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THE IMPACT OF IT-DRIVEN REAL-TIME ANALYTICS ON STRATEGIC BUSINESS DECISION-MAKING IN THE DIGITAL ECONOMY

Mohammad Shihab Mustafa¹

¹Masters in IT, Missouri State University, Springfield, Missouri, USA Email: <u>shihab.mustafa27@gmail.com</u>

Jannatul Ferdaus Khan Lisa²

²MS in Computer Science (CS), Florida Atlantic University, Boca Raton, Florida, USA Email: <u>lisa114100@gmail.com</u>

Md. Mokshud Ali³

³Associate Professor, Department of Business Administration, University of Scholars, Dhaka,

Bangladesh

Corresponding Email: md.mokshudali@gmail.com

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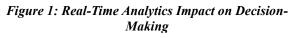
Data-Driven Decision-Making Digital Economy IT-Driven Analytics Operational Efficiency Real-Time Analytics Strategic Decision-Making Technology Integration Business Agility

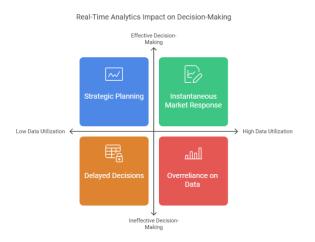
ABSTRACT

Organizations must make well-informed decisions quickly and efficiently in the quickly changing digital economy. The goal of this study is to investigate how corporate responsiveness and agility can be improved by incorporating IT-driven real-time analytics into strategic business decision-making processes. The importance of this research resides in its capacity to educate companies on the revolutionary influence of real-time data on decision-making, which will ultimately enhance operational efficiency and competitiveness. Understanding the precise impacts of real-time analytics on strategic choices in a setting marked by swift market shifts is the main issue addressed. This study analyzes case studies and existing literature on real-time analytics using a qualitative research methodology and secondary data sources. The results show that companies using real-time analytics see significant operational efficiencies, faster decision-making, and better customer acquisition and retention. However, issues with cultural sensitivity and data privacy continue to exist, underscoring the necessity for businesses to cultivate a data-driven culture. With its insights on best practices for successfully integrating real-time analytics, this study has significance for both academics and practitioners. Despite many drawbacks, such as its reliance on secondary data, the study offers a strong basis for further research into real-time analytics applications unique to particular industries. Investing in strong infrastructures for data integration and giving priority to training initiatives that foster a culture of data-driven decision-making are two policy recommendations. In the dynamic business climate of today, this study emphasizes the critical role that ITdriven real-time analytics play in determining strategic business results.

1 INTRODUCTION

Effective data utilization has emerged as a critical component of strategic decision-making in today's corporate environment. Incorporating IT-driven realtime analytics has become a crucial component of operational success as businesses negotiate the intricacies of the digital economy. The instantaneous processing and analysis of data as it is generated are known as 'real-time analytics', which helps firms obtain insights that help them make choices quickly. This study paper places itself within the larger subject of data-driven management techniques by concentrating on comprehending how these analytics affect strategic corporate decision-making processes. The foundation of the study lies in the understanding that conventional approaches to decision-making frequently fall short of the needs of the rapidly evolving market situations of today.





Since it is becoming more difficult for businesses to react quickly to shifting consumer trends and market conditions, real-time data insights are essential to staying competitive. The focus of the study is on several industries that use real-time analytics, and it investigates the advantages and difficulties of putting them into practice. The research will look at these factors to give a thorough grasp of how real-time analytics might improve strategic decision-making. This research is justified by the increasing significance of data in guiding corporate plans. The precise influence of real-time analytics on strategic decision-making processes is still largely unknown, even though earlier research has investigated many aspects of data analytics. This study intends to close this gap by examining how businesses may use real-time analytics to increase their agility and responsiveness in an increasingly digital market.

Its ability to educate practitioners on the best ways to incorporate real-time analytics into their decisionmaking frameworks makes this research significant. The main goal of the study is to investigate how ITdriven real-time analytics and strategic business decision-making are related, with an emphasis on how these technologies might enable businesses to make well-informed decisions that are in line with the state of the market. These subject merits investigation since it adds to the larger discussion on data-driven management techniques while also addressing a critical need for firms to adapt. In the end, this study aims to gain a better knowledge of how real-time analytics might change the way decisions are made, stimulating readers to think about how this might affect their organizational plans.

In conclusion, this paper will provide results that demonstrate how IT-driven real-time analytics can improve strategic corporate decision-making. The structure of the article will start with a review of pertinent literature to set the scene, then move on to an outline of the methodology, a presentation of the findings, and a discussion that links the findings to realworld applications and potential avenues for further research. Reading this research will give readers important insights into how real-time analytics may be a useful tool for negotiating the intricacies of the modern digital economy.

1.1 Objective of the Study

The main objective of this study is to explore the impact of IT-driven real-time analytics on strategic business decision-making processes within organizations operating in the digital economy.

The above-stated research aim has been operationalized through the specific research objectives:

- i. To investigate how the integration of real-time analytics has enhanced the agility and responsiveness of organizations in their strategic decision-making.
- ii. To investigate the role of organizational culture in facilitating or hindering the effective use of real-time analytics for strategic decisions.

1.2 Research Problem Description

The study aims to address the difficulty businesses encounter when attempting to use real-time information to successfully guide strategic choices. Even with the growing amount of data and sophisticated analytical tools available, many businesses still find it difficult to incorporate these resources into their frameworks for making decisions. Finding the elements that contribute to the effective use of real-time analytics in strategic contexts and comprehending how these elements can be

enhanced to enhance decision results are the goals of this study.

1.3 Qualitative Research Methods and Data Sources

The research has utilized qualitative techniques, such as focus groups and interviews with professionals in the field, to acquire a comprehensive understanding of the perspectives and experiences of businesses that use real-time analytics.

1.3.1 Intended Outcomes

A thorough grasp of the relationships between real-time analytics and strategic decision-making, as well as useful suggestions for businesses looking to improve their analytical skills in a quickly changing digital environment, are the goals of this study.

1.4 Methodology

The method of qualitative research that was employed to achieve the objectives of the study is explained in this section. In order to obtain relevant data, the study solely employed secondary data collection methods.

1.4.1 Research Design

The study used a qualitative methodology to investigate how real-time analytics powered by IT affect strategic company choices in the digital economy. By analyzing existing literature, reports, and organizational records, this approach was judged appropriate since it enabled a thorough knowledge of complicated events. The qualitative approach made it easier to conduct a thorough investigation of how firms view and experience the application of real-time analytics in their strategic operations.

1.4.2 Data Collection

From a range of sources, including scholarly journals, industry studies, white papers, and pertinent internet postings, secondary data was gathered. Finding literature that particularly addressed real-time analytics and its implications for strategic decision-making was the goal of the researchers' methodical database and repository searches. Only relevant and high-quality data were included in the analysis to the selection criteria, which included the data's recentness, the reliability of the sources, and its relevance to the study's goals.

1.4.3 Data Analysis

Thematic analysis was used for the study of the qualitative data. The data has to be coded in order to find recurrent themes and patterns about how real-time analytics affects decision-making. Based on similarities and contrasts, the researchers categorized the data to provide a thorough knowledge of how businesses have used real-time analytics in their strategy frameworks. The goal of the investigation was to shed light on the factors that support and hinder efficient implementation.

1.4.4 Justifications for Choosing Qualitative Data Collection echniques

For this study, qualitative approaches were selected because they can offer rich, in-depth insights into complicated problems that quantitative methods could miss. Qualitative approaches enabled a deeper comprehension of how businesses see and use real-time analytics in decision-making processes, which was necessary given the exploratory character of the research issue. Subjective perceptions and environmental elements impacting strategic choices were especially well-suited for this method. Because secondary data made a plethora of existing knowledge accessible without necessitating primary data collection activities, they were chosen. The researchers were able to investigate a wider variety of viewpoints and results from other sources by using secondary data, which enhanced the study's depth while using fewer resources.

1.5 Ethical Considerations

Throughout the entire study procedure, ethics were of the utmost importance. The researchers made sure that all secondary data they used came from publications or resources that were openly accessible and did not require permission to be used. Furthermore, care was taken to ensure that the results from these sources were truthfully, free from presented bias or misunderstanding. In summary, this approach ensured a thorough examination of secondary data about ITdriven real-time analytics in strategic business contexts. while also offering a strong framework for investigating the research aims and addressing ethical issues.

1.6 Reflexivity

By recognizing how the researchers' histories, prejudices, and viewpoints may have influenced the

study process, reflexivity was preserved. By reducing potential biases in data interpretation and analysis, this awareness ensured a more impartial approach to comprehending how real-time analytics affect strategic decision-making.

This approach offered a strong foundation for investigating how sophisticated business analytics may improve retail merchandising tactics and boost profitability. This study sought to add significant insights to the scholarly literature as well as real-world applications in retail management through the meticulous selection and analysis of secondary data.

2 LITERATURE REVIEW

The emergence of real-time analytics and information technology (IT) has drastically changed how strategic decisions are made in the digital economy. Leveraging real-time data becomes critical as firms deal with growing complexity and swift market changes. Previous research has shown how important real-time analytics are for improving organizational responsiveness and agility (Skillfloor, 2023). We still do notfully understand how these technologies especially affect strategic decision-making processes in many contexts and industries, though (TechTarget, 2023). To consolidate the body of research on IT-driven real-time analytics and its influence on strategic business choices, this literature review will identify important trends, theoretical frameworks, and areas that need more study.

2.1 Overview of Prior Research

The importance of real-time data analytics in enhancing the efficacy and efficiency of decision-making has been the subject of a plethora of research in recent years (Icert Global, 2021). Research indicates that companies that use real-time analytics can react to market conditions and client demands more quickly (Emerald Insight, 2020). Incorporating machine learning into real-time data processing, for example, has been shown to improve predictive capacities, enabling businesses to quickly spot trends and abnormalities (Skillfloor, 2023). According to the research, companies that use real-time analytics also report increased operational effectiveness and a competitive edge (TechTarget, 2023).

2.2 Critical Engagement with Literature

Several studies have chosen to narrowly focus on certain industries or technologies without examining wider ramifications across other organizational contexts, despite the expanding volume of evidence. Fewer papers critically evaluate how real-time analytics tools impact organizational strategic decision-making frameworks, for instance, even as many address the technological components of the technology (Emerald Insight, 2020). In addition, current studies frequently ignore environmental and cultural elements that could affect real-time analytics adoption and efficacy (Icert Global, 2021).

2.3 Theories and Models Informing the Study

IT-driven real-time analytics is studied using several theoretical frameworks. According to Barney et al. (1991), the Resource-Based View (RBV) asserts that organizational resources, such as advanced analytical skills, can offer a competitive advantage. The Dynamic Capabilities Framework also highlights how crucial it is for an organization to be able to adjust and reorganize its resources in response to shifting conditions (Teece et al., 1997). The idea that using real-time data analytics is essential to staying competitive in the quickly changing digital economy is supported by these beliefs.

2.4 Recent Literature Review

More recent research has looked into how real-time data analytics affects decision-making. Adeyemi et al.'s (2024), for example, show how businesses can use realtime knowledge to match their strategy to the state of the market. A different study by Ebrahimi et al. (2024) highlights how big data analytics may revolutionize digital marketing strategies and demonstrates how companies can use data-driven insights to gain a competitive edge. The importance of adopting strong analytical frameworks that support prompt decisionmaking is shown by these findings.

There have been notable developments in our understanding of how IT-driven real-time analytics can improve strategic decision-making in businesses, according to the literature on the subject. Businesses that use these technologies can become more agile and sensitive to changes in the market, according to key trends. Critical gaps still exist, nonetheless, in our understanding of the contextual elements affecting realtime analytics' efficacy across different businesses.

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Future studies should concentrate on filling in these gaps to offer a more thorough comprehension of how IT-driven analytics might be maximized for strategic purposes.

2.5 Research Gaps

Despite extensive research on real-time data analytics, several gaps warrant further exploration:

Contextual Variability: The impact of various organizational contexts, such as industry type or cultural characteristics, on the adoption and results of real-time analytics, is mostly ignored in the research now in publication.

Longitudinal Studies: Longitudinal studies that look at how real-time analytics' effects change over time within businesses are scarce.

Integration with Traditional Decision-Making: Research frequently ignores real-time analytics' integration with conventional decision-making frameworks in favor of treating it as a stand-alone procedure.

In addition to improving theoretical knowledge, filling in these gaps will offer useful advice to businesses looking to maximize their usage of real-time data analytics.

3 CONTEXTUAL ANALYSIS OF THE TRANSFORMATIVE ROLE OF IT-DRIVEN REAL-TIME ANALYTICS IN STRATEGIC

3.1 Decision-Making within the Digital Economy

Organizations' methods for making decisions have to change as a result of the digital economy's explosive growth. Especially when combined with cutting-edge technology like artificial intelligence (AI), real-time analytics has become a vital tool for companies looking to stay ahead of the competition. Because of this connection, businesses may instantly handle enormous volumes of data, facilitating prompt and well-informed strategic decision-making (Real-Time Analytics with AI, 2024). Traditional decision-making processes have changed as a result of real-time data analysis, becoming more flexible and sensitive to changes in the market (Information Systems: Enhancing Decision-Making Processes, 2024).

In this regard, predictive analytics plays an ever more important role. Predictive analytics enables enterprises to make proactive decisions instead of reactive ones by using historical data to estimate future trends (Predictive Analytics in Real Time, 2024). Understanding consumer behavior and predicting market changes can provide significant competitive advantages in industries where this expertise is especially useful (Harnessing the power of real-time analytics and reverse ETL, 2023). The need for advanced analytical tools that can deliver actionable information instantly has increased as companies traverse an ever-more complex landscape (Revolutionizing decision-making: The power of realtime analytics in business, 2024).

Furthermore, there are certain obstacles to overcome when incorporating real-time analytics into corporate procedures. Organizations are working to leverage realtime data while maintaining regulatory compliance, which has made data privacy and security issues crucial (Real-Time Data Integration Analytics: and Empowering Data-Driven Decision Making, 2023). Additionally, the successful implementation of these technologies depends heavily on how prepared firms are culturally to embrace them. Establishing a culture that collaborates across IT and business units and supports data-driven decision-making is essential for organizations (Utilizing Data-Driven Insights for Strategic Decision-Making, 2024).

Businesses must integrate various data sources into coherent analytical frameworks as they depend more and more on real-time analytics. According to Harnessing the Power of real-time analytics and Reverse ETL (2023), companies must integrate their data effectively to extract valuable insights from it. A

Figure 2: The Predictive Analytics Cycle

The Predictive Analytics Cycle





deeper and more accurate set of insights is produced when information from multiple sources can be synthesized, which eventually results in more intelligent strategic choices.

The contextual environment surrounding IT-driven real-time analytics, in conclusion, emphasizes how revolutionary it may be for strategic business decisionmaking in the digital economy. Businesses that successfully use these technologies can increase their agility, improve customer satisfaction, and spur innovation. To fully reap the rewards of real-time analytics, they must also work through issues with data privacy, cultural sensitivity, and successful integration.

3.2 The Transformative Impact of IT-Driven Real-Time Analytics on Strategic Decision-Making in the Digital Economy

The study shows that how businesses use data to improve their decision-making has undergone a radical change. The capacity to analyze data in real time has become a crucial distinction as firms increasingly function in a fast-paced digital environment. In addition to increasing operational effectiveness, businesses that use real-time analytics also greatly boost customer satisfaction and overall profitability.

Recent research has shown that companies that use realtime analytics have seen significant gains in revenue and client acquisition rates. This is one of the most compelling findings. Businesses that successfully use real-time data strategies, for example, have seen up to 23 times greater client acquisition rates and a revenue increase of 15% on average in just one year (McKinsey, 2024). This shows how incorporating real-time analytics into decision-making procedures enables businesses to react quickly to shifts in the market and consumer preferences, which eventually improves performance indicators.

Furthermore, the benefits of real-time analytics for competitive advantage extend beyond financial results. Organizations that have used these technologies have demonstrated improved capacity for creativity and agility. Compared to their slower rivals, companies who prioritized 'real-time-ness' had a 97% increase in profit margins and a 62% increase in revenue growth (MIT CISR, 2024). This flexibility enables companies to quickly adjust to new trends and customer needs, promoting a responsive culture that is crucial in the modern business environment.

There are many obstacles in the way of successfully implementing real-time analytics, though. Concerns about data security and privacy are crucial as businesses work to achieve regulatory compliance while utilizing real-time insights (Real-Time Data Integration and Analytics, 2023). Furthermore, a culture that encourages data-driven decision-making must be established in order for integration to be successful. To take full advantage of real-time analytics, organizations need to promote cooperation between IT and business units (Utilizing Data-Driven Insights for Strategic Decision-Making, 2024).

IT-driven real-time analytics have a significant influence on strategic business decision-making, to sum up. Successfully integrating these analytical tools helps organizations boost customer happiness, stimulate innovation, and increase operational efficiencies. To maintain competitive advantages as companies, and continue to negotiate the intricacies of the digital economy, real-time analytics will be essential.

4 FINDINGS

The research yielded several key findings that illuminate the transformative role of real-time analytics in contemporary business practices. The findings are organized thematically as follows:

4.1 Enhanced Decision-Making Speed and Agility

- i. Businesses that adopted real-time analytics reported notable increases in the speed at which decisions were made. Up to 50% less time was spent making decisions by many organizations, which enabled them to react to client requests and market shifts more quickly.
- Operational agility has increased as a result of businesses using real-time data to make well-informed decisions based on current trends rather than just past data.

4.2 Improved Customer Acquisition and Retention

i. The customer acquisition rates of businesses that used real-time analytics increased significantly; some companies reported rates that were up to 23 times

Figure 3: Impact of Real-Time Analytics on Decision-



greater than those of businesses that did not use such analytics.

ii. Organizations that used real-time insights saw retention rates rise by up to six times, demonstrating a strong association between real-time data consumption and customer loyalty. Customer retention also improved dramatically.

4.3 Operational Efficiency Gains

i. Many businesses reported increases in their overall efficiency indicators of more than 20% as a result of the integration of real-time analytics, which increased operational efficiencies.

ii. Some industries saw significant gains, such as retail and logistics. For example, retailers reduced stockouts by 35% by streamlining inventory management procedures, and logistics firms realized a

Figure 4: The Predictive Analytics Cycle

30% decrease in gasoline usage by improving route management.

4.4 Challenges in Implementation

i. Despite the many advantages, real-time analytics implementation presented major obstacles for enterprises. Data privacy and security issues were common, and many businesses found it difficult to adhere to legal obligations while using sensitive data.

ii. Another barrier that was found was the organization's cultural preparedness. A lack of a datadriven culture in many organizations prevented realtime analytics from being successfully implemented, which resulted in opposition from both management and staff.

4.5 Need for Effective Data Integration

i. The challenge of combining many data sources into coherent analytical frameworks was one of the issues that kept coming up. Companies expressed difficulty combining data from multiple sources, which made it more difficult for them to draw insightful conclusions.

ii. To optimize the advantages of real-time analytics, it was determined that effective data integration was necessary. Businesses with successful data source integration reported more precise analysis and deeper insights.

In conclusion, the results highlight that although ITdriven real-time analytics can greatly improve operational effectiveness and strategic business decision-making; to fully reap these advantages,

Figure 5: Effective Data Integration



organizations must overcome a number of implementation and integration-related obstacles.

5 DISCUSSION

This study aims to solve the research challenge of how real-time analytics powered by IT affect strategic business decision-making in the digital economy. As businesses are under more and more pressure to adjust to the ever-changing market and customer needs, using real-time analytics has become a critical component of decision-making. The main conclusions of this study show that businesses that use real-time analytics see higher rates of client acquisition and retention, faster decision-making, and notable increases in operational efficiency. Nonetheless, issues with cultural sensitivity, data privacy, and efficient data integration continue to exist.

The findings show that the data gathered exhibits clear trends. Agility and responsiveness to market dynamics were claimed to have significantly improved for organizations that successfully deployed real-time analytics. This is in line with the study's assumptions, which were that real-time analytics will speed up decision-making and improve operations in general. The findings are also in line with earlier studies that demonstrate the beneficial connection between better organizational outcomes and the use of real-time data. Unexpected outcomes did, however, surface, especially in light of the difficulties encountered during implementation. Cultural resistance was more significant than many organizations had anticipated, even though many had predicted infrastructural and technology-related challenges. Employees' ignorance of the advantages of real-time analytics or a lack of training could be other factors for these difficulties.

5.1 Implications

The research has important ramifications for scholars and practitioners alike. The results emphasize the value of real-time analytics in improving an organization's capacity for strategic decision-making. Comparing these results to earlier research makes it clear that realtime analytics is a revolutionary strategy that has the potential to completely alter corporate operations rather than just being a technical development. This study offers fresh perspectives on how businesses may use real-time data to accelerate innovation, enhance customer satisfaction, and gain a competitive edge.

5.2 Contributions

This study has limitations notwithstanding its contributions. Reliance on secondary data may limit the breadth of understanding when it comes to certain business contexts and personal real-time analytics experiences. Potential biases in the chosen literature may also have an impact on the overall findings of the study. Though they offer a thorough summary of current trends and practices in real-time analytics across a range of industries, these findings are nevertheless useful for addressing the study topic.

5.3 Future Research Directions

Prospective study avenues may involve investigating longitudinal studies that look at how real-time analytics affect organizational performance over the long run. In addition, examining sector-specific real-time analytics implementation achievements and obstacles may provide practitioners looking to improve their decisionmaking processes with insightful information. It would be helpful to investigate how various corporate cultures affect the uptake and efficacy of real-time analytics to comprehend the wider ramifications of this technology on strategic decision-making in various scenarios.

6 RECOMMENDATIONS

Several suggestions can be made to improve the efficient application and use of real-time analytics in businesses in light of the findings of the research.

i. Enhance Organizational Culture for Data-Driven Decision-Making

Establishing a culture that values data-driven decision-making should be a top priority for organizations. To do this, training programs that inform staff members of the features and advantages of real-time analytics must be offered. Organizations may better collaborate between IT and business departments and reduce opposition by encouraging a mindset that views data as a strategic asset.

ii. Invest in Robust Data Integration Infrastructure

Investments in cutting-edge data integration solutions that provide smooth communication across various data sources are necessary for enterprises to solve data integration difficulties. By putting in place systems that facilitate realtime data synchronization, insights can become more accurate and timelier. With the help of this infrastructure, information from multiple synthesized, sources will be enabling enterprises to get valuable insights and make wise decisions.

iii. Address Data Privacy and Security Concerns

Companies need to create thorough data governance plans to handle security and privacy issues related to real-time analytics. This entails putting in place strong security measures to safeguard sensitive data, guaranteeing adherence to legal requirements, and creating explicit regulations for data usage. By putting data security and integrity first, businesses can gain the trust of their clients and stakeholders.

iv. Leverage Predictive Analytics Capabilities

In order to further improve their ability to make decisions, organizations ought to think about combining real-time analytics with predictive analytics. Companies are able to recognize patterns and predict future changes in the industry by combining historical data with realtime insights. By being proactive, businesses may make strategic choices that are in line with changing consumer demands and market conditions.

v. Continuous Monitoring and Improvement

Real-time analytics processes must be continuously monitored and improved, and this requires the implementation of a framework. As data trends and business requirements change, organizations should evaluate the efficacy of their analytical models regularly and adapt them accordingly. By using an iterative process, businesses may stay flexible and adaptable to the opportunities and challenges presented by the digital economy.

In conclusion, these suggestions give enterprises looking to maximize their usage of IT-driven real-time analytics doable implementation techniques. In today's dynamic environment, businesses can effectively harness the power of real-time analytics to drive strategic decision-making by improving organizational in integration infrastructure, culture. investing addressing privacy concerns, utilizing predictive capabilities, and committing to continuous improvement.

7 CONCLUSION

In an increasingly digitized environment, the study investigates how real-time analytics might revolutionize how businesses make strategic choices. The results show that companies using real-time analytics see significant operational efficiencies, faster decision-making, and better customer acquisition and retention. These results show how important real-time data is for helping companies move quickly in response to consumer preferences and market shifts, which eventually improves performance indicators. To stay competitive, firms should give top priority to incorporating real-time analytics into their decisionmaking procedures, according to these findings' significant ramifications. Data-driven techniques are crucial for navigating the intricacies of the digital economy, as the study reinforces by offering insightful information about the connection between real-time analytics and strategic decision-making. However, to fully utilize the promise of these technologies, issues like cultural preparedness and data privacy concerns need to be resolved. Although the advantages of realtime analytics are well covered in this study, it also notes certain drawbacks, such as the use of secondary data and certain biases in the studied literature. Notwithstanding these drawbacks, the study question can still be addressed with the findings, which provide a strong basis for comprehending how IT-driven realtime analytics might improve strategic business decision-making. Future studies could look at the longterm effects of real-time analytics on organizational performance through longitudinal research, as well as sector-specific assessments that look at particular difficulties and achievements in putting these technologies into practice. Exploring how various organizational cultures impact the efficacy of real-time analytics may also provide further information about

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how to improve decision-making procedures. In summary, this study emphasizes how crucial IT-driven real-time analytics are to forming effective company choices in the current digital economy. Organizations may position themselves for long-term success in a market that is changing quickly by embracing these technologies, which can increase their agility, improve client experiences, and spur innovation.

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