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Human-AI Collaboration in Marketing Decision-Making: Enhancing Managerial Judgment or Creating Dependence?

Abellando Biyakto Putra[1*]

[1] Universitas Diponegoro, Semarang, Indonesia

Abstract

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This article examines whether human-AI collaboration in marketing decision-making enhances managerial judgment or creates new forms of dependence. Adopting a systematic literature review of peer-reviewed studies published between 2018 and 2022, it synthesizes evidence on how marketers use AI tools to support tasks such as targeting, forecasting, and campaign optimization. The review identifies benefits of AI as an analytical and advisory partner, including improved data processing, pattern detection, and support for evidence-based strategies, alongside risks of overreliance, automation bias, deskilling, and diffusion of responsibility. The article organizes the literature into themes of augmentation, conditions shaping reliance and resistance to algorithms, and emerging concerns about governance and ethics in AI-mediated marketing decisions. It concludes that outcomes depend on how collaboration is designed, highlighting the need for transparent systems, clear accountability, and investment in human capabilities to ensure that AI serves as a tool for augmentation rather than a source of managerial dependence. Future research directions are outlined to guide more responsible and effective deployment of AI in marketing practice.

*Corresponding author:
(Abellando Biyakto Putra)

1. Introduction

Human-AI collaboration is rapidly becoming a defining feature of marketing decision-making, as firms deploy artificial intelligence (AI) tools to support tasks such as segmentation, forecasting, dynamic pricing, and content optimization. Recent work suggests that AI will fundamentally reshape how marketing strategies are formulated and executed, with algorithms embedded in the everyday decisions of managers and frontline employees (Davenport et al., 2020; Huang & Rust, 2021). Rather than operating only as back-end analytics engines, contemporary AI systems increasingly act as decision partners that surface insights, generate recommendations, and sometimes issue automated actions in real time (Haleem et al., 2022).

A growing stream of research frames this shift through the lens of augmentation rather than replacement. In organizational settings, AI is argued to extend human cognition by handling complexity and large-scale data processing, while humans provide contextual understanding, intuition, and ethical judgment (Jarrahi, 2018). In marketing specifically, conceptual frameworks emphasize that AI is most valuable when it complements managerial judgment across the customer journey instead of displacing human decision-makers (Davenport et al., 2020; Huang & Rust, 2021). This view of intelligence augmentation positions human-AI collaboration as a pathway to better decisions, faster learning, and more adaptive marketing capabilities.

At the same time, systematic reviews and bibliometric analyses show that AI in marketing has evolved into a dense yet fragmented research domain. Reviews by

Mustak et al. (2021), Vlačić et al. (2021), and Han et al. (2021) map diverse streams spanning customer analytics, personalization, service automation, and B2B applications, while calling for more work on managerial capabilities, governance, and decision processes. Recent literature-based syntheses similarly stress that marketers must understand not only what AI can do, but also how it changes roles, skills, and accountability within organizations (Haleem et al., 2022). Yet, within this expanding body of work, explicit examinations of how managers actually collaborate with AI systems, and the conditions under which such collaboration enhances or undermines their judgment, remain relatively scarce.

Evidence from decision-making research raises important concerns about overreliance and emerging dependence on algorithms. Studies show that people sometimes weigh algorithmic advice more heavily than human input, a phenomenon termed algorithm appreciation, which can attenuate critical scrutiny and blur responsibility (Logg et al., 2019). Research on recommender systems similarly suggests that users adjust their choices around algorithmic recommendations, even when they do not fully understand how these outputs are generated (Yeomans et al., 2019). In consumer markets, ethical analyses highlight paradoxes in which AI enables more precise targeting and personalization while amplifying risks related to opacity, manipulation, and bias (Du & Xie, 2021). These insights imply that human-AI collaboration in marketing decision-making may enhance managerial judgment in some contexts, but also foster new forms of dependence, deskilling, and diffusion of responsibility in others.

In this context, a systematic literature review of peer-reviewed studies published between 2018 and 2022 is needed to synthesize what is known about human-AI collaboration in marketing decision-making. Building on prior AI-in-marketing reviews while focusing specifically on the dynamics of collaboration, this article aims to clarify how AI is currently used to support or substitute managerial judgment, identify mechanisms that lead to augmentation versus dependence, and outline a research agenda for more responsible and effective human-AI decision architectures in marketing.

2. Literature Review

Existing reviews on AI in marketing show that the field has expanded rapidly across multiple domains, including analytics, personalization, service automation, and B2B contexts (Mustak et al., 2021; Vlačić et al., 2021; Han et al., 2021). These studies map topical clusters such as AI driven customer insight, recommendation systems, and service robots, and emphasize that AI is increasingly embedded in strategic and operational marketing decision processes (Davenport et al., 2020; Huang & Rust, 2021). More recently, Mariani et al. (2022) provide an integrated review of AI in marketing, consumer research, and psychology, identifying key research streams on consumer responses, data driven targeting, and human machine interaction. Across these contributions, however, the primary focus is on applications, outcomes, and consumer side effects rather than on the micro level dynamics of how managers collaborate with AI systems when making marketing decisions.

In parallel, a growing body of management and information systems research investigates human AI collaboration in decision making more broadly. Jarrahi (2018) conceptualizes human AI symbiosis as a form of augmented decision making, where AI supports data intensive tasks while humans retain responsibility for contextual judgment and sensemaking. Trunk et al. (2020) use a systematic review and content analysis to propose a conceptual model of how AI can be integrated into organizational decision processes under uncertainty, highlighting changing divisions of labor, new supervisory roles, and unresolved ethical questions. These perspectives are echoed in AI in marketing frameworks that argue for complementary roles between algorithms and managers across the customer journey (Davenport et al., 2020; Huang & Rust, 2021; Haleem et al., 2022). Yet, most of this work remains conceptual and cross sectional, offering limited empirical insight into how specific forms of human AI collaboration affect the quality of marketing decisions or the evolution of managerial judgment over time.

A third relevant stream centers on algorithm aversion, algorithm appreciation, and the conditions under which humans rely on or resist AI advice. Mahmud et al. (2022) systematically review empirical studies on algorithm aversion and identify factors at the algorithm, individual, task, and higher level that shape willingness to follow algorithmic recommendations. Their synthesis suggests that issues of transparency, perceived fairness, and controllability are central when humans evaluate AI outputs. At the same time, evidence from decision making experiments shows that people can display algorithm appreciation and rely more on AI than on human advisors, which raises concerns about overreliance and responsibility

diffusion (Logg et al., 2019; Yeomans et al., 2019). In marketing ethics, Du and Xie (2021) argue that AI mediated targeting and personalization create paradoxes of value and vulnerability, where efficiency gains coincide with opacity and manipulation risks. Taken together, these literatures provide important building blocks, but they have not yet been systematically integrated around the specific question of whether Human-AI collaboration in marketing decision making enhances managerial judgment or encourages new forms of dependence. This article addresses that gap through a systematic review of peer reviewed studies published between 2018 and 2022.

3. Methods

This study adopted a systematic literature review design to synthesize current knowledge on human-AI collaboration in marketing decision-making. Searches were conducted in major academic databases such as Scopus, Web of Science, ScienceDirect, and Google Scholar using combinations of keywords related to artificial intelligence, algorithms, marketing, decision-making, managerial judgment, collaboration, and dependence. The search was limited to peer-reviewed journal articles published between 2018 and 2022 in English. Conference papers, books, non-scholarly reports, and studies that focused solely on technical AI development without a marketing or managerial decision-making component were excluded. After removing duplicates, titles and abstracts were screened for relevance, followed by full-text assessment based on predefined inclusion and exclusion criteria.

Eligible articles were then subjected to qualitative content analysis. A structured coding scheme was developed to capture key aspects of each study, including research context, type of AI system, nature of human-AI interaction, type of marketing decision studied, methodological approach, and main findings related to enhancement or dependence of managerial judgment. Coding was conducted iteratively, with categories refined as patterns emerged across the corpus. The findings were synthesized narratively, with particular attention to how different configurations of human-AI collaboration, organizational conditions, and task characteristics relate to outcomes such as decision quality, perceived control, trust, and potential dependence on AI systems.

4. Results and Discussion

The review indicates that research on Human-AI collaboration in marketing decision-making is emerging but still relatively fragmented. Across the included studies, AI is most often positioned as an analytical or advisory tool that supports managers in tasks such as demand forecasting, campaign optimization, dynamic pricing, and customer targeting (Davenport et al., 2020; Huang & Rust, 2021; Haleem et al., 2022). Conceptual and empirical contributions converge on the idea that AI can augment managerial judgment by processing large-scale, high-dimensional data, uncovering patterns that are difficult for humans to detect, and enabling rapid experimentation in digital environments (Mustak et al., 2021; Han et al., 2021). In line with broader management theory, these findings reflect an automation-augmentation paradox, where the same technologies that automate

subtasks also create new forms of higher-level work that rely on human interpretation, coordination, and oversight (Raisch & Krakowski, 2021). In marketing contexts, AI is most beneficial when managers actively engage with model outputs, interrogate underlying assumptions, and integrate algorithmic insights with contextual knowledge about customers, brands, and competitive dynamics.

At the same time, the evidence suggests that enhancement of judgment is far from automatic. Several studies show that the quality of Human-AI collaboration depends on factors such as task characteristics, perceived reliability of the AI, and the transparency and interpretability of its recommendations (Yeomans et al., 2019; Mahmud et al., 2022). For structured, data-rich decisions, such as budget allocation or response prediction, AI tools tend to outperform or at least match human performance, and managers who appropriately calibrate their reliance on these tools achieve better outcomes (Huang & Rust, 2021; Mariani et al., 2022). However, for ambiguous, creative, or highly contextual decisions, such as brand positioning or crisis communication, studies emphasize the continued importance of human intuition and values-based reasoning (Jarrahi, 2018; Davenport et al., 2020). The literature therefore points to a contingent view of enhancement in which AI improves decision quality when its capabilities are aligned with task structure and when organizations design workflows that preserve meaningful human judgment.

The review also reveals a growing concern about different forms of managerial dependence on AI systems. Research on algorithm appreciation finds that people often give more weight to algorithmic advice than to human advice, especially when the AI is framed as objective or data-driven, which can reduce

critical scrutiny and create automation bias (Logg et al., 2019). In marketing decision contexts, this may manifest in overreliance on recommendation systems, bidding algorithms, or scoring models without sufficient monitoring of their long-term strategic and ethical implications (Du & Xie, 2021; Han et al., 2021). At the same time, work on algorithm aversion shows that reliance is not uniform. Castelo et al. (2019) demonstrate that acceptance of algorithmic advice is task-dependent: managers are more willing to delegate to algorithms for analytical tasks than for decisions that are perceived as requiring uniquely human insight or empathy. Mahmud et al. (2022) similarly report that transparency, perceived fairness, and the option for human override are crucial for sustaining trust in AI without generating blind dependence.

Across the reviewed studies, a recurrent theme is the risk of gradual deskilling and diffusion of responsibility when AI becomes deeply embedded in marketing workflows. As AI systems take over routine analysis and recommendation tasks, managers may lose opportunities to practice core analytical skills, potentially weakening their ability to detect model errors, biases, or strategic misalignments (Trunk et al., 2020; Raisch & Krakowski, 2021). Ethical analyses underscore that opacity in complex AI pipelines can obscure who is accountable for outcomes such as discriminatory targeting, privacy violations, or manipulative personalization (Du & Xie, 2021). This diffusion of responsibility can be exacerbated in organizations that treat AI outputs as neutral facts rather than as probabilistic estimates produced under specific modeling assumptions. The literature suggests that explicit governance mechanisms, such as clear accountability assignments, audit processes,

and documentation of model limitations, are necessary to prevent harmful forms of dependence and to ensure that managers remain responsible for the decisions they make with AI.

Overall, the results of this review suggest that Human-AI collaboration in marketing decision-making is best understood as a dynamic configuration rather than a fixed state. When AI is integrated as a decision partner that is transparent, auditable, and aligned with the nature of the marketing task, it can enhance managerial judgment by expanding analytical capabilities and supporting evidence-based strategy (Huang & Rust, 2021; Mustak et al., 2021). However, when organizational practices encourage uncritical adoption of algorithmic recommendations, treat AI as infallible, or fail to invest in human skills and governance, collaboration can slide into dependence, with risks of deskilling, bias, and loss of strategic control (Du & Xie, 2021; Logg et al., 2019). The reviewed literature calls for future research that examines these dynamics empirically in real organizational settings, compares different collaboration designs (for example, AI as advisor versus AI as gatekeeper), and explores interventions that help marketing managers leverage AI as a tool for augmentation rather than a crutch that undermines their professional judgment.

5. Conclusion

This systematic literature review examined how Human-AI collaboration in marketing decision-making can both enhance and potentially undermine managerial judgment. Across the reviewed studies, AI is consistently portrayed as a powerful

analytical and advisory partner that can process large-scale data, reveal hidden patterns, and support evidence-based decisions in areas such as targeting, forecasting, and campaign optimization. When managers actively interpret AI outputs, integrate them with contextual knowledge, and retain ownership of decisions, collaboration tends to function as genuine augmentation that improves decision quality and organizational learning.

However, the review also highlights that enhancement is not guaranteed and that various forms of dependence can emerge. Overreliance on algorithmic recommendations, automation bias, gradual deskilling, and diffusion of responsibility are recurrent concerns, particularly when AI systems are opaque, framed as objective, or embedded in workflows that discourage critical scrutiny. These risks are amplified in ethically sensitive areas such as personalized targeting and data-driven persuasion, where misaligned incentives and lack of governance can lead to problematic uses of AI despite apparent gains in efficiency and performance.

Taken together, the findings suggest that Human-AI collaboration in marketing decision-making is best understood as a design and governance challenge rather than a purely technical one. Organizations that seek to harness AI as a source of augmentation need to invest in transparent and auditable systems, clear accountability structures, and ongoing development of human skills in data literacy, critical evaluation, and ethical judgment. Future research should move beyond conceptual arguments and lab experiments to investigate real-world collaboration patterns, compare different roles assigned to AI within decision processes, and

identify practices that help marketing managers benefit from AI while avoiding new forms of dependence.

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