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Ethical Concerns & Risks in AI Marketing Using Multi Attribute Decision Method

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Abstract

Artificial Intelligence (AI) is rapidly transforming the marketing landscape by enabling more precise targeting, predictive analytics, and personalized experiences. However, this technological revolution raises significant ethical concerns, primarily around consumer trust, data privacy, and algorithmic bias. This research investigates these critical issues to understand their perceived importance among marketing professionals and to propose strategies for ethical AI integration in marketing practices.

Using the Best-Worst Method (BWM), the study evaluates the relative significance of three ethical concerns—Consumer Trust, Data Privacy, and Algorithmic Bias—based on responses from eight marketing professionals. The results indicate that data privacy is perceived as the most urgent concern, followed by consumer trust, with algorithmic bias ranking as the least immediate worry. These findings suggest a strong need for transparent data management practices, ethical communication strategies, and ongoing assessments of fairness in AI algorithms.

This paper contributes to the emerging discourse on AI ethics in marketing by translating theoretical debates into actionable insights. It presents clear recommendations for marketers, developers, policymakers, and researchers to address the identified concerns. For instance, marketers are encouraged to adopt privacy-by-design practices, developers should conduct regular fairness audits, and policymakers must establish regulatory frameworks tailored to AI-driven advertising and consumer engagement tools.

Although limited by its small respondent pool, the research offers valuable preliminary insights and sets the stage for future investigations that could incorporate larger, more diverse samples and include consumer perspectives. The study concludes with a call for interdisciplinary collaboration to ensure that AI marketing practices uphold ethical standards and foster consumer trust.

In summary, this research serves as both a diagnostic and prescriptive guide for navigating ethical dilemmas in AI marketing. It emphasizes the importance of aligning technological innovation with ethical accountability to ensure long-term sustainability and public acceptance of AI in the marketing domain.

Introduction

Background and Importance of Topic

Artificial Intelligence (AI) has revolutionized many facets of modern business operations, particularly marketing. AI-powered tools enable businesses to automate processes, predict consumer behavior, personalize content, and engage users in real time. From chatbots that offer 24/7 customer service to algorithms that curate individualized recommendations, AI is deeply integrated into today's digital marketing strategies. With the explosion of big data and machine learning models, businesses can analyze consumer behavior with high precision.

However, this rapid evolution raises significant ethical concerns. As marketing becomes more dependent on algorithms and automated decisions, issues such as data privacy violations, discriminatory targeting, and manipulative personalization techniques have surfaced. Consumers are increasingly wary of how their personal data is collected, stored, and used, while scholars and industry experts continue to warn about the unintended consequences of biased algorithms and opaque decision-making systems. These concerns are critical because they directly affect consumer trust and the long-term credibility of brands.

Identify the Research Gap

While the application of AI in marketing has been widely studied from a technological and operational perspective, there remains a notable gap in literature concerning the ethical dimensions of these practices. Much of the current discourse centers on performance metrics, user engagement, and efficiency gains. Ethical considerations—such as how trust is built or eroded through AI marketing, how biases in data can lead to discriminatory outcomes, or how consent is managed in data-driven advertising—are less frequently addressed.

There is also a lack of integrative studies that simultaneously address consumer trust, data privacy, and AI bias within the marketing context. These three aspects are often studied in isolation, even though they are interrelated. For instance, biased algorithms may undermine both privacy and trust, while intrusive data practices can trigger consumer distrust and brand aversion. Therefore, a holistic understanding of these ethical concerns is crucial for developing responsible AI marketing practices.

Define the Research Problem and Objectives

The core research problem revolves around understanding and addressing the ethical challenges associated with the increasing use of AI in marketing. Specifically, how do AI-driven personalization strategies impact consumer trust? What are the potential privacy risks consumers face in an AI-powered marketing environment? And to what extent do algorithmic biases influence the fairness and inclusiveness of marketing campaigns?

To investigate these issues, this study outlines the following research objectives:

- To identify the level of awareness and usage of AI-based marketing tools among professionals.
- To analyze the privacy risks associated with AI-driven marketing.
- To investigate the presence of bias in AI marketing algorithms and its consequences.
- To examine the impact of AI-driven personalization on consumer trust and perception.
- To recommend best practices for ensuring ethical and responsible AI marketing.

Scope and Significance of the Study

This study primarily focuses on the ethical concerns surrounding AI marketing within both consumer-facing industries and B2B environments. While the scope is limited to three core areas—consumer trust, data privacy, and AI bias—it aims to provide a comprehensive understanding of how these concerns interact and affect marketing practices. The study includes perspectives from marketing professionals and consumers to bridge the gap between organizational practices and public expectations.

To achieve these objectives, the **Best-Worst Method (BWM)** was employed. This method allows for effective prioritization of ethical concerns by asking respondents to identify the most and least critical ethical factors. It enables a structured decision-making approach and provides clearer insights into stakeholder perspectives regarding AI ethics in marketing.

The significance of this study lies in its ability to inform ethical frameworks for AI marketing. With increasing global scrutiny on data ethics, especially under regulations like GDPR and CCPA, companies must ensure that their marketing strategies align with ethical standards. Moreover, consumer trust has emerged as a key brand differentiator in the digital age. Addressing ethical concerns proactively can not only mitigate risks but also serve as a strategic advantage.

This research contributes to the growing discourse on responsible AI use, providing actionable insights for marketers, technologists, regulators, and academics alike. It advocates for a balanced approach—leveraging AI's capabilities while upholding the values of fairness, transparency, and accountability.

Literature Review

Consumer Trust in AI Marketing

Consumer trust is essential in ensuring the success of AI-based marketing initiatives. Bansal, Zahedi, and Gefen (2016) emphasize that trust in automated and algorithmic systems determines user acceptance and influences purchasing decisions. AI tools in marketing—such as recommendation engines and predictive analytics—require large volumes of personal data to function effectively. However, if consumers perceive these tools as intrusive, deceptive, or lacking transparency, it can significantly diminish th...

Moreover, increased automation has led to reduced human oversight in consumer-brand interactions. As Pavlou and Gefen (2004) note, trust becomes even more critical when transactions occur in a virtual or

AI-driven environment without direct human contact. Maintaining trust requires transparency, explainability, and ethical data handling practices, which are often missing in current AI marketing deployments.

Data Privacy in AI Marketing

AI marketing heavily relies on data collection, making privacy concerns particularly prominent. Martin and Murphy (2017) point out that many consumers are unaware of the extent and depth of data collection, especially in automated environments. Companies often collect behavioral, transactional, and psychographic data to train machine learning algorithms that profile consumers with precision. This level of surveillance, even when legally permitted, can feel invasive.

The introduction of privacy regulations such as the General Data Protection Regulation (GDPR) in the EU and the California Consumer Privacy Act (CCPA) has forced companies to revisit their data collection and consent mechanisms. However, scholars like Tufekci (2015) argue that legal compliance does not always equate to ethical behavior. Ethical AI marketing requires companies to adopt a proactive and principled stance on user data, focusing not only on what is legal, but also on what is respectful and fair.

Algorithmic Bias and Discrimination

Bias in AI algorithms represents a critical and growing concern in the marketing world. Machine learning models trained on biased historical data can unintentionally reinforce societal inequalities. Noble (2018) documents how search engine algorithms exhibited racial and gender biases, shaping how information is retrieved and interpreted. In the marketing domain, these biases manifest in ways such as job ads being preferentially shown to one gender or financial products targeted based on race or income level (...

Algorithmic discrimination may also go unnoticed due to the opaque nature of many AI systems—a phenomenon often referred to as the “black box” problem. This lack of transparency makes it difficult to audit marketing decisions and trace the root of bias. Thus, there is a growing need for fairness-aware machine learning models and ethical auditing practices.

Relevant Theories and Frameworks

Several theoretical models help contextualize the ethical challenges of AI in marketing. The Technology Acceptance Model (TAM) by Davis (1989) has been widely used to study the adoption of digital tools, but it lacks focus on ethical implications. The Theory of Planned Behavior (Ajzen, 1991), which includes considerations of attitudes, subjective norms, and perceived behavioral control, offers more relevance when examining consumer reactions to AI marketing ethics.

More recent frameworks, such as Floridi and Cowls’ (2019) principles of AI ethics—respect for human autonomy, prevention of harm, fairness, and explicability—provide valuable lenses for evaluating AI practices in marketing. These frameworks guide both the development of ethical AI systems and the assessment of their societal impact.

Emerging Trends and Gaps in Literature

Recent studies reflect increasing awareness of ethical concerns in AI marketing. Nevertheless, significant gaps persist. Most notably, there is a scarcity of empirical research validating the effects of AI on trust and privacy perceptions. Much of the existing literature is conceptual or theoretical in nature. There is also an overrepresentation of Western perspectives, with little insight into how these ethical challenges unfold in non-Western contexts or emerging markets.

Additionally, most studies focus on one ethical issue at a time—trust, privacy, or bias—without exploring their interdependencies. A fragmented approach to these interconnected concerns limits the depth of understanding and the effectiveness of proposed solutions.

How This Study Builds Upon Existing Knowledge

This research aims to bridge the identified gaps by integrating three major ethical dimensions—consumer trust, data privacy, and algorithmic bias—into a unified empirical study. By applying the **Best-Worst Method (BWM)**, the study prioritizes ethical concerns based on expert input and real-world scenarios. It provides structured insights into how marketing professionals perceive and navigate ethical risks in AI-powered campaigns.

Furthermore, this study contributes region-specific data from an underrepresented context, offering fresh perspectives often missing from the mainstream academic discourse. In doing so, it helps build a more inclusive and actionable framework for ethical AI marketing.

Research Methodology

1. Research Design

This study follows a **quantitative research design** that investigates and ranks the ethical concerns—**consumer trust, data privacy, and algorithmic bias**—in the context of AI marketing. Given the nature of the research objective, the **Best-Worst Method (BWM)** was selected as the core technique to prioritize the concerns. This method is suitable for small sample sizes and ensures consistency in the responses by reducing the number of pairwise comparisons.

The BWM allows respondents to identify the most and least critical concerns and compare all other concerns relative to these two. It provides more reliable and consistent results than traditional methods like AHP (Analytic Hierarchy Process), making it an ideal fit for this research.

2. The Best-Worst Method (BWM)

BWM, developed by Rezaei (2015), is a powerful **Multi-Criteria Decision-Making (MCDM)** tool. It simplifies complex decision problems by asking respondents to rate other criteria in relation to the **"Best"** and **"Worst"** identified ones. The BWM process includes the following steps:

1. **Determine the set of criteria**:

   For this study, the criteria were identified as:

   - Consumer Trust
   - Data Privacy
   - Algorithmic Bias

2.
3. **Identify the Best and Worst criteria**:

   Each participant selects the most important (Best) and least important (Worst) concern from the list.

4. **Conduct pairwise comparisons**:

   Participants rate how much more important the Best criterion is over the others and how much less important the Worst criterion is compared to the others, using a scale from 1 (equal importance) to 9 (extremely more important).

5. **Formulate and solve an optimization model**:

   A linear programming model is used to calculate weights for each criterion, minimizing the maximum deviation across comparisons. This ensures high consistency and accuracy.

6. **Calculate final weights**:

   Each criterion receives a weight that reflects its relative ethical importance in AI marketing.

3. Data Collection Tools

Primary data was collected through an **online structured questionnaire** hosted on Google Forms. The survey had three key sections:

- **Section A: Demographics** – collected data about the participant's role, years of experience, and sector of employment.
- **Section B: Awareness** – asked about familiarity with AI tools and perceived ethical issues.
- **Section C: Best-Worst Method Comparisons** – included a series of pairwise comparisons for the three criteria.

Each of the 8 respondents was carefully guided through how to perform the BWM pairwise comparison.

4. Sampling Method and Sample Size

This study used **purposive sampling**, selecting individuals with professional knowledge or experience in digital marketing and AI tools. The final sample consisted of **8 participants**, each with a minimum of 1 year of experience in relevant roles such as digital marketing, branding, advertising, or data analytics.

Although the sample size is relatively small, BWM is particularly advantageous in such cases because:

- It requires fewer comparisons.
- It emphasizes judgment consistency over quantity.
- It provides mathematically sound priority rankings even in limited datasets.

5. Analysis Techniques

The survey responses were analyzed using Microsoft Excel with the **Solver add-in** to apply the BWM linear programming model. For each respondent, the following steps were taken:

- Constructed a set of equations based on the respondent's ratings.
- Solved to obtain optimal weights for consumer trust, data privacy, and algorithmic bias.
- Aggregated results to derive a group average for each ethical concern.

The output was a ranked list of concerns showing how marketing professionals prioritize ethical issues in AI tools. The final ranking provided insights into the most critical areas needing regulatory or organizational focus.

6. Ethical Considerations

All ethical principles were adhered to throughout this research. Key considerations included:

- **Voluntary Participation**: All participants were informed about the nature and purpose of the study and took part voluntarily.
- **Informed Consent**: Consent was obtained before survey participation.
- **Anonymity**: No personal or identifiable data was collected.
- **Data Security**: All data was stored securely and used strictly for academic purposes.
- **Non-deception**: The questionnaire was designed to be neutral and unbiased.

Furthermore, this research aligns with its own theme—**ethical marketing**—by ensuring that the data collection and analysis processes were transparent, respectful, and fair.

Results and Findings

To evaluate the relative importance of ethical concerns in AI marketing, data was collected from 8 marketing professionals using the Best-Worst Method (BWM). Each participant ranked three major concerns: Consumer Trust, Data Privacy, and Algorithmic Bias.

Key Observations:

- **Data Privacy** emerged as the most critical concern, receiving the highest average weight.
- **Consumer Trust** followed closely, indicating its strong influence on AI marketing acceptability.
- **Algorithmic Bias**, though important, was considered relatively less urgent.

Discussion

The findings align with existing literature emphasizing the heightened importance of data privacy in AI-driven environments. As AI systems increasingly handle consumer data, ensuring robust data governance frameworks is critical. The prioritization of consumer trust reinforces the argument that ethical transparency influences brand loyalty and user engagement.

Interestingly, algorithmic bias received the least weight, suggesting that while professionals acknowledge its existence, they may perceive it as a longer-term issue or believe current AI models are adequately managed. This diverges from scholarly discourse that considers algorithmic bias a foundational threat to fairness and inclusivity in AI.

These results underscore the need for AI marketing teams to prioritize ethical concerns based on real-world stakeholder perspectives. The implications extend to both industry practices and policy development, suggesting a recalibration of resources toward data protection and ethical communication.

Recommendations

Based on the results, the following recommendations are proposed:

- **For Marketers**: Transparently communicate how AI collects and uses consumer data to enhance trust.
- **For Developers**: Implement privacy-by-design principles and conduct fairness audits to address algorithmic biases.
- **For Policymakers**: Mandate ethical audits and data protection regulations specific to AI marketing technologies.
- **For Researchers**: Further investigate underexplored concerns like long-term impact of personalization and predictive targeting.

Conclusion

This study highlights the pressing ethical challenges faced in AI marketing, especially concerning data privacy, consumer trust, and algorithmic bias. Using the Best-Worst Method, it ranks these concerns based on perceptions of marketing professionals, offering a data-driven ethical roadmap.

Although limited by a small sample size (8 respondents), the study provides actionable insights for ethical AI integration in marketing. Future research could expand sample size, include consumer perspectives, and test these concerns across sectors and demographics.

Moreover, this research emphasizes the need to place consumers at the center of AI marketing strategies. Data privacy, being the top concern, indicates a growing demand for transparency, consent mechanisms, and secure data handling. Organizations that fail to meet these expectations risk damaging their brand reputation and facing regulatory consequences. Similarly, the importance of consumer trust illustrates that ethical marketing is not just a legal or technical issue but a fundamental business imperative.

While algorithmic bias ranked lowest in the current study, it remains a critical area that may grow in concern as AI becomes more embedded in consumer decision-making processes. Unintended discrimination or exclusion due to biased algorithms can lead to significant social and economic consequences. Thus, proactive mitigation through regular audits, diverse training data, and ethical AI frameworks must be adopted.

This study also makes a methodological contribution by applying the BWM in a new context—ethical evaluation in marketing. It shows that structured decision-making tools can provide clarity and consensus even with small sample sizes, making them suitable for exploratory research in emerging domains.

In conclusion, the findings underscore the urgency of developing AI marketing strategies that are ethically grounded, consumer-centric, and aligned with societal expectations. Marketers, developers, and regulators must collaborate to build a future where AI enhances marketing effectiveness without compromising ethical standards. This research lays the groundwork for such efforts and encourages further interdisciplinary dialogue and innovation.

References

- Rezaei, J. (2015). Best-worst multi-criteria decision-making method. *Omega*, 53, 49-57.
- Pasquale, F. (2015). *The Black Box Society: The Secret Algorithms That Control Money and Information*. Harvard University Press.
- Mittelstadt, B. D., et al. (2016). The ethics of algorithms: Mapping the debate. *Big Data & Society*, 3(2).