

FROM DATA TO DECISIONS: A MODERN MARKETING MANAGER'S GUIDE

Alpizar^{1*}, Lukmanul Hakim², Dahrul Aman Harahap³

¹Universitas Riau Kepulauan

²Universitas Riau Kepulauan

³Universitas Riau Kepulauan

E-mail: alpizar002@gmail.com^{1*}, lukmann14@gmail.com², amandahrul@gmail.com³

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Abstract

This article explores how modern marketing managers can effectively transform data into actionable decisions in an increasingly complex and data-rich environment. The rapid expansion of digital technologies has led to an explosion of data from multiple sources, creating both opportunities and challenges for organizations. While data offers valuable insights into customer behavior, market trends, and performance, many organizations struggle to convert this information into meaningful strategic actions. Using a narrative literature review, this study synthesizes insights from academic and industry sources to identify key themes in data-driven marketing, including data as a strategic asset, analytical capabilities, integration of data and intuition, and real-time decision-making. Based on these findings, the article proposes a "From Data to Decisions" framework consisting of four stages: data collection, data analysis, insight generation, and decision implementation. The study also highlights the critical role of technology, including analytics platforms, artificial intelligence, and automation, as well as the importance of managerial capabilities such as data literacy and cross-functional collaboration. The article contributes by bridging theory and practice and offers practical guidance for marketing managers navigating data-driven decision-making. However, further empirical research is needed to validate the proposed framework.

Keywords: *Data-driven marketing; marketing analytics; decision-making; digital transformation; real-time marketing*

INTRODUCTION

The modern marketing landscape is increasingly influenced by the rapid advancement of digital technologies and the widespread availability of data across multiple platforms. Organizations today operate in an environment where vast amounts of information are continuously generated from diverse sources such as social media interactions, customer transactions, mobile applications, and connected devices (Nnaji et al., 2024). This unprecedented growth in data has transformed how marketers understand and engage with their audiences. It enables more precise targeting, improved segmentation, and the development of personalized marketing strategies that were not possible in earlier eras (Adeleye et al., 2024). At the same time, the sheer volume and variety of data present significant challenges in terms of storage, processing, and analysis. As a result, marketing managers must adopt more advanced tools and analytical approaches to effectively harness the potential of this data-rich environment (Suhairi et al., 2024a).

While the explosion of data offers valuable opportunities for gaining deeper insights into customer behavior, preferences, and emerging trends, it also contributes to the increasing complexity of marketing decision-making. Marketers are now required to interpret large datasets, integrate information from multiple channels, and respond to changes in real time. This complexity demands not only technical capabilities but also strategic thinking and data literacy (Stella et al., 2024). In highly competitive and rapidly evolving markets, organizations that can effectively leverage data gain a significant advantage in anticipating customer needs and optimizing their marketing efforts. Conversely, those that fail to manage data effectively risk making uninformed decisions and losing relevance in the market. Therefore, the ability to transform data into actionable insights has become a critical skill for modern marketing managers (Shah & Murthi, 2021). This shift underscores the need for greater precision, adaptability, and

continuous learning in navigating today's data-driven marketing landscape. Despite the abundance of data, many organizations face difficulties in translating raw information into actionable decisions that drive meaningful outcomes (Ali & Ortega-Gutiérrez, 2025). The problem lies not in the lack of data, but in the challenges associated with analyzing, interpreting, and applying it within a strategic context. Marketing managers often encounter issues such as data overload, fragmented systems, and limited analytical capabilities, which hinder effective decision-making. As a result, valuable insights may remain underutilized or misinterpreted, leading to suboptimal strategies (Sun, 2024). This article aims to address these challenges by providing guidance on how marketing managers can effectively leverage data to support decision-making processes. It adopts a conceptual, non-systematic review approach to synthesize existing knowledge and offer practical insights. By bridging the gap between data and decision-making, the article seeks to equip managers with the tools and understanding needed to operate effectively in complex, data-driven environments.

LITERATURE REVIEW

Evolution of Data-Driven Marketing

Marketing decision-making has undergone a significant transformation from intuition-based approaches to more structured, data-driven processes. In the past, marketing managers often relied on personal experience, creativity, and limited market research to guide their strategies. While this approach allowed for flexibility and innovation, it was often subjective and lacked measurable validation (Vesterinen et al., 2024). With the increasing availability of data, organizations began to adopt more analytical methods to support decision-making. Data-driven marketing enables managers to base their strategies on evidence, reducing uncertainty and improving accuracy. This shift has enhanced the ability to predict customer behavior, optimize campaigns, and measure performance more effectively (Ciampi et al., 2021).

Digital transformation has played a crucial role in accelerating this evolution toward data-driven marketing. The integration of digital technologies such as cloud computing, big data platforms, and advanced analytics tools has enabled organizations to collect and process vast amounts of information in real time. These technologies have also facilitated the integration of data across multiple channels, providing a more comprehensive view of customer interactions (Cioppi et al., 2023). As a result, marketing strategies have become more dynamic, responsive, and personalized. Digital transformation not only supports data collection but also enhances the ability to generate actionable insights *بسرعة* and efficiently. Consequently, organizations that embrace digital transformation are better positioned to leverage data as a strategic asset in marketing (Motwani & Katatria, 2024).

Types of Marketing Data

Marketing data can be broadly categorized into several types, each providing unique insights into different aspects of the market and customer behavior. Customer data is one of the most critical categories, encompassing behavioral, demographic, and psychographic information. Behavioral data includes customer actions such as purchase history, website interactions, and engagement patterns (Mrugalska & Ahmed, 2021). Demographic data provides information about age, gender, income, and other socio-economic factors, while psychographic data offers insights into attitudes, values, and lifestyles. Together, these data types enable marketers to develop a deeper understanding of their target audience and create more personalized marketing strategies (Cruz & Rosário, 2025). By leveraging customer data effectively, organizations can improve targeting, enhance customer experiences, and build stronger relationships.

In addition to customer data, organizations rely on market and competitive data as well as performance and campaign data to inform their decisions. Market and competitive data provide insights into industry trends, competitor activities, and external factors that influence market dynamics (Hadjielias et al., 2022). This information helps organizations identify opportunities, anticipate threats, and position themselves strategically. Performance and campaign data, on the other hand, focus on evaluating the effectiveness of marketing activities through metrics such as conversion rates, engagement levels, and return on investment. By analyzing this data, marketers can assess what works and what does not, allowing for continuous optimization of strategies (Yawised et al., 2022). The integration of these different data types creates a holistic view that supports more informed and effective decision-making.

Data Analytics in Marketing

Data analytics plays a central role in transforming raw data into meaningful insights that support marketing decision-making. It encompasses various levels of analysis, including descriptive, diagnostic, predictive, and prescriptive analytics. Descriptive analytics focuses on summarizing historical data to understand what has happened

in the past, while diagnostic analytics seeks to explain why certain outcomes occurred (Gong & Ribiere, 2023). Predictive analytics uses statistical models and algorithms to forecast future trends and customer behaviors, enabling proactive decision-making. Prescriptive analytics goes a step further by recommending specific actions based on data insights, helping organizations optimize their strategies. Together, these analytical approaches provide a comprehensive framework for understanding and leveraging data in marketing (Sheth, 2021).

The growing importance of artificial intelligence and machine learning has further enhanced the capabilities of data analytics in marketing. These technologies enable the processing of large and complex datasets بسرعة and with greater accuracy than traditional methods. Machine learning algorithms can identify patterns, detect anomalies, and continuously improve predictions over time (Lestari, 2023). AI-driven tools also support automation, allowing marketers to deliver personalized content and optimize campaigns in real time. As a result, organizations can make faster, more informed decisions and respond more effectively to changing market conditions (Suhairi et al., 2024b). The integration of AI and machine learning into marketing analytics represents a significant advancement in the ability to convert data into strategic value.

METHODOLOGY

This study adopts a narrative literature review as its research design to explore the role of data in modern marketing decision-making. Unlike systematic reviews, which follow strict protocols and predefined procedures, a narrative approach allows for greater flexibility in selecting and interpreting relevant sources. This design is particularly suitable for examining emerging and interdisciplinary topics such as data-driven marketing, where insights are drawn from both academic and practitioner domains. The sources selected for this review include academic journal articles, industry reports, and case studies, providing a balanced perspective between theory and practice. These sources were chosen to capture both conceptual developments and real-world applications of data-driven decision-making in marketing. By integrating diverse types of literature, the study aims to develop a comprehensive understanding of how data is used to inform marketing strategies.

The inclusion criteria for selecting sources were based on their relevance to data-driven marketing and decision-making processes, ensuring that only meaningful and focused contributions were considered. A thematic analysis was employed as the primary analytical approach, allowing the identification of recurring patterns, concepts, and frameworks across the literature. Through this process, key themes were synthesized to build a structured understanding of how data supports marketing decisions. However, the study is subject to certain limitations due to its non-systematic scope. The narrative approach may introduce selection bias and does not guarantee exhaustive coverage of all available literature. Despite these limitations, the methodology provides valuable insights by offering a coherent and interpretive synthesis of existing knowledge. Ultimately, this approach enables the study to bridge theoretical perspectives with practical implications in a flexible and accessible manner.

RESULTS AND DISCUSSION

Key Themes Identified

One of the key themes identified in the review is the recognition of data as a strategic asset rather than merely an operational resource. Organizations increasingly view data as a source of competitive advantage that can inform long-term strategy and drive business growth. By leveraging data effectively, companies can gain deeper insights into customer behavior, market trends, and performance outcomes (Cao et al., 2021). This shift requires organizations to invest in data infrastructure, governance, and capabilities to ensure that data is accurate, accessible, and actionable. In addition, the importance of analytical capabilities has emerged as a critical factor in transforming data into value (Klee et al., 2021). Marketing managers must develop the ability to interpret complex datasets, apply analytical tools, and extract meaningful patterns that support decision-making. Without strong analytical capabilities, the potential value of data remains largely untapped.

Another important theme is the integration of data and intuition in marketing decision-making processes. While data provides objective insights and evidence, intuition based on experience and contextual understanding still plays a vital role in interpreting results and making strategic choices. Effective decision-making requires a balance between analytical rigor and managerial judgment, ensuring that decisions are both informed and adaptable (Brewis et al., 2023). Real-time decision-making also stands out as a defining characteristic of modern marketing environments. With the availability of real-time data, organizations can respond quickly to changing customer behaviors and market conditions. This capability enables more agile and responsive strategies, reducing delays and improving overall performance. Together, these themes highlight the need for a holistic approach that combines data, analytics, intuition, and speed in decision-making (Kumari et al., 2025).

Table 1. Key Themes in Data-Driven Marketing Decision-Making

Theme	Definition	Key Characteristics	Strategic Implications
Data as a Strategic Asset	Viewing data as a core resource that drives long-term value and competitiveness	Data infrastructure, governance, accessibility, accuracy	Enhances strategic planning, supports growth, and creates competitive advantage
Analytical Capabilities	Ability to interpret data and extract meaningful insights	Data analysis skills, use of analytical tools, pattern recognition	Enables effective decision-making and maximizes the value of data
Data and Intuition Integration	Combining data-driven insights with managerial experience and judgment	Balance of analytics and intuition, contextual understanding	Improves decision quality by ensuring both evidence-based and adaptive strategies
Real-Time Decision-Making	Ability to make timely decisions based on real-time data	Speed, responsiveness, continuous monitoring	Supports agility, faster reactions to market changes, and improved performance outcomes

The table as shown in Table 1 presents four interrelated themes that collectively define effective data-driven marketing in modern environments. Data as a strategic asset highlights the growing recognition that data is not merely a byproduct of operations but a key driver of competitive advantage and long-term strategic value. This is closely supported by analytical capabilities, which enable organizations to transform raw data into meaningful insights that inform decision-making. The integration of data and intuition further emphasizes that while data provides objective evidence, managerial experience and contextual understanding remain essential for interpreting insights and making nuanced decisions (Shiddiqi et al., 2026). Real-time decision-making complements these elements by ensuring that organizations can act quickly on available information, enhancing responsiveness and agility. Together, these themes demonstrate that successful marketing decision-making requires a balanced combination of data, analytical skills, human judgment, and speed. This integrated approach allows organizations to navigate complexity more effectively and achieve better strategic outcomes (Adeniran et al., 2024).

Figure 1 presents a matrix visualization that illustrates how the four key themes of data-driven marketing relate to critical strategic dimensions, including strategy, capability, decision-making, and speed. The chart highlights that data as a strategic asset is strongly associated with the strategic dimension, reinforcing its role in guiding long-term direction and competitive positioning. Analytical capabilities show a high contribution to capability and decision-making, emphasizing the importance of technical and analytical skills in extracting value from data (Mayndarto, 2025). The integration of data and intuition is most prominent in the decision dimension, indicating the need to balance evidence-based insights with managerial judgment. Real-time decision-making stands out in the speed dimension, demonstrating its critical role in enabling rapid and responsive actions in dynamic environments (Umoren et al., 2025). Overall, the matrix reveals a balanced yet differentiated contribution of each theme across strategic dimensions. This visualization underscores that effective data-driven marketing requires the integration of multiple capabilities to support comprehensive and agile decision-making.

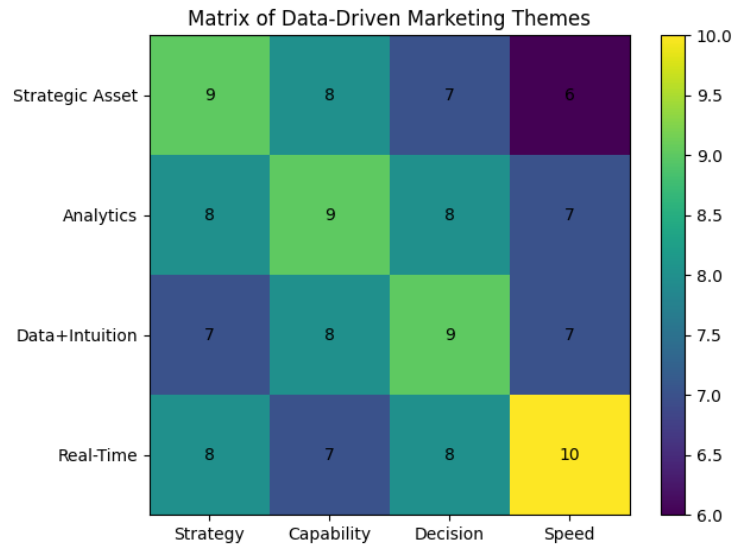


Figure 1. Matrix of Data-Driven Marketing Themes and Strategic Dimensions

From Data to Decisions Framework (Proposed Model)

The proposed “From Data to Decisions” framework begins with the data collection stage, which involves gathering relevant information from various sources and tools. These sources may include customer databases, social media platforms, web analytics, and CRM systems, all of which provide valuable insights into customer interactions and behaviors (Bonvino & Giorgino, 2024). The effectiveness of this stage depends on the ability to collect high-quality, relevant, and timely data that aligns with organizational objectives. Following data collection, the next stage is data analysis, where techniques and technologies are applied to process and interpret the collected data. This includes the use of statistical methods, data visualization tools, and advanced analytics platforms to uncover patterns and trends (Nnaji et al., 2024). Proper analysis transforms raw data into structured information that can be further explored and utilized.

The third stage of the framework is insight generation, which focuses on translating analyzed data into meaningful and actionable insights. This process involves interpreting results, identifying key findings, and understanding their implications for marketing strategy. Insight generation bridges the gap between technical analysis and strategic thinking, enabling managers to derive value from data. The final stage is decision implementation, where insights are applied to inform strategic and operational actions. This includes adjusting marketing campaigns, optimizing resource allocation, and improving customer engagement strategies (Adeleye et al., 2024). Effective implementation requires coordination across teams and continuous monitoring of outcomes to ensure that decisions deliver the desired results. Together, these four stages form a comprehensive framework that guides marketing managers from data collection to actionable decisions (Stella et al., 2024).

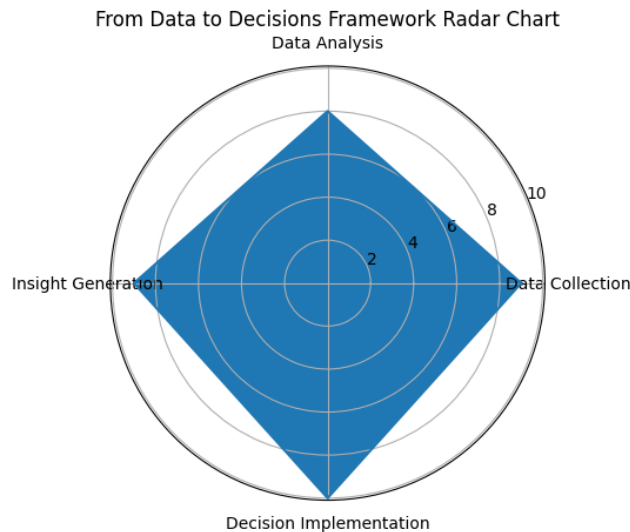


Figure 2. Radar Chart of the “From Data to Decisions” Framework Stages

Role of Technology

Technology plays a central role in enabling data-driven marketing by providing the tools and platforms necessary for collecting, processing, and analyzing data. Marketing analytics platforms, such as customer relationship management systems and data management platforms, allow organizations to consolidate data from multiple sources into a unified system (Cao et al., 2021). These platforms facilitate better data organization, accessibility, and visualization, making it easier for marketing managers to interpret information. In addition, dashboards provide real-time insights into key performance indicators, enabling managers to monitor progress and make timely adjustments (Klee et al., 2021). The use of technology not only improves efficiency but also enhances the accuracy and reliability of data-driven decisions. As a result, organizations can respond more effectively to market changes and customer needs (Brewis et al., 2023).

The integration of artificial intelligence and automation has further transformed the role of technology in marketing. AI-driven tools can analyze large datasets, identify patterns, and generate predictions that support strategic decision-making. Automation streamlines repetitive tasks, such as campaign management and customer segmentation, allowing marketers to focus on higher-value activities. These technologies also enable personalized marketing at scale, delivering tailored content and experiences to individual customers in real time (Klee et al., 2021). Furthermore, AI-powered dashboards and recommendation systems provide actionable insights that enhance decision-making processes. By leveraging these advanced technologies, organizations can achieve greater speed, precision, and scalability in their marketing efforts. Ultimately, technology serves as a critical enabler of data-driven marketing and continuous improvement (Brewis et al., 2023).

Table 2. Role of Technology in Enabling Data-Driven Marketing

Technology Component	Definition	Key Features/Tools	Strategic Impact
Marketing Analytics Platforms	Systems that integrate and manage data from multiple marketing sources	CRM systems, data management platforms, data integration tools	Improves data accessibility, organization, and informed decision-making
Dashboards & Visualization	Tools that present real-time data and performance metrics in visual formats	KPI dashboards, reporting tools, real-time monitoring systems	Enhances transparency, supports quick adjustments, and improves performance tracking
Artificial Intelligence	Advanced technologies that analyze data and generate predictive insights	Machine learning, predictive analytics, pattern recognition tools	Enables accurate forecasting, deeper insights, and smarter decision-making
Automation Technologies	Tools that automate repetitive marketing tasks and processes	Campaign automation, customer segmentation, personalization engines	Increases efficiency, scalability, and allows focus on strategic activities

Table 2 illustrates how different technological components collectively enable effective data-driven marketing by supporting various stages of data processing and decision-making. Marketing analytics platforms serve as the foundation by integrating data from multiple sources, ensuring that information is organized and accessible for analysis (Kumari et al., 2025). Dashboards and visualization tools build on this foundation by presenting real-time insights in a clear and actionable format, allowing managers to monitor performance and respond quickly to changes. Artificial intelligence further enhances these capabilities by providing advanced analytical functions, such as pattern recognition and predictive modeling, which improve the accuracy and depth of insights. Automation technologies complement these tools by streamlining repetitive tasks, increasing operational efficiency, and enabling personalized marketing at scale (Shiddiqi et al., 2026). Together, these components demonstrate that technology is not only a support function but a strategic enabler that enhances speed, precision, and effectiveness in marketing decision-making.

Managerial Capabilities

Managerial capabilities are essential for effectively leveraging data in marketing decision-making processes. One of the most important capabilities is data literacy, which refers to the ability to understand, interpret, and communicate data effectively. Marketing managers must be able to work with data, identify relevant metrics, and evaluate the quality and reliability of information. This requires not only technical knowledge but also the ability to translate data into meaningful business insights (Mayndarto, 2025). In addition, managers must develop strong critical thinking and interpretation skills to assess data objectively and avoid common pitfalls such as bias or misinterpretation. These skills enable managers to make informed decisions and adapt strategies based on evidence. As data becomes more central to marketing, the demand for these capabilities continues to grow (Bonvino & Giorgino, 2024).

Another crucial aspect of managerial capability is cross-functional collaboration, which ensures that data-driven insights are effectively integrated across the organization. Marketing managers must work closely with teams in areas such as IT, finance, and operations to ensure that data is shared and utilized effectively. This collaboration enhances the quality of decision-making by incorporating diverse perspectives and expertise (Nnaji et al., 2024). It also supports the alignment of marketing strategies with broader organizational goals. Furthermore, a collaborative approach helps break down silos and promotes a culture of shared responsibility and continuous learning. By fostering strong managerial capabilities, organizations can maximize the value of data and improve their overall marketing performance. Ultimately, the success of data-driven marketing depends not only on technology but also on the skills and mindset of managers (Adeleye et al., 2024).

CONCLUSION

This article has examined the growing importance of data-driven approaches in modern marketing and highlighted how organizations can effectively transform data into actionable decisions. As the marketing environment becomes increasingly complex and dynamic, the ability to leverage data strategically has emerged as a critical capability for achieving competitive advantage. The findings emphasize that data alone is not sufficient; organizations must also develop strong analytical capabilities, integrate data with managerial intuition, and adopt real-time decision-making practices. The proposed “From Data to Decisions” framework provides a structured approach that guides marketing managers through the stages of data collection, analysis, insight generation, and decision implementation. In addition, the role of technology and managerial capabilities is underscored as essential enablers of this process. Together, these elements highlight the need for a holistic and integrated approach to data-driven marketing.

From a theoretical perspective, this study contributes to the understanding of how data can be systematically translated into strategic marketing decisions. Practically, it offers valuable insights for marketing managers seeking to enhance their decision-making processes in data-rich environments. However, the study is limited by its narrative review methodology, which may not capture the full scope of available research. Future studies should focus on empirical validation of the proposed framework and explore its application across different industries and organizational contexts. Additionally, further research could investigate the impact of emerging technologies and varying levels of data maturity on marketing effectiveness. Ultimately, the ability to bridge the gap between data and decisions will remain a key determinant of success in modern marketing.

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