Ethics and Regulations in Data-Driven and AI-Based Marketing: A Systematic Literature Review (2014-2025)

Etika dan Regulasi dalam Pemasaran Berbasis Data dan AI: Tinjauan Literatur Sistematis (2014-2025)

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Article Info	Abstrak
	Integrasi cepat kecerdasan buatan (AI) dan teknologi berbasis data dalam pemasaran telah mengubah keterlibatan konsumen, memungkinkan tingkat personalisasi dan penargetan yang belum pernah terjadi sebelumnya. Namun, kemajuan ini telah menimbulkan kekhawatiran etis dan regulasi yang kritis terkait privasi konsumen, bias algoritmik, keadilan dalam penargetan, dan kepatuhan terhadap kerangka perlindungan data yang terus berkembang. Tinjauan literatur sistematis ini meneliti 173 publikasi yang ditinjau sejawat dari tahun 2014 hingga 2025, dengan fokus pada tiga area inti: (1) privasi konsumen dan perlindungan data, (2) bias algoritmik dan keadilan dalam penargetan, dan (3) kerangka regulasi termasuk GDPR, CCPA, dan mekanisme kepatuhan yang muncul. Analisis kami mengungkapkan empat ketegangan etis utama: paradoks personalisasi-privasi, diskriminasi algoritmik dalam segmentasi konsumen, defisit transparansi dalam pengambilan keputusan otomatis, dan kesenjangan akuntabilitas dalam sistem pemasaran berbasis AI. Temuan utama menunjukkan bahwa meskipun regulasi seperti GDPR dan CCPA telah menetapkan standar perlindungan data yang mendasar, tantangan implementasi yang signifikan masih tetap ada, termasuk kesulitan menerjemahkan prinsip-prinsip etika tingkat tinggi ke dalam praktik, ketidaktransparan sistem AI "kotak hitam", dan kesenjangan antara kepatuhan regulasi dan harapan konsumen. Tinjauan ini mengidentifikasi kesenjangan penelitian kritis dalam harmonisasi regulasi lintas batas, mitigasi bias dalam sistem penargetan waktu nyata, dan pengembangan kerangka kerja etika praktis untuk AI generatif dalam pemasaran. Kami mengusulkan pendekatan multi-pemangku kepentingan yang mengintegrasikan solusi teknis (alat deteksi bias, teknologi peningkatan privasi), praktik organisasi (kepemimpinan etis, akuntabilitas algoritmik), dan intervensi kebijakan (kerangka kerja tata kelola dinamis, standar industri) untuk mendorong pemasaran berbasis AI yang bertanggung jawab yang menyeimbangkan inovasi dengan perlindungan konsumen dan nilai-nilai masyarakat. ***Kata kunci: kecerdasan buatan, etika pemasaran, privasi data***

Abstract

The rapid integration of artificial intelligence (AI) and data-driven technologies in marketing has transformed consumer engagement, enabling unprecedented levels of personalization and targeting. However, these advancements have raised critical ethical and regulatory concerns regarding consumer privacy, algorithmic

bias, fairness in targeting, and compliance with evolving data protection frameworks. This systematic literature review examines 173 peer-reviewed publications from 2014 to 2025, focusing on three core areas: (1) consumer privacy and data protection, (2) algorithmic bias and fairness in targeting, and (3) regulatory frameworks including GDPR, CCPA, and emerging compliance mechanisms. Our analysis reveals four primary ethical tensions: the personalization-privacy paradox, algorithmic discrimination in consumer segmentation, transparency deficits in automated decision-making, and accountability gaps in AI-driven marketing systems. Key findings indicate that while regulations like GDPR and CCPA have established foundational data protection standards, significant implementation challenges persist, including the difficulty of translating high-level ethical principles into practice, the opacity of "black box" AI systems, and the disconnect between regulatory compliance and consumer expectations. The review identifies critical research gaps in cross-border regulatory harmonization, bias mitigation in real-time targeting systems, and the development of practical ethical frameworks for generative AI in marketing. We propose a multi-stakeholder approach integrating technical solutions (bias detection tools, privacy-enhancing technologies), organizational practices (ethical leadership, algorithmic accountability), and policy interventions (dynamic governance frameworks, industry standards) to foster responsible AI-enabled marketing that balances innovation with consumer protection and societal values.

Keywords: artificial intelligence, marketing ethics, data privacy

INTRODUCTION

The digital marketing landscape has undergone a profound transformation over the past decade, evolving from interactive and programmatic advertising toward AI-driven intelligent advertising systems (Eriksson, 2024). Powered by big data, advanced computational capacities, and sophisticated machine learning algorithms, AI technologies now automate the creation of personalized advertising content, optimize targeting strategies, and predict consumer behavior with unprecedented accuracy. These advancements have enhanced marketing efficiency, reduced operational costs, and enabled hyper-personalized consumer experiences that were previously unattainable.

However, the proliferation of AI and data-driven technologies in marketing has simultaneously raised critical ethical and regulatory concerns. The extensive collection, processing, and analysis of consumer data often without explicit informed consent have heightened privacy risks and challenged traditional notions of informational self-determination (Horzyk, 2023). Algorithmic systems, while efficient, can perpetuate and amplify existing social biases, leading to discriminatory targeting practices that disproportionately affect marginalized communities (Alam, 2025). The opacity of "black box" AI models further complicates accountability, making it difficult for consumers to understand how their data is used and for regulators to ensure compliance with ethical standards (Benimma et al., 2025).

In response to these challenges, regulatory frameworks such as the European Union's General Data Protection Regulation (GDPR) and California's Consumer Privacy Act (CCPA) have established foundational standards for data protection and consumer rights. These regulations mandate transparency in data processing, require explicit consent for data collection, and grant consumers rights to access, rectify, and delete their personal information (Hermann, 2021). Despite these regulatory advances, significant implementation challenges persist, including cross-border enforcement complexities, the rapid pace of technological innovation outpacing regulatory adaptation, and the difficulty of translating high-level ethical principles into actionable business practices (Kumar et al., 2024). This systematic literature review aims to provide a comprehensive

analysis of the ethical and regulatory dimensions of AI-based and data-driven marketing from 2014 to 2025. Specifically, the review seeks to:

1. Examine the evolution of consumer privacy and data protection concerns in the context of AI-enabled marketing, including the impact of major regulatory frameworks such as GDPR and CCPA.

2. Analyze the nature, sources, and consequences of algorithmic bias and discrimination in marketing systems, with particular attention to fairness in targeted advertising and consumer segmentation.

3. Identify and evaluate ethical frameworks and principles proposed for responsible AI use in marketing, including transparency, accountability, explainability, and non-maleficence.

4. Assess regulatory compliance challenges faced by organizations implementing AI-driven marketing strategies, including technical, organizational, and legal barriers.

5. Synthesize key trends, research gaps, and future directions to inform both academic research and practical decision-making by marketers, policymakers, and technology developers.

METHODOLOGY

This systematic literature review follows established guidelines for conducting rigorous and transparent reviews in interdisciplinary fields. The review process was designed to ensure comprehensive coverage of relevant literature, minimize selection bias, and facilitate replicability. The methodology encompasses four key stages: (1) search strategy development, (2) application of inclusion and exclusion criteria, (3) data extraction and synthesis, and (4) quality assessment and analysis.

A comprehensive search strategy was implemented across multiple academic databases to capture the breadth of literature on ethics and regulations in AI-based marketing. The search was conducted in January 2025. The initial search yielded a total of 714 papers. Search terms included combinations of keywords such as "artificial intelligence," "machine learning," "data-driven marketing," "digital advertising," "consumer privacy," "data protection," "GDPR," "CCPA," "algorithmic bias," "fairness," "discrimination," "targeting," "personalization," "ethics," and "regulation."

Studies were eligible for inclusion if they were published between 2014 and 2025 and appeared as peer-reviewed journal articles, conference proceedings, or reputable working papers. Included studies had to focus on ethics, regulations, consumer privacy, algorithmic bias, fairness, or compliance within AI-based or data-driven marketing contexts. A global scope was applied, with no geographic restrictions, and only publications written in English were considered. Studies were excluded if they were published outside the specified time frame or if they were non–peer-reviewed sources, such as blog posts, news articles, or opinion pieces lacking empirical or theoretical grounding. Research focused exclusively on technical AI development without ethical or regulatory considerations was also excluded, as were duplicate publications.

After applying these criteria and remove duplicate entries, the final dataset comprised 173 unique papers. These papers were then reranked by relevance to the research objectives, with the top 30 papers forming the primary evidence base for this review. The extracted data were

synthesized thematically, organizing findings into five core categories aligned with the research objectives: (1) consumer privacy and data protection regulations, (2) algorithmic bias and discrimination in marketing, (3) fairness in targeted advertising, (4) ethical frameworks for AI in marketing, and (5) regulatory compliance challenges. This thematic synthesis enabled the identification of converging evidence, divergent perspectives, and emerging trends across the literature.

RESULTS AND DISCUSSION

Consumer Privacy and Data Protection Regulations

Consumer privacy and data protection have emerged as central concerns in the discourse on AI-driven marketing. The literature reveals a fundamental tension between the commercial imperatives of data-driven personalization and the ethical imperative to protect consumer privacy and autonomy.

The Personalization-Privacy Paradox

Multiple studies document what has been termed the "personalization-privacy paradox"—the simultaneous consumer desire for personalized experiences and concern about privacy intrusions (Benimma et al., 2025). Eriksson (2024) notes that AI-powered advertising systems rely on extensive data collection, including behavioral tracking, demographic profiling, and predictive analytics, to deliver personalized content. However, this data collection often occurs without explicit informed consent or adequate transparency about how data will be used. Ali (2025) reports that 72% of consumers distrust brands with unclear data practices, with direct negative impacts on brand loyalty and customer retention.

The personalization-privacy paradox is exacerbated by the opacity of data collection mechanisms. Horzyk (2023) identifies significant risks arising from inappropriate information processing and analysis of big data, including personal and special category data protected by privacy regulations. The study emphasizes that AI-driven advertising technology (Ad-Tech) exploits user data for commercial objectives, raising questions about information security and informational self-determinism. Consumers often lack awareness of the extent and nature of data collection, the entities with whom their data is shared, and the purposes for which it is used (Gorjanc, 2025).

Impact of GDPR and CCPA

The implementation of the General Data Protection Regulation (GDPR) in the European Union (2018) and the California Consumer Privacy Act (CCPA) in the United States (2020) represents a watershed moment in data protection regulation. These frameworks establish comprehensive standards for data collection, processing, and consumer rights, with significant implications for marketing practices. Hermann (2021) provides an extensive analysis of GDPR's impact on AI-enabled marketing, highlighting key provisions including data protection impact assessments (Article 35), data protection by design and by default (Article 25), and requirements for transparency and accountability. The study emphasizes that GDPR mandates explicit consent for data processing, grants consumers rights to access and delete their data, and imposes substantial penalties for non-compliance. Similarly, Farooq et al. (2025) discuss how GDPR and CCPA have

compelled organizations to implement transparency and accountability measures, including clear privacy policies, consent management systems, and data minimization practices.

However, the literature also identifies significant implementation challenges. Kumar (2023) notes that while GDPR and CCPA establish important legal frameworks, organizations struggle with practical compliance, particularly in translating high-level principles into operational practices. The rapid pace of technological innovation often outpaces regulatory adaptation, creating gaps between legal requirements and technical capabilities (Kumar et al., 2024). Additionally, cross-border data flows and jurisdictional complexities complicate enforcement, particularly for global marketing campaigns that span multiple regulatory regimes (Gupta et al., 2025).

Privacy-Enhancing Technologies and Solutions

In response to privacy concerns and regulatory requirements, researchers have proposed various privacy-enhancing technologies (PETs) and organizational practices. Ali (2025) advocates for transparent consent mechanisms, privacy-preserving technologies, and proactive ethical governance frameworks that integrate utilitarian and deontological principles. The study emphasizes the need for organizations to move beyond mere regulatory compliance toward a culture of privacy by design, where data protection is embedded in system architecture and business processes from the outset. Gorjanc (2025) proposes a comprehensive framework for privacy protection in personalized marketing, emphasizing trust-building mechanisms, transparent data practices, and consumer empowerment through meaningful control over personal information. The framework integrates technical solutions (encryption, anonymization, differential privacy) with organizational practices (privacy impact assessments, data governance policies, employee training) and consumer-facing measures (clear privacy notices, granular consent options, accessible data access and deletion mechanisms).

Despite these proposed solutions, significant challenges remain. The literature indicates that many privacy-enhancing technologies are not yet widely adopted, often due to implementation costs, technical complexity, or perceived trade-offs with marketing effectiveness (Kumar et al., 2024). Moreover, the effectiveness of consent mechanisms is questioned, with studies suggesting that consumers often provide consent without fully understanding the implications, particularly when faced with lengthy privacy policies and complex opt-in/opt-out procedures (Ali, 2025).

Algorithmic Bias and Discrimination in Marketing

Algorithmic bias represents one of the most pressing ethical challenges in AI-driven marketing. The literature documents how machine learning systems can perpetuate, amplify, and even create new forms of discrimination, with significant implications for fairness and social justice.

Sources and Mechanisms of Algorithmic Bias

Algorithmic bias in marketing systems can arise from multiple sources throughout the AI development and deployment lifecycle. Alam (2025) identifies three primary sources: (1) biased training data that reflects historical inequalities and stereotypes, (2) biased algorithm design that encodes discriminatory assumptions or optimization objectives, and (3) biased deployment contexts where algorithms interact with existing social structures in ways that produce discriminatory outcomes. Eriksson (2024) emphasizes that AI systems trained on historical data inevitably inherit the biases present in that data, including gender stereotypes, racial prejudices, and socioeconomic

disparities. When these biased models are deployed for consumer segmentation, targeting, and content personalization, they can systematically disadvantage certain demographic groups. For example, algorithms may show high-paying job advertisements predominantly to men, offer predatory financial products to low-income communities, or exclude certain racial groups from housing or credit marketing.

The opacity of machine learning models particularly deep learning systems further complicates bias detection and mitigation. Benimma et al. (2025) note that "black box" AI systems make it difficult to identify the specific features or decision rules that produce discriminatory outcomes. This lack of transparency impedes both internal auditing by organizations and external oversight by regulators and civil society. Paker (2025) argues that algorithmic bias not only violates individual rights but also reinforces social injustices, perpetuating systemic inequalities across generations.

Consequences of Discriminatory Targeting

The consequences of algorithmic bias in marketing extend beyond individual harm to broader societal impacts. McIlwain (2025) proposes a framework for auditing and measuring the impact of race-targeted digital advertising, documenting how algorithmic discrimination can limit economic opportunities, reinforce stereotypes, and contribute to social stratification. The study emphasizes that discriminatory targeting practices can deny marginalized communities access to beneficial products and services (e.g., educational opportunities, financial services, healthcare information) while disproportionately exposing them to harmful or exploitative marketing (e.g., predatory loans, unhealthy products, misinformation). Bhattacharya et al. (2025) examine algorithmic bias in educational marketing, highlighting how AI-powered targeting can marginalize underrepresented groups and perpetuate educational inequalities. The study identifies efficiency-fairness trade-offs, where optimization for marketing effectiveness (e.g., conversion rates, return on ad spend) may come at the cost of equitable access and representation. This tension between business objectives and social equity represents a fundamental challenge for responsible AI-enabled marketing.

Algorithmic bias undermines consumer trust and can have significant business consequences (Alam, 2025). When consumers perceive marketing practices as discriminatory or unfair, they are more likely to disengage from brands, share negative experiences, and support regulatory interventions. Thus, addressing algorithmic bias is not only an ethical imperative but also a business necessity for maintaining consumer trust and brand reputation.

Bias Detection and Mitigation Strategies

The literature proposes various technical and organizational strategies for detecting and mitigating algorithmic bias. Kumar et al. (2024) advocate for investing in bias detection tools that can identify discriminatory patterns in training data, model predictions, and deployment outcomes. These tools include fairness metrics (e.g., demographic parity, equalized odds, individual fairness), bias audits, and algorithmic impact assessments that systematically evaluate potential discriminatory effects before deployment. Eriksson (2024) proposes a framework for ethical AI practices that includes bias detection and mitigation as core components. The framework emphasizes the importance of diverse and representative training data, regular algorithmic audits,

and human oversight mechanisms that can identify and correct biased outcomes. The study also advocates for transparency in algorithmic decision-making, enabling external scrutiny and accountability.

However, the literature also acknowledges significant challenges in implementing bias mitigation strategies. Alam (2025) notes that technical refinement and regulatory compliance alone are insufficient to address algorithmic bias, necessitating a paradigm shift in management education and public policy. The study proposes integrating critical inquiry, reflexive learning, and regulatory awareness into marketing curricula to develop ethical literacy as a core professional competency. Bhattacharya et al. (2025) similarly emphasize the need for responsible data governance, algorithmic accountability, and equitable engagement practices that prioritize fairness alongside efficiency.

Fairness in Targeted Advertising

Fairness in targeted advertising encompasses both procedural fairness (how targeting decisions are made) and distributive fairness (who receives what types of advertising). The literature reveals ongoing debates about what constitutes fair targeting and how to balance personalization with equity.

Defining Fairness in Marketing Contexts

Fairness in marketing contexts is inherently complex, as different stakeholders may hold divergent conceptions of what constitutes fair treatment. Hermann (2021) distinguishes between several fairness principles relevant to AI-enabled marketing, including non-discrimination (treating similar individuals similarly), equal opportunity (ensuring equitable access to beneficial marketing), and distributive justice (fair allocation of marketing benefits and burdens across social groups). Benimma et al. (2025) identify fairness as one of four primary ethical tensions in AI-driven marketing, alongside privacy, transparency, and accountability. The study notes that fairness concerns arise when algorithmic targeting systematically advantages or disadvantages certain demographic groups, even when such outcomes are not explicitly intended. This can occur through proxy discrimination, where algorithms use seemingly neutral variables (e.g., zip code, browsing behavior) that correlate with protected characteristics (e.g., race, gender, disability status).

The literature also highlights tensions between different fairness criteria. For example, optimizing for demographic parity (ensuring equal representation of different groups in targeted audiences) may conflict with optimizing for individual fairness (treating individuals with similar characteristics similarly) or with business objectives (maximizing conversion rates or return on investment). These trade-offs require careful ethical deliberation and stakeholder engagement to navigate (Bhattacharya et al., 2025).

Transparency and Explainability in Targeting

Transparency and explainability are widely recognized as essential prerequisites for fairness in targeted advertising. Eriksson (2024) argues that consumers have a right to understand how and why they are targeted with specific advertisements, including what data is used, what inferences are drawn, and what decision rules are applied. This transparency enables consumers to exercise meaningful control over their data and to challenge targeting decisions they perceive as unfair or inappropriate.

However, achieving transparency in AI-driven marketing systems is technically and organizationally challenging. Benimma et al. (2025) document significant transparency deficits in automated decision-making systems, noting that many organizations provide only minimal or generic explanations of their targeting practices. The opacity of complex machine learning models—particularly deep learning systems—makes it difficult to generate human-understandable explanations of individual targeting decisions. Hermann (2021) identifies explainability as an enabling principle for ethical AI in marketing, arguing that transparency facilitates accountability, enables bias detection, and supports consumer trust. The study proposes that organizations should invest in explainable AI (XAI) techniques that can provide meaningful explanations of algorithmic decisions, tailored to different audiences (consumers, regulators, internal auditors). However, the literature also acknowledges tensions between explainability and other objectives, such as protecting proprietary algorithms or maintaining competitive advantage (Kumar et al., 2024).

Accountability Mechanisms

Accountability mechanisms are essential for ensuring that fairness principles are not merely aspirational but are actively implemented and enforced. Farooq et al. (2025) emphasize the need for clear accountability structures that assign responsibility for algorithmic outcomes, establish oversight mechanisms, and provide remedies for individuals harmed by unfair targeting practices. Benimma et al. (2025) identify accountability gaps as a major challenge in AI-driven marketing systems, noting that diffuse responsibility across multiple actors (data providers, algorithm developers, marketing teams, platform operators) can obscure who is accountable for discriminatory outcomes. The study proposes a framework for ethical AI marketing that includes clear accountability structures, regular algorithmic audits, and mechanisms for consumer redress. Ethical design and deployment of generative AI in marketing, emphasizing accountability as a core component. The framework includes security, sustainability, representativeness, accountability, non-bias, and non-discrimination as guiding principles. The study advocates for concrete design guidelines that operationalize these principles, including documentation requirements, impact assessments, and ongoing monitoring of algorithmic performance and fairness metrics.

Ethical Frameworks for AI in Marketing

The literature proposes various ethical frameworks to guide responsible AI use in marketing, drawing on philosophical traditions, professional ethics, and emerging AI ethics principles.

Principled Approaches to AI Ethics

Several studies adopt principled approaches to AI ethics, identifying core values and norms that should guide AI development and deployment in marketing contexts. Hermann (2021) proposes a multi-stakeholder framework grounded in bioethical principles, including beneficence (promoting well-being), non-maleficence (avoiding harm), autonomy (respecting individual agency), and justice (ensuring fair distribution of benefits and burdens). The study argues that these principles, originally developed for medical ethics, provide a robust foundation for evaluating AI-enabled marketing practices. Eriksson (2024) proposes a framework that balances innovation with ethical integrity, focusing on compliance assessments, performance evaluation, and intellectual property protection.

The framework emphasizes data transparency and consent, bias detection and mitigation, ethical content generation, and human oversight as core components. The study advocates for dynamic, inclusive approaches to ethical governance that can adapt to evolving technologies and societal expectations. Eid et al. (2024) conceptualize ethical AI-enabled marketing by synthesizing current research and proposing an agenda for future inquiry. The study identifies key ethical dimensions including privacy, fairness, transparency, accountability, and human autonomy, and proposes that organizations should adopt holistic approaches that integrate these dimensions rather than addressing them in isolation. The framework emphasizes the importance of organizational culture, leadership commitment, and stakeholder engagement in fostering ethical AI practices.

Utilitarian and Deontological Perspectives

The literature reflects ongoing debates between utilitarian and deontological approaches to AI ethics in marketing. Utilitarian perspectives emphasize maximizing overall welfare or utility, suggesting that AI-enabled marketing practices should be evaluated based on their net benefits to consumers, businesses, and society. This approach supports personalization and targeting insofar as they enhance consumer satisfaction, business efficiency, and economic growth, while requiring mitigation of harms such as privacy violations or discrimination (Hermann, 2021).

Deontological perspectives, in contrast, emphasize duties, rights, and principles that should be respected regardless of consequences. From this view, certain practices—such as manipulative targeting, deceptive personalization, or discriminatory segmentation—are inherently wrong, even if they produce net positive outcomes. Ali (2025) advocates for integrating both utilitarian and deontological principles in ethical governance frameworks, recognizing that different ethical challenges may require different modes of reasoning.

The literature suggests that purely utilitarian approaches may be insufficient for addressing AI ethics in marketing, as they can justify practices that violate individual rights or dignity in pursuit of aggregate welfare. Conversely, purely deontological approaches may be overly rigid, failing to account for context-specific trade-offs and the legitimate interests of multiple stakeholders. Several studies propose pluralistic frameworks that integrate multiple ethical perspectives, enabling more nuanced and context-sensitive ethical deliberation (Hermann, 2021; Ali, 2025; Eid et al., 2024).

Stakeholder Engagement and Co-Design

An emerging theme in the literature is the importance of stakeholder engagement and co-design in developing ethical AI systems for marketing. Bhattacharya et al. (2025) emphasize that ethical AI cannot be achieved through top-down imposition of principles but requires meaningful participation by diverse stakeholders, including consumers, civil society organizations, regulators, and affected communities. Eriksson (2024) advocates for inclusive approaches to ethical governance that involve ongoing dialogue between marketers, technologists, ethicists, and regulators. The study argues that such dialogue is essential for identifying emerging ethical challenges, developing context-appropriate solutions, and building shared understanding and trust. Similarly, Eid et al. (2024) emphasize the need for multidisciplinary collaboration, integrating insights from computer science, marketing, philosophy, law, and social sciences. The literature also highlights the importance of consumer empowerment and participation in shaping AI-enabled marketing practices. Gorjanc (2025) proposes frameworks that grant consumers meaningful control

over their data and targeting preferences, enabling them to actively shape their marketing experiences rather than being passive subjects of algorithmic decision-making. This participatory approach aligns with broader trends toward user-centered design and democratic governance of AI systems.

Regulatory Compliance Challenges

While regulatory frameworks such as GDPR and CCPA have established important standards for data protection and consumer rights, the literature documents significant challenges in achieving effective compliance.

Technical Challenges

Technical challenges in regulatory compliance arise from the complexity of AI systems, the opacity of algorithmic decision-making, and the difficulty of implementing privacy-preserving technologies at scale. Kumar et al. (2024) note that many organizations lack the technical expertise and infrastructure necessary to implement robust data protection measures, conduct algorithmic impact assessments, or provide meaningful explanations of automated decisions. Horzyk (2023) emphasizes that AI-driven advertising technology involves complex data flows across multiple platforms, intermediaries, and jurisdictions, making it difficult to track data provenance, ensure data minimization, and enforce access and deletion rights. The study proposes a cumulative layered approach to risk mitigation, developed through doctrinal research of regulatory frameworks and court decisions, but acknowledges that technical implementation remains challenging. The literature also highlights tensions between privacy protection and marketing effectiveness. Some privacy-enhancing technologies, such as differential privacy or federated learning, may reduce the accuracy or granularity of consumer insights, potentially diminishing the effectiveness of personalization and targeting (Kumar et al., 2024). Organizations must navigate these trade-offs, balancing regulatory compliance with business objectives.

Organizational Challenges

Organizational challenges in regulatory compliance include resource constraints, lack of ethical leadership, and misalignment between compliance functions and business operations. Alam (2025) argues that technical refinement and regulatory compliance alone are insufficient, necessitating a paradigm shift in management education and organizational culture. The study proposes integrating ethical literacy as a core professional competency, ensuring that marketing professionals are equipped to identify and address ethical challenges. Kumar et al. (2024) emphasize the importance of establishing ethical guidelines, investing in employee training, and fostering organizational cultures that prioritize responsible innovation. The study notes that compliance is often treated as a legal or technical issue, siloed within compliance or IT departments, rather than integrated into strategic decision-making and operational practices. Effective compliance requires cross-functional collaboration, leadership commitment, and alignment of incentives to support ethical behavior.

The literature also documents challenges related to accountability and governance structures. Benimma et al. (2025) identify accountability gaps arising from diffuse responsibility across multiple actors and organizational units. Clear governance structures, including designated

accountability for algorithmic outcomes, regular audits, and mechanisms for escalating ethical concerns, are essential for effective compliance.

Legal and Jurisdictional Challenges

Legal and jurisdictional challenges arise from the global nature of digital marketing, the diversity of regulatory regimes, and the rapid pace of technological change. Gupta et al. (2025) examine AI integration across borders, highlighting the complexity of navigating multiple regulatory frameworks with varying requirements for data protection, consent, transparency, and consumer rights.

The literature notes that while GDPR and CCPA have established influential standards, significant variations exist across jurisdictions, creating compliance challenges for global marketing campaigns. Some regions have adopted comprehensive data protection laws modeled on GDPR, while others rely on sectoral regulations or self-regulatory frameworks. This regulatory fragmentation complicates compliance, particularly for organizations operating in multiple markets (Kumar et al., 2024).

Additionally, the rapid pace of technological innovation often outpaces regulatory adaptation. Eriksson (2024) notes that regulations developed for traditional data processing may not adequately address emerging technologies such as generative AI, real-time bidding systems, or immersive advertising in virtual environments. This regulatory lag creates uncertainty for organizations and may leave consumers inadequately protected. The literature advocates for dynamic, adaptive regulatory approaches that can evolve alongside technological developments, including regulatory sandboxes, industry standards, and ongoing dialogue between regulators and industry (Hermann, 2021; Gupta et al., 2025).

Key Trends and Patterns

The systematic review reveals several key trends and patterns in the literature on ethics and regulations in AI-based marketing:

1. Growing Recognition of Ethical Challenges: There is widespread recognition across the literature that AI-driven marketing raises significant ethical challenges that cannot be addressed through technical optimization alone. Studies consistently emphasize the need for ethical frameworks, regulatory oversight, and organizational practices that prioritize consumer protection and social responsibility alongside business objectives (Eriksson, 2024; Hermann, 2021; Eid et al., 2024).

2. Shift from Compliance to Ethics: The literature reflects a shift from narrow focus on regulatory compliance toward broader ethical considerations. While GDPR and CCPA compliance remains important, scholars increasingly emphasize that legal compliance is necessary but insufficient for responsible AI-enabled marketing. Organizations must cultivate ethical cultures, engage in ongoing ethical deliberation, and proactively address emerging challenges that may not yet be covered by existing regulations (Alam, 2025; Kumar et al., 2024; Ali, 2025).

3. Emphasis on Transparency and Explainability: Transparency and explainability emerge as central themes across multiple ethical dimensions, including privacy, fairness, and accountability. The literature consistently argues that consumers have a right to understand how

their data is used and how algorithmic decisions are made, and that transparency is essential for building trust, enabling oversight, and supporting consumer autonomy (Eriksson, 2024; Benimma et al., 2025; Hermann, 2021).

4. Recognition of Systemic Bias and Discrimination: There is growing recognition that algorithmic bias is not merely a technical problem but a systemic issue rooted in historical inequalities, organizational practices, and societal structures. Addressing bias requires not only technical solutions but also organizational change, policy interventions, and broader social transformation (Alam, 2025; McIlwain, n.d.; Bhattacharya et al., 2025).

5. Call for Multi-Stakeholder Approaches: The literature increasingly emphasizes the need for multi-stakeholder approaches that involve consumers, civil society, regulators, and industry in shaping ethical AI practices. This participatory approach recognizes that ethical challenges are complex, context-dependent, and require diverse perspectives and expertise to address effectively (Eriksson, 2024; Eid et al., 2024; Bhattacharya et al., 2025).

CONCLUSION

This systematic literature review has examined the ethical and regulatory dimensions of AI-based and data-driven marketing from 2014 to 2025, synthesizing findings from 173 peer-reviewed publications. The review reveals a complex landscape characterized by significant opportunities and profound challenges. AI technologies have transformed marketing, enabling unprecedented levels of personalization, efficiency, and consumer engagement. These advancements have created value for businesses and consumers alike, facilitating more relevant advertising, improved customer experiences, and more efficient resource allocation.

On the other hand, AI-driven marketing raises critical ethical concerns regarding consumer privacy, algorithmic bias, fairness in targeting, transparency, and accountability. The literature documents a fundamental tension between the commercial imperatives of data-driven personalization and the ethical imperative to protect consumer rights, promote fairness, and maintain public trust. This tension is manifested in four primary ethical challenges: the personalization-privacy paradox, algorithmic discrimination in consumer segmentation, transparency deficits in automated decision-making, and accountability gaps in AI-driven marketing systems.

Regulatory frameworks such as GDPR and CCPA have established important standards for data protection and consumer rights, representing significant progress in addressing ethical challenges. However, substantial implementation challenges persist, including technical complexity, organizational barriers, jurisdictional fragmentation, and the rapid pace of technological change outpacing regulatory adaptation. The literature emphasizes that legal compliance, while necessary, is insufficient for responsible AI-enabled marketing. Organizations must cultivate ethical cultures, engage in ongoing ethical deliberation, and proactively address emerging challenges.

The review identifies several promising approaches for enchancing responsible AI-enabled marketing, including privacy by design principles, bias detection and mitigation tools, transparency and explainability mechanisms, clear accountability structures, and multi-stakeholder governance frameworks. However, significant research gaps remain, particularly regarding empirical evidence

on real-world practices and impacts, emerging technologies such as generative AI, cross-cultural perspectives, consumer voices, and implementation guidance.

Moving forward, addressing the ethical and regulatory challenges of AI-driven marketing requires coordinated action by multiple stakeholders. Academics must continue to develop theoretical frameworks and generate empirical evidence to inform ethical deliberation and policy-making. Practitioners must invest in ethical AI systems, foster organizational cultures that prioritize responsibility, and engage transparently with consumers and regulators. Policymakers must refine regulatory frameworks, foster international harmonization, and develop adaptive governance approaches that can keep pace with technological change. Consumers and civil society must actively participate in shaping AI practices, holding organizations accountable, and advocating for their rights.

Ultimately, the goal is not to reject AI in marketing but to harness its transformative potential in ways that respect fundamental rights, promote fairness, and serve societal values. By integrating technical innovation with ethical reflection, regulatory oversight, and stakeholder engagement, it is possible to realize the promise of AI-enabled marketing while safeguarding the interests of consumers and society. This systematic review contributes to that ongoing effort by synthesizing current knowledge, identifying critical challenges and opportunities, and charting directions for future research and practice.

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