

THE ROLE OF DATA IN MARKETING DECISION-MAKING: CONTEMPORARY ANALYTICS AND A SIX-DIMENSIONAL FIT FRAMEWORK

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Abstract: Growing access to customer, transactional, behavioral, and market data has expanded the role of analytics in marketing decisions. This study systematizes marketing data sources and roles and compares descriptive, diagnostic, predictive, and prescriptive analytics through a targeted integrative review and conceptual analysis of 16 journal articles published in 2016–2026. The synthesis indicates that value depends on the joint alignment of decision, evidence, analytical method, organizational capability, governance, and feedback. A six-dimensional Decision-Analytics Fit Framework is therefore proposed to guide analytical selection, implementation, and responsible use. The framework is a testable conceptual proposition rather than a validated causal model.

Keywords: marketing data, marketing analytics, data-driven marketing, decision-making, organizational capabilities, predictive analytics, prescriptive analytics

JEL codes: M31, C55, C44

Research aims: To systematize the main sources and roles of marketing data and develop a decision-level framework for selecting, implementing, and governing analytical approaches.

Research novelty: The study proposes a six-dimensional Decision-Analytics Fit Framework for marketing decisions.

Introduction

Marketing decisions increasingly take place in data-rich environments. Firms continuously collect customer, transactional, behavioral, and market information through websites, applications, social media, customer relationship management systems, transactions, and connected technologies. These data can support customer understanding, campaign evaluation, opportunity identification, and resource allocation, thereby reducing - but not eliminating - managerial uncertainty. Consequently, decisions once guided mainly by experience and intuition are increasingly informed by systematic evidence.

Marketing analytics transforms raw data into actionable insight by applying analytical methods to managerial questions. It supports marketing-mix optimization, personalization, customer relationship management, and the interpretation of structured and unstructured data (Wedel & Kannan, 2016). More recent research connects data-driven marketing with organizational agility, innovation, and competitive advantage, while emphasizing that value emerges only when analytical insight is incorporated into decisions and organizational processes (Abrokwah-Larbi, 2024; Cadden et al., 2023; Rosário & Dias, 2023).

Nevertheless, existing research often treats decision integration, data quality, analytical methods, organizational capabilities, governance, and feedback as separate or only partly connected issues. Recent reviews likewise describe a fragmented field and call for stronger integration of technological, organizational, managerial, and governance perspectives (Basu et al., 2025; Cruz & Rosário, 2025; Gómez Pescador et al., 2026). This fragmentation makes it difficult for practitioners to determine whether an analytical initiative is suitable for a particular marketing decision. The purpose of this study is therefore to systematize the role and sources of marketing data, compare contemporary analytical approaches, and conceptually integrate the conditions required for their effective and responsible use.

Research Results

The Role of Data in Marketing Decision-Making

Data support marketing decisions at strategic, tactical, and operational levels. Strategically, they inform market selection, positioning, customer portfolio management, and resource allocation. Tactically, they support segmentation, campaign planning, pricing, channel selection, and product development. Operationally, they enable campaign monitoring, recommendations, personalization, and customer-interaction management (Wedel & Kannan, 2016).

Data can also turn marketing into a continuous learning process: organizations formulate a decision, implement it, observe responses, and adjust subsequent action. Evidence from three Italian B2B firms illustrates how stakeholder feedback can be stored and reused as organizational knowledge (Troisi et al., 2020), although the cases do not establish a general causal effect. A study

of 221 UK managers likewise found that analytics supported marketing decisions and product development, while data availability and managerial support contributed indirectly to sustained competitive advantage (Cao et al., 2019).

Data availability is not equivalent to insight. Records create value only when they are relevant, reliable, timely, interpretable, and connected to a decision. The key question is therefore whether the organization can convert appropriate data into knowledge and action.

Types and Sources of Marketing Data

Marketing data can be classified by ownership, structure, and informational purpose. First-party data arise from an organization's own customer relationships, including purchases, digital activity, service records, loyalty programs, and communication responses. Second-party data are a partner's first-party data, while third-party data come from external providers, public databases, or aggregated market sources. External sources can broaden coverage, but their provenance, quality, consent basis, and relevance require assessment (Martin & Murphy, 2017; Wedel & Kannan, 2016).

Structured data include transactions, prices, profiles, and campaign indicators stored in predefined fields. Semi-structured and unstructured data include web logs, searches, social posts, reviews, images, audio, video, and service conversations. Analytical and data-mining methods can extend analysis across these formats, provided that the method fits the data and decision purpose (Saura, 2021; Wedel & Kannan, 2016).

By informational purpose, transactional data describe exchanges; behavioral data show actions; attitudinal data capture

perceptions and intentions; and external data describe competitors and market conditions. No source is sufficient for every decision: transactions reveal behavior but not necessarily motives, while surveys and reviews may differ from actual conduct. Effective analysis therefore requires triangulation and a clear link between evidence and the managerial question (Saura, 2021; Wedel & Kannan, 2016).

Contemporary Approaches to Marketing Data Analytics

Descriptive analytics asks what happened, summarizing historical and current data through indicators, dashboards, trends, and segment profiles. It supports monitoring of sales, traffic, conversion, engagement, acquisition costs, retention, and customer value, but cannot independently establish causes or predict outcomes.

Diagnostic analytics asks why it happened. Comparisons, drill-down and cohort analyses, attribution, correlations, and statistical tests can identify possible drivers of conversion, churn, or channel differences. Because association does not imply causation, findings require cautious interpretation.

Predictive analytics asks what is likely to happen, using statistical or machine-learning models to estimate demand, purchase propensity, churn, customer lifetime value, and campaign response. Reliability depends on representative data, validation, stable relationships, and monitoring because market change can reduce accuracy.

Prescriptive analytics asks what should be done, combining predictions with objectives, constraints, rules, simulation, or

optimization. It can support budget allocation, pricing, promotion, contact timing, and channel decisions. Its recommendations reflect embedded assumptions, so managerial judgment remains necessary under strategic ambiguity, ethical concerns, or incomplete information (Kumar et al., 2024; Saura, 2021; Wedel & Kannan, 2016).

The approaches are complementary: descriptive analysis establishes a baseline, diagnostic analysis explores drivers, predictive analysis estimates developments, and prescriptive analysis evaluates responses. More advanced use increases technical, organizational, and governance demands. Evidence from 866 UK hotel managers links marketing analytics use with performance and shows moderating effects of data-tool, employee-tool, and task-tool fit (Agag et al., 2025). Other studies similarly emphasize data resources, skills, managerial support, and knowledge integration (Abrokwah-Larbi, 2024; Cadden et al., 2023; Cao et al., 2019).

The Decision–Analytics Fit Framework

Recent reviews describe marketing analytics as fragmented and call for integration of technological, organizational, managerial, and governance perspectives (Basu et al., 2025; Cruz & Rosário, 2025; Gómez Pescador et al., 2026). Decision fit is grounded in research linking analytics to managerial questions and decision roles (Haverila et al., 2025; Wedel & Kannan, 2016). Evidence fit reflects work on data quality, resources, integration, and representativeness (Cao et al., 2019; Haverila et al., 2025; Wedel & Kannan, 2016). Analytical fit matches methods to their decision

purposes (Kumar et al., 2024; Saura, 2021; Wedel & Kannan, 2016).

Organizational capability fit integrates analytical skills, managerial support, knowledge integration, and employee-tool and task-tool alignment (Abrokwah-Larbi, 2024; Agag et al., 2025; Cadden et al., 2023; Cao et al., 2019). Governance fit covers privacy, bias, explainability, accountability, and human oversight (Akter et al., 2023; Martin & Murphy, 2017; van Giffen et al., 2022). Feedback fit reflects cyclical learning, outcome monitoring, and reuse of implementation feedback (Troisi et al., 2020; van Giffen et al., 2022). No reviewed article operationalizes all six conditions for one marketing decision; the framework therefore offers an integrated configuration and operational questions rather than six wholly new variables.

The framework applies six linked tests (Table 1). Decision fit clarifies the managerial question and consequences. Evidence fit assesses relevance, quality, timeliness, integration, and representativeness, recognizing that evidence may combine quantitative data, qualitative insight, and contextual knowledge. Analytical fit matches the method to the question. Organizational capability fit assesses skills, leadership support, coordination, resources, and workflow capacity. Governance fit calibrates privacy, security, explainability, bias controls, and oversight. Feedback fit returns measured outcomes and stakeholder responses to the next decision cycle.

Table 1. Six dimensions of the Decision–Analytics Fit Framework

Source: Author's own work

Fit dimension	Assessment
Decision fit	Core question: Are the decision, owner, horizon, and success criterion explicit? Failure risk: Analysis addresses the wrong question. Managerial response: Specify alternatives, constraints, ownership, and success measures.
Evidence fit	Core question: Are data relevant, timely, integrated, and representative? Failure risk: Incomplete or biased evidence misleads. Managerial response: Audit provenance, quality, definitions, and lawful use.
Analytical fit	Core question: Does the method validly answer the question? Failure risk: The method is invalid or unnecessarily complex. Managerial response: Select the simplest valid analytical approach.
Capability fit	Core question: Can people and workflows act on the analysis? Failure risk: Insight cannot be implemented. Managerial response: Build skills, leadership support, coordination, and ownership.

Fit dimension	Assessment
Governance fit	Core question: Are safeguards proportionate to impact and automation? Failure risk: Privacy harm, bias, opacity, or unaccountable action. Managerial response: Set access, security, explainability, monitoring, and oversight.
Feedback fit	Core question: Are outcomes returned to the next decision cycle? Failure risk: Model drift and repeated error. Managerial response: Track results and revise data, models, rules, and actions.

The decision value of marketing analytics depends on the joint adequacy of all six dimensions; serious misfit in one constrains the value of strengths in the others. This is not a maturity hierarchy: a statistically accurate predictive model may be useless when the decision is not actionable or the organization cannot implement it, whereas a descriptive dashboard may best support operational monitoring. The proposition is consistent with evidence on data-tool, employee-tool, and task-tool fit (Agag et al., 2025) and the distinct roles of information and technology quality (Haverila et al., 2025).

Application begins by defining the decision and success criterion, auditing evidence, selecting the least complex valid method, assessing organizational readiness, establishing safeguards, and recording the action and result. The feedback loop returns outcomes to the next cycle and helps managers distinguish decision-definition, data, method, capability, governance, and implementation problems.

Conclusion

This study shows that data can create marketing value when appropriate sources and analytical approaches are aligned with clearly defined managerial decisions and with the organization's ability to act on the resulting insight. Marketing data differ by ownership, structure, and informational purpose, and each source has distinct strengths and limitations. Combining transactional, behavioral, attitudinal, and external data can produce a more complete view of customers and markets, provided that quality, comparability, timeliness, representativeness, and lawful use are ensured.

Descriptive, diagnostic, predictive, and prescriptive analytics address different but complementary questions. By synthesizing conditions discussed separately or in partial combinations across the literature, the proposed Decision - Analytics Fit Framework integrates six dimensions: decision, evidence, analytical, organizational capability, governance, and feedback fit. Its central proposition is that analytical sophistication should not be pursued as an end in itself: organizations should select the simplest valid approach and ensure joint alignment among the decision, evidence, method, capabilities, safeguards, and learning process.

Technology alone cannot guarantee data-driven decision-making. Analytical skills, managerial interpretation, cross-functional knowledge integration, privacy protection, bias management, and continuous outcome monitoring are necessary for converting findings into responsible action. The framework is a conceptual synthesis and has not yet been tested as a unified causal model. Its targeted corpus and interpretive category construction

also limit generalizability. Subsequent research should operationalize the six dimensions and examine their individual and joint effects through surveys, interviews, longitudinal designs, and organizational case studies, including research on how Armenian organizations use analytics in marketing decisions.

Declaration on the use of artificial intelligence tools:

Generative artificial intelligence tools were used solely for language editing and translation support. The author reviewed and verified the final text and assumes full responsibility for its content, interpretations, and conclusions.

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**ՏՎՅԱԼՆԵՐԻ ԴԵՐԸ ՄԱՐՔԵԹԻՆԳԱՅԻՆ ՈՐՈՇՈՒՄՆԵՐԻ
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ԺԱՄԱՆԱԿԱԿԻՑ ՄՈՏԵՑՈՒՄՆԵՐԸ ԵՎ ՎԵՑԱԶԱՓ
ՀԱՄԱՊԱՏԱՍԽԱՆՈՒԹՅԱՆ ՇՐՋԱՆԱԿԸ**

Աննա Սարգսյան

Հայաստանի պետական տնտեսագիտական համալսարան
հայցորդ

Բանալի բառեր - մարքեթինգային տվյալներ, մարքեթինգային վերլուծություն, տվյալահեն մարքեթինգ, որոշումների կայացում, կազմակերպական կարողություններ, կանխատեսող վերլուծություն, հանձնարարական վերլուծություն

Հաճախորդների, գործարքային, վարքագծային և շուկայական տվյալների աճող հասանելիությունը մեծացրել է վերլուծության դերը մարքեթինգային որոշումների կայացման մեջ: Հետազոտությունում համակարգվում են մարքեթինգային տվյալների հիմնական աղբյուրներն ու դերերը և համեմատվում նկարագրական, ախտորոշիչ, կանխատեսող ու հանձնարարական մոտեցումները՝ 2016–2026 թվականներին հրապարակված 16 գիտական հոդվածների գրականության նպատակային ինտեգրատիվ վերանայման և համեմատական հայեցակարգային վերլուծության միջոցով:

Սինթեզը ցույց է տալիս, որ մարքեթինգային վերլուծության արժեքը որոշումների համար կախված է վեց պայմանների համատեղ համապատասխանությունից՝ որոշման, ապացույցների, վերլուծական մեթոդի, կազմակերպական կարողության, կառավարման և հետադարձ կապի: Այս հիմքով

առաջարկվում է «Որոշում–վերլուծություն համապատասխանության» հայեցակարգային վեցաչափ շրջանակը՝ վերլուծական մոտեցումների ընտրությունը, ներդրումը և պատասխանատու կիրառումն ուղղորդելու համար: Շրջանակը ներկայացվում է որպես էմպիրիկ ստուգման ենթակա հայեցակարգային առաջարկ, այլ ոչ թե արդեն հաստատված պատճառահետևանքային մոդել:

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