decision-making in multinational companies. These findings were obtained from quantitative and qualitative data analysis conducted on five multinational companies in the technology, manufacturing, retail, banking and telecommunications sectors.

1. Research Results : a. Use of Data Analytics in Strategic Decision Making. The results show that all sample companies have integrated data analytics in various aspects of strategic decision making, including:

Identification of Market Opportunities: Data analytics are used to understand consumer trends and opportunities for expansion into new markets. Risk Mitigation: Data-driven risk modeling helps companies anticipate operational and market challenges. Product Development: Consumer data is analyzed to design products that better suit market needs.

b. Impact of Using Data Analytics.The use of data analytics has a positive impact on the effectiveness of strategic decision-making, which is reflected in: Improved Operational Efficiency: 80% of respondents

reported a reduction in decision-making time due to the availability of accurate and real-time data. Competitive Advantage: Companies that utilize data analytics are better able to respond to market changes than competitors. Strategy Innovation: 70% of respondents stated that data analytics drives the development of more innovative business strategies.

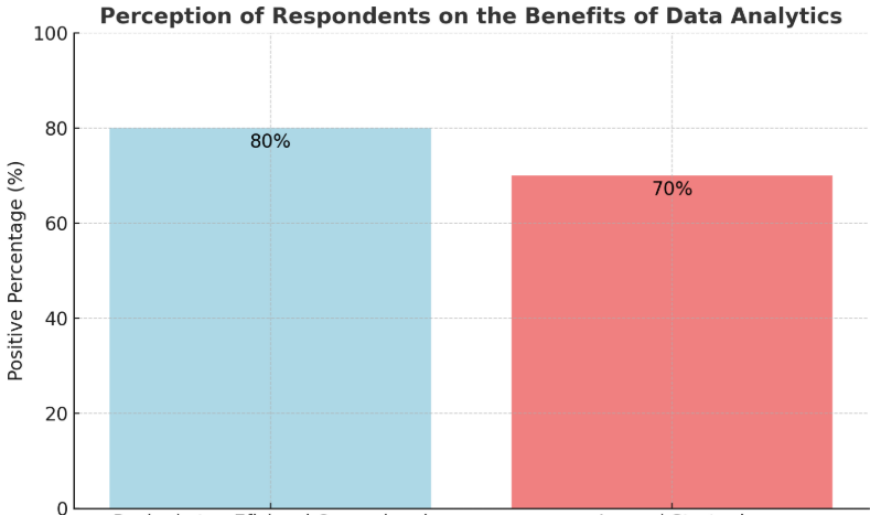

Figure 1. graph showing the percentage of respondents related to the benefits of data analytics

Table 1. The performance of ...

Indicator	Total Respondents	Total Positives	Positive Percentage (%)
Improved Operational Efficiency	100	80	80%
Competitive Advantage	100	Not directly calculated (descriptive)	N/A
Strategy Innovation	100	70	70%

Explanation:
1. Improved Operational Efficiency : Out of 100 respondents, 80 reported a reduction in decision-making time.
Percentages are calculated as: Positive Percentage = $\left(\frac{Number\ of\ Positives}{Total\ Respondents}\right)\ x\ 100$
2. Competitive Advantage
Competitive advantage data is descriptive and does not provide specific quantitative values for percentages.
3.Strategy Innovation
Out of 100 respondents, 70 stated that data analytics drives the development of more innovative business strategies. The percentage was also calculated using the formula above.
a. The Role of Data Analytics as a Strategic Tool
This finding is consistent with previous literature which states that data analytics is an effective tool in improving the quality of strategic decision-making. Data analytics allows companies to transform raw data into actionable insights, thus providing a stronger foundation for decision-making.
b. Company Efficiency and Competitiveness
The integration of data analytics into strategic decision-making has been shown to improve the operational efficiency and competitiveness of companies. This is in line with the Resource-Based View (RBV) theory, which emphasizes the importance of unique resources such as analytics technology in creating sustainable competitive advantage.
c. Implementation Challenges
The obstacles identified, such as low data quality and management resistance, indicate the need for a holistic approach to data analytics implementation. Strategies such as developing a data-driven organizational culture and investing in better data management systems are important to overcome these obstacles.
d. Practical Implications
This research provides practical insights for multinational companies to better utilize data analytics in strategic decision making. Effective implementation requires synergy between technology, human resources, and an organizational culture that supports data-driven decision making. This research provides a basis for further studies on the integration of data analytics technologies with other technologies, such as artificial intelligence (AI) and machine learning, to support more adaptive and predictive decision-making in the future. With these results and discussion, the research confirms that data analytics has an important role to play in supporting

strategic decision-making in multinational companies, but requires a planned implementation strategy to optimize its impact.

4. CONCLUSION

This research aims to explore the role of data analytics in supporting strategic decision-making in multinational companies. Based on the results of the data analysis, the following main conclusions can be drawn:

a. The Central Role of Data Analytics in Strategic Decisions : Data analytics has become a key element in strategic decision-making in multinational companies. By utilizing accurate and real-time data, companies are able to identify market opportunities, manage risks, and improve operational efficiency. This shows that data analytics serves not only as a supporting tool but also as a key driver of modern business strategies.

b. Positive Impact on Efficiency and Innovation : The research found that 80% of respondents reported improved operational efficiency, especially in the reduction of decision-making time. In addition, 70% of respondents stated that data analytics drives the development of more innovative business strategies. These findings indicate that data analytics plays an important role in creating added value for companies through efficiency and innovation.

c. Competitive Advantage through Data-Driven Decision Making : Companies that utilize data analytics show a better ability to respond to market changes compared to competitors. This underscores the importance of a data-driven approach to maintaining competitiveness in a dynamic and challenging global market.

d. Implementation Challenges : While data analytics offers many benefits, the study also identified some key challenges, such as non-uniform data quality, limited technology infrastructure, and management resistance to data-driven decision-making. Therefore, successful implementation of data analytics requires a strategic approach that includes improving data quality, investing in technology, and developing a supportive organizational culture.

e. Theoretical and Practical Implications : Theoretically, this study supports the Resource-Based View (RBV) theory which states that unique resources, such as data analytics technology, can provide a sustainable competitive advantage. Practically, this study provides guidance for multinational companies to optimize the use of data analytics in strategic decision making, including through strengthening technological infrastructure and improving human resource capabilities.

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