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Balancing Innovation and Ethics: Empirical Insights into AI Predictive Marketing Challenges and Opportunities

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ABSTRACT

Objectives*: This research endeavors to explore the ethical ramifications when artificial intelligence is utilized in predictive marketing, especially regarding potential pitfalls like algorithmic bias, infringements on privacy, the deliberate manipulation of consumer actions, and the aggregation of market power, which may undermine fair business competition.*
Methodology*: A qualitative methodology was adopted for this study, involving In-Depth Interviews (IDIs) with a total of eight informants. The participants, who were data analysts and digital marketers representing various industry sectors, were recruited using both purposive and snowball sampling techniques. Data gathering spanned a six-week period and was subjected to thematic analysis to identify the prominent themes and issues.*
Finding*: Five main themes were found in this study: (1) the importance of fairness and non-discrimination in algorithms, (2) transparency in data governance, (3) protection of consumer privacy, (4) risk of behavioral manipulation, and (5) ethical implications of market share concentration by AI-based companies.*
Conclusion*: While AI can improve marketing efficiency, its use also risks creating social injustice and lowering consumer trust. Therefore, continuous data audits, transparent algorithm development, and strong consumer protection regulations are needed to ensure fair, ethical, and sustainable application of AI.*

Keywords*: Artificial Intelligence; Predictive Marketing; Ethics; Privacy; Consumer Manipulation.*

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INTRODUCTION

The development of modern technology has created huge leaps in various sectors, from economy, industry, to daily life (Kurniawanto, 2025). While technologies like big data analytics, IoT, and blockchain are causing major shifts in how systems operate, the emergence of AI is particularly noted for its powerful capability to transform existing marketing practices (Anayat & Rasool, 2022). Machines emulating human cognitive functions learning, problem-solving, and decision-making define artificial intelligence (AI). This capability is highly beneficial for predictive marketing, a practice that analyzes existing data to discern future customer preferences and behaviors. The core of predictive marketing is using data analysis, machine learning, and associated technologies to forecast consumer behavior and create appropriate marketing methods (Bezuidenhout et al., 2023; Hair & Sarstedt, 2021).

An important trend in contemporary competitive business, predictive analytics in marketing allows for the analysis of consumer behavior and the advanced anticipation of their needs (Rathore, 2023). The revolution in digital technology and big data analytics allows for large-scale data processing to generate real-time insights. Conversely, a drawback of employing AI in predictive marketing is the ethical dilemmas it creates, especially concerning the challenges of managing intricate consumer decision-making processes, diverse communication channels, and the imperative to provide immediate, personalized experiences (Frizzo-Barker et al., 2016). Therefore, designing an AI system for predictive marketing requires a degree of wisdom.

AI-enabled predictive marketing technology has truly become a game-changer in commerce, providing deep insight into purchasing behavior and making it possible to personalize marketing efforts. The progress in artificial intelligence and machine learning makes it feasible to develop strong techniques for identifying unseen patterns in consumer data. This progress also improves the consumer experience, notably through tools such as natural language processing (NLP) and neural networks (Moews et al., 2019; Kim & Briley, 2020).

However, apples and oranges exist, the application of AI also comes along with ethical questions such as bias-infection from training-data, when the training set has an imbalanced distribution. These biases can contribute to biased predictions which can have consequences on the fairness and interpretability of the systems being predicted for the purpose of marketing (Anayat & Rasool, 2022). As a result, organizations need to ensure ethical data governance as well as responsible system design. This paper explores the ethical considerations of artificial intelligence within predictive marketing, proposing Ashok's digital ethical implications model as the foundational philosophical guide (Ashok et al., 2022), and emphasizing the positive side of AI for marketing outcomes (Hair & Sarstedt, 2021; Davenport et al., 2020).

Customer privacy is a crucial issue in predictive marketing. Using personal data as the basis upon which to build AI models raises concerns around privacy, transparency and knowing consent (Selbst et al., 2019). The right of consumers to be informed about how their data is employed is essential, as aggressive data practices may lead to feelings of discomfort (Ghanbarpour et al., 2022). This means that data that is collected, stored, and used should respect individual autonomy, and marketers should respect that and ensure it.

In addition, fairness and equity are important ethical challenges. If the training data is biased, prediction systems can in turn uphold social bias, making discriminatory predictions against certain groups (van Giffen et al., 2022). The dominance of a few companies in industry creates concerns that it would limit competition, reduce options for consumers, stifle innovation. Ethical concerns arise from AI's deployment in marketing, especially concerning

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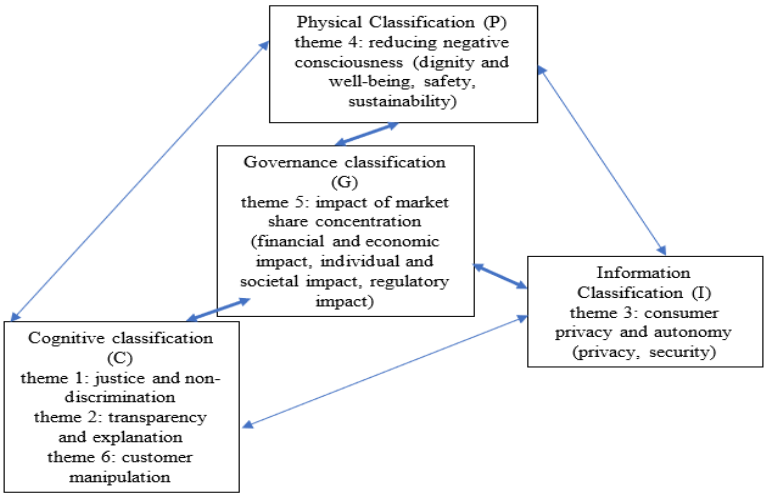
advocacy versus manipulation, where manipulation signifies a deeper level of influence. This paper undertakes an ethical examination of AI in predictive marketing, paying particular attention to the ethical consequences of customer prioritization, market share concentration, and behavioral manipulation areas that current literature has not extensively explored.

Many previous studies have emphasized the notable benefits of AI in predictive marketing, like its ability to boost efficiency, enhance forecasting accuracy, and allow for service personalization (Moews et al., 2019; Kim & Briley, 2020), The majority of research still centers on AI's technical and commercial aspects. There's a limited amount of work addressing the ethical dimensions of AI in marketing, especially concerning algorithmic bias, privacy violations, and the manipulation of consumer behavior; these areas haven't received enough attention. Indeed, the swift progress in machine learning and data processing technologies has brought forth new concerns regarding how large corporations might utilize individuals' personal data and psychological insights for purposes that lack transparency or fairness. Furthermore, there isn't much research that has systematically explored ethical best practices for AI in marketing, nor has it analyzed how AI systems could strengthen market power inequalities. Therefore, this study seeks to fill this void with novel contributions on the ethical dimensions of AI-based predictive marketing, through a qualitative method and in-depth field analysis.

This research will address issues related to AI-based predictive marketing, including issues such as customer adoption, market share concentration, and consumer manipulation. This paper investigates the experiences and perspectives of AI and marketing practitioners regarding the ethical dilemmas that arise. This expands upon the discussion of algorithmic transparency and fairness, market consolidation and how it relates to competition, and consumer victimization.

Thematic analysis was adopted to derive main themes, which were then organized through an ontology approach (Ashok et al., 2022). This article expands Ashok's model (figure 1) with respect to new themes that are relevant to the cognitive domain in model. This paper's findings give a thorough ethical perspective on AI's role in predictive marketing. It's designed to assist data analysts and digital marketers in making ethical choices, highlighting both risks and best practices. Ultimately, this work contributes to a deeper grasp of the ethical complexities and possibilities within AI-enabled predictive marketing.

Figure 1. Mapping Ethical Implications into Ontology



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This study was conducted in response to the widespread use of artificial intelligence (AI) technology in marketing, which, despite offering efficiency and personalization, also poses significant ethical challenges. Data scientists and marketers are now faced with the dilemma of maximizing the potential of AI for business profits while maintaining consumer protection, particularly in relation to data privacy, algorithmic transparency, and the potential for behavioral manipulation. Therefore, this study seeks to investigate how companies deal with sensitive issues such as the commodification of customers by algorithmic systems, the concentration of market power in the hands of large technology companies, and marketing practices that have the potential to affect consumer autonomy. Unlike previous studies, which have mostly focused on improving the efficiency and technical performance of AI, this study highlights an important research gap in the lack of in-depth exploration of the ethical and social responsibility dimensions of AI marketing applications.

Based on this background, this study seeks to answer the following key questions: (1) how companies manage ethical dilemmas in the application of AI in marketing, (2) what policies or governance mechanisms can ensure the fair and transparent use of AI, and (3) how the application of ethical AI impacts consumer trust and business sustainability.

The findings of this study are expected to provide practical implications for managers, namely the importance of establishing an AI governance framework that balances efficiency and ethics through algorithmic audits, internal guidelines, and cross-functional collaboration between the marketing, legal, and technology divisions. In addition, the resulting public policy implications emphasize the need for adaptive regulations that establish national ethical guidelines, form independent supervisory agencies to ensure algorithmic transparency, and provide incentives for companies that implement responsible AI principles. Thus, this research contributes to the development of AI ethics literature while providing concrete direction for managers and policymakers in creating innovative, fair, and consumer-protection-oriented AI-based marketing practices.

LITERATURE REVIEW

Artificial Intelligence in Marketing

In recent years, the world of marketing has undergone a major transformation thanks to the adoption of artificial intelligence (AI) technology. One of its most prominent forms of application is predictive marketing, a strategy that relies on data analysis and algorithmic modeling to understand patterns and trends in consumer behavior. With the help of machine learning, systems can learn from historical data, such as purchase history, online interactions, or consumer preferences, to predict what they are likely to buy or need in the future (Shaik, 2023; Belk et al., 2023). In addition, prospect marketing is also growing in popularity due to its ability to drive increased sales, provide more personalized experiences, and build stronger relationships with customers. Technologies such as natural language processing (NLP) and deep learning help generate more precise and in-depth insights (Patel & Trivedi, 2020), while AI in CRM has proven effective in personalized services (Dwivedi & Wang, 2022).

Nonetheless, employing AI brings its own set of challenges, including data privacy, ethical considerations, and regulatory complexities, particularly for developing countries with restricted infrastructure and resources (Strusani & Houngbonon, 2019; Shahzad et al., 2024; Barsha & Munshi, 2024). While AI offers increased efficiency and customer engagement, there are also concerns about algorithmic bias and corporate social responsibility (Sáez-Ortuño et al., 2023). So, it's important for businesses to balance using AI with ethical principles, making it a

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strategic tool not just for marketing, but also for social aims like environmental conservation (Bibri et al., 2024).

When artificial intelligence (AI) began to be widely used in marketing strategies, especially in the form of predictive marketing, the business world entered a new era where decisions can be made quickly and precisely based on data analysis on a large scale. This convergence between digital technology and commercial activities brings many benefits, such as campaign efficiency and personalization of customer experience. However, these advancements also trigger serious ethical concerns. One of the main issues is privacy. Many consumers are not fully aware that their personal data such as search history, location, or online interactions are continuously collected, analyzed, and used to influence their purchasing decisions. There are also issues of fairness, such as potential algorithm bias that could lead to discrimination, and a lack of transparency about how AI systems work and make decisions. Therefore, it is important for marketers to not only pursue efficiency and profits, but also maintain consumer trust by applying ethical principles. Discrepancies in AI systems can reinforce social biases, leading to injustice and discrimination. Scholars emphasize the need for transparency and responsibility in the process of collecting consumer data in predictive marketing (Chintalapati & Pandey, 2022; Bezuidenhout et al., 2023; Cheng & Jiang, 2020).

While the topic of consumer privacy has been at the forefront of discussions on AI-based marketing, there are many other ethical aspects that have not received enough attention. A review of the literature shows that although AI has begun to be widely adopted, there is still a lack of in-depth understanding of how these technologies are actually applied and integrated in business operations. De Bruyn et al. (2020) stated that AI can indeed improve productivity, but serious challenges such as low data quality (which can distort analysis results) and the tendency of algorithms to reinforce biases discrimination based on gender or race) are major obstacles. As such, data analysts and marketing practitioners have a moral responsibility to not only focus on the commercial benefits of AI, but also pay attention to its social impact (Clarke & Whittlestone, 2022).

Ethical Framework

The application of artificial intelligence (AI) in predictive marketing requires an ethical framework that balances technological innovation and social responsibility. This framework serves as a guide for organizations to ensure that the use of data and algorithms is fair, transparent, and does not harm consumers (Hari et al., 2025). According to (Floridi and Cowls (2019), the basic principles of AI ethics include fairness, accountability, transparency, and non-maleficence or the principle of not causing harm. In predictive marketing, these principles are important to avoid discriminatory practices in customer segmentation, misuse of personal data, and manipulation of consumer preferences through algorithmic recommendations. Thus, the ethical framework serves not only as a compliance tool, but also as a moral foundation that builds long-term trust between companies and consumers.

Furthermore, several AI ethical frameworks have been developed by international institutions and academics to support the responsible application of technology. For example, the European Commission's Ethics Guidelines for Trustworthy AI (2019) emphasize seven key principles, including: human agency and oversight, technical reliability, privacy and data governance, transparency, diversity and inclusivity, social well-being, and accountability. These principles affirm that AI systems must be designed and operated to support user autonomy while avoiding systematic biases that could influence consumer decisions. On the other hand, Jobin et al. (2019) identify that many AI ethical frameworks are still normative

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without clear implementation guidelines, requiring the translation of principles into concrete policies and operational procedures at the organizational level, particularly in behavior-based marketing practices.

In management, the implementation of an effective ethical framework requires integration between company policy, technology design, and organizational culture. Marketing managers need to adopt an ethics-by-design approach, which ensures that ethical values are embedded from the AI system development stage to its application in marketing campaigns. This approach not only reduces the risk of reputational damage due to ethical violations but also strengthens the company's competitive position by building consumer trust. As suggested by Bag et al. (2024), ethics in digital marketing should be viewed as a strategic investment, not merely a legal obligation. Therefore, the successful implementation of an ethical framework in AI-based predictive marketing depends on the organization's commitment to making ethics the core of innovation rather than an obstacle, but rather a guide for creating innovations that are fair, sustainable, and oriented towards social welfare.

Resource Advantage Theory (RAT) and AI

Resource Advantage Theory (RAT) is a theoretical framework that emphasizes the importance of managing unique and valuable resources within a company as a key to gaining an advantage over competitors. In the context of modern marketing, it includes the use of artificial intelligence (AI) in predictive marketing (Hunt & Morgan, 1995). With these capabilities, AI helps companies with predictive marketing, a strategy that anticipates customer behavior and adjusts marketing campaigns in real-time to be more targeted and effective. This gives companies a competitive advantage as they can respond to market changes quickly and present relevant offers to consumers. In short, in the RAT framework, AI is not just seen as a technology, but as a strategic asset that, if managed well, can be a source of sustainable competitive advantage for companies in an increasingly dynamic and competitive market (Anayat & Rasool, 2022; Bezuidenhout et al., 2023).

Companies that are able to utilize resources superiorly to their competitors can achieve market advantage (Varadarajan, 2020). However, biased predictive models risk excluding marginalized communities, as well as raising ethical concerns in resource distribution and influence over consumer decisions (Moews et al., 2019). Studies show that market dominance by large companies can reduce consumer flexibility and create competitive inequality (Indriyani et al., 2024). Therefore, resource distribution in predictive marketing should be done ethically to avoid consumer bias and manipulation (Andriyanty et al., 2023).

However, although it has been widely used in various aspects of management and marketing, the application of RAT in the realm of predictive marketing is still relatively new and requires further exploration. This is important given that predictive marketing involves the use of data and advanced technologies that have the potential to raise ethical dilemmas, such as the fair and transparent use of consumer data. The ethical principles in resource allocation raised by the RAT remind us that business success is not just about maximizing short-term profits, but also considering moral responsibility. By applying these principles, companies are not only able to address emerging ethical risks, such as algorithmic discrimination or privacy violations, but also build a sustainable competitive advantage that means businesses can survive and thrive in the long term with a good reputation and the trust of customers and society (Clarke & Whittlestone, 2022).

p-ISSN: 2088-1231
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METHOD

Research Design

To understand the ethical implications of AI in predictive marketing, this study adopted a qualitative design. Data was gathered and scrutinized using in-depth interviews and content analysis. We opted for qualitative methodologies because they allowed for a comprehensive exploration of the intricate challenges related to AI deployment, like privacy concerns and potential manipulation. This research seeks to grasp the perspectives and encounters of predictive marketing specialists, a method well-suited for uncovering subtle and in-depth personal viewpoints. Qualitative research has demonstrated its utility in examining ethical concerns related to technology and marketing (Umer Ghani et al., 2019), justifying the choice of this methodology in our study.

Participants and Procedures

To select participants, this study employed purposive sampling, focusing on individuals with personal and professional backgrounds in AI for predictive marketing, including roles such as data analysts and marketing system managers. Subsequently, snowball sampling helped identify additional suitable respondents. In total, 8 participants were involved: 3 data analysts and 5 digital marketers. These individuals had firsthand experience with AI systems related to prioritizing customers, concentrating market share, and shaping consumer behavior. To get diverse and detailed views on the ethical implications of AI, participants were chosen carefully. We recruited them via email or messaging, providing an explanation of the study's aim, and secured written consent from everyone involved.

Data Collection

This research employed semi-structured interviews to investigate the experiences and perceptions of data analysts, adhering to a rigorous ethical framework to guarantee data protection and participant welfare. Interviews were conducted through Zoom, facilitating temporal flexibility and enabling precise recording for accurate transcription. This platform is frequently utilized in qualitative research, yet encountered certain technical limitations concerning internet connectivity and audio quality. Data was gathered over a six-week period, from December 2024 to January 2025. To allow participants to fully express their perspectives on AI in predictive marketing, the interviews were conversational. A number of interviews and the final analysis were carried out in Indonesian, ensuring accuracy and richer insights.

Data analysis

Data analysis was conducted in five main stages. The initial stage involved reviewing and cleaning the data, as well as checking the suitability of the data to the grounded theory approach. Researchers manually transcribed the interviews, subsequently applying thematic analysis to discern patterns and themes. This process began with iterative re-reading of the transcripts and open coding to recognize emerging trends and themes. At the coding stage, labels were assigned to relevant text segments inductively based on the content of the data. The next stage involves grouping the codes into broader thematic categories to identify parallel themes.

Once the initial themes were determined, the next stage involved a thorough review of all the data to verify and refine the established themes. To analyze the results, we related the discovered themes to the research questions and relevant academic works, compiling everything into a final report. Through this, we gained significant insights into AI's application

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in predictive marketing. Reliability and validity were maintained through triangulation, peer discussion, audit trails, and reflexivity to minimize bias, thus improving the quality of the research results in accordance with qualitative research standards.

RESULTS AND DISCUSSION

Results

In this study, researchers used thematic analysis methods to explore and categorize various issues that emerged from interviews with practitioners, such as data analysts and digital marketers. From the interview data, seven key themes were found that reflect various issues and challenges related to ethics in artificial intelligence (AI) systems. These themes were then classified into four main domains, following the ontological framework developed by Ashok et al. (2022). The interviews were conducted using 18 questions as the main guide, but the interviews were flexible to delve deeper into relevant aspects. In its initial phase, the research assessed how professionals understand and are aware of the ethical challenges that arise in the use of AI, especially in relation to the potential bias and discrimination that can occur due to imperfect algorithms. The findings confirm the importance of addressing digital ethics in the development and application of AI, especially in the context of marketing and data analytics. The ontological framework used provides a conceptual foundation for systematically integrating these ethical issues, which can help organizations manage risks and ensure the responsible use of AI (Ashok et al.,2022).

Informants' perspectives and apprehensions are summarized in the themes presented below. A significant theme emerging from their views is the advocacy for fairness and non-discrimination, echoing Ashok's dimension of digital ethics, which stresses fairness and non-discrimination in AI-powered marketing. Employing AI to prioritize customers must encompass safeguarding privacy, ensuring consumer autonomy, and mitigating social bias. Informants indicated that employing varied data sources and conducting regular system audits may mitigate the risk of bias.

> One informant stated: *"Although AI systems are responsive, there are ethical issues related to bias, and we can avoid this risk by regularly monitoring and auditing the system"* (Male, 38 years old).

This study underscores the necessity of overseeing and evaluating AI systems to ensure equity and non-discrimination, while safeguarding consumer privacy and autonomy. This research suggests enhancements to Ashok's model by incorporating regular system monitoring and broadening the comprehension of fairness and nondiscrimination within the realm of AI.

Theme 2: This theme highlights the importance of transparency and clarity, mirroring the "transparency and clarity" dimension within Ashok's cognitive framework. Our interviews showed that transparency is vital for consumers to trust AI-driven predictive marketing. Informants agreed that consumers need to be explicitly told what data is being collected and how it's used.

> One informant stated: *"In order to win consumers' trust, building AIbased predictive marketing should be ethical, and it will bring out good results to the business"* (Male, 34 years).

This theme indicates that companies must communicate to consumers regarding the collection and utilization of their data, as well as elucidate the functioning of AI systems in a clear and comprehensible way. If this theme is incorporated into Ashok's model as an

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independent cognitive domain, it will empower businesses to better handle ethical issues related to transparency and clarity in AI-driven marketing.

Theme 3: This theme, customer coercion, connects to specific cognitive areas in Ashok's digital ethics framework, looking at AI marketing's capacity to manipulate consumers and how to lessen this. Interviews indicate AI's marketing influence is ambiguous. While it might sometimes push consumers toward choices not in their best interest, like unnecessary purchases, AI can also guide customers to relevant products and provide tailored experiences.

As one informant expressed: *"AI marketing system is not only detrimental, but also can generate 360-degree different experiences as well as make marketing how more effective"* (Male, 36 years old).

This area of focus deals with how people think about wealth and how well they can grasp information. Manipulating customers can negatively impact their financial situation, so it's critical to comprehend how these systems shape consumer actions. As artificial intelligence advances, it's necessary to examine its implications, especially the potential for certain customer segments to be treated unfairly. This research proposes expanding Ashok's digital ethics framework to include measures for preventing manipulation, ensuring openness, and promoting equity in algorithms. The goal is to improve understanding and confront the ethical consequences of AI-powered marketing systems.

Theme 4: Understanding the performance of AI-driven marketing systems is vital for businesses to uphold accountability in their ethical and responsible deployment, consistent with Ashok's cognitive domain model. Those interviewed highlighted the importance of a balanced perspective, weighing both the positives and negatives of these systems.

According to one informant: *"Drawbacks of AI for marketing systems should be considered in the evaluation. By being preventive, we can actually tell how those systems, on the one hand are really helping the business and the customers"* (Male, 40 years).

This research suggests creating a more thorough way to evaluate AI marketing systems. This new framework would consider ethical and social aspects like privacy, individual freedom, trust, and prejudice. The goal is to help companies be accountable and make sure these systems are used ethically.

Information Domain: Protecting consumer data privacy and security in the digital world is key, fitting Ashok's information domain. This demands tough data protection laws to prevent companies from exploiting data for profit. Improving Ashok's model means clearer rules, transparent data collection, informing consumers of their rights, and continuous research on AI marketing's impact on privacy and autonomy. Most experts stressed safeguarding consumer privacy, autonomy, and data control rights.

According to one informant: *"There needs to be strong data protection laws and regulations in place to ensure companies are not using the data to their own benefit"* (Female, 35 years old).

One informant, however, voiced apprehension regarding stringent regulations on consumer privacy protection, contending that such measures could hinder innovation and growth within the digital economy:

"Even though we have to look out for the consumers privacy and his right to choose, onesided regulations can lead to a standstill and it would slow down development of the digital economy" (Male, 37 years old).

All the experts agreed that protecting consumer privacy and freedom is incredibly important. They stressed the need to balance these protections with the push for innovation and

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economic growth. Focusing on ethical considerations within this system can boost consumer trust and help businesses last longer.

Theme 6: mitigating adverse effects, which pertains to the physical aspect of Ashok's digital ethics framework, emphasizes the safeguarding of dignity, well-being, safety, and sustainability. Interviews indicated that mitigating adverse effects necessitates a comprehensive strategy, incorporating education, policy, regulation, and technological innovation.

One informant remarked: *"It is very important that people not only receive this in a fair manner, with their privacy preserved and their freedom to act not violated. Violations of these can cause damage hence prevention is required"* (Male, 40 years).

This method has tangible effects concerning the safeguarding of individuals, enhancement of well-being, and mitigation of adverse environmental impacts. This research proposes strengthening Ashok's framework through an evaluation method for AI-driven marketing systems. This method would harmonize privacy with technological advancement, raise awareness of drawbacks, and push companies to adopt ethical standards that protect consumers.

Theme 7: Impact on Market Share. AI marketing systems influence market share, impacting companies, individuals, and society financially. When market concentration is high, it can worsen inequality and well-being, placing it within the governance aspect of Ashok's framework. Experts believe AI marketing greatly contributes to this concentration by using algorithms for data analysis and automated marketing.

One informant stated: *"The influence of AI-based marketing systems on market share concentration may not be bad in all situations. It may enhance market efficiency, reduce price, and promote innovation via competition between firms"* (Male, 32 years old).

The interviews indicate that the impact is multifaceted; it may enhance market concentration while simultaneously improving efficiency and creating opportunities for small enterprises. Consequently, the regulation of this system must take into account the economic, social, and regulatory ramifications. Additional investigation into the allocation of economic advantages and possible disparities would enhance Ashok's framework.

Discussion

In a marketing world that is increasingly influenced by advanced technology, the application of AI, especially in predictive marketing, provides a great opportunity for companies to understand and serve consumers more effectively. With AI's ability to analyze big data and study customer behavior patterns, companies can design more relevant and personalized campaigns. This can certainly improve customer satisfaction and overall business results (Dwivedi & Wang, 2022). However, behind this potential, AI also carries serious risks. One of them is the tendency of algorithms to replicate or even amplify existing biases in data, which can lead to injustice. In addition, the issue of consumer privacy violations is a major concern as AI makes intensive use of personal data. Fair competition can also be disrupted if large companies exclusively control AI technology, limiting opportunities for other players. Furthermore, AI can influence consumer behavior indirectly through manipulations that are difficult to detect (Bezuidenhout et al., 2023).

This research highlights widespread ethical aspects, including how customer priorities are determined, the risk of high market concentration, and the manipulation of consumer

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behavior through AI-based marketing. In contrast to research that tends to focus on privacy issues (Quach et al., 2022). This study sought to examine the ethical dilemma more comprehensively. The results are in line with previous findings that reveal concerns over the social and moral implications of using AI in marketing (Jarrahi, 2018).

Discussions with data analysts and digital marketers revealed that they have a fairly good understanding of the ethical challenges that arise from the use of artificial intelligence (AI). One of their main concerns is how consumers' personal data is collected and used to train AI algorithms. While this data is critical to improving AI's predictive capabilities, there are serious concerns about whether consumers are actually given clear information about how their data will be used (transparency) and whether they knowingly and voluntarily consent to such use (consent). Nevertheless, some acknowledged the difficulties in achieving complete transparency, particularly when addressing intricate AI algorithms that are challenging to elucidate for a nontechnical audience, as noted in prior research (Mittelstadt et al., 2016).

A significant contribution is to emphasize the ethical concerns associated with market share concentration, which are crucial yet have been inadequately addressed in prior research (Brynjolfsson et al., 2019). Research suggests that industries dominated by a few companies may lead to less competition, fewer choices for consumers, and slower innovation, especially when technology is rapidly evolving. Additionally, using AI in marketing raises concerns about influencing consumer behavior. Many studies, including one by (de Marcellis-Warin et al., 2022), have explored how predictive marketing systems affect consumer decisions in different situations, consistently highlighting the importance of ethics in AI-powered predictive marketing

By detailing themes like promoting fairness, transparency, consumer manipulation, and assessing AI marketing system efficacy within its cognitive domain, this research enriches Ashok's digital ethics model. It offers significant insights into the ethical implications of AI-powered marketing as viewed through Ashok's framework. The study recommends enhancing the model to include ethical considerations specific to AI-driven marketing and calls for its periodic review to account for evolving ethical concerns, consistent with prior work on AI's societal and political effects (Dwivedi & Wang, 2022). To better address the ethical implications of this technology and the complexities of technological development, the model could benefit from incorporating stakeholder viewpoints and social impacts, which would make it more thorough and pertinent. This research notably advances Ashok's model, aiding ethical decision-making in AI-powered marketing.

This study assists organizations in refining their marketing approaches and providing tailored customer experiences, leading to advantages for all parties involved. Being among the initial investigations into the ethical considerations of AI and predictive marketing, this research contributes to the literature by emphasizing topics such as market share concentration, the manipulation of consumers, and the prioritization of customers. It also examines the impact of market share concentration on competition and innovation, in addition to the privacy concerns of AI previously explored by Davenport et al., (2020). Although AI significantly enhances customer experience (Hollebeek et al., 2021), ethical concerns regarding its use to manipulate consumer behavior and decision-making are frequently neglected. This study offers a thorough examination of the data analyst's viewpoint regarding ethics to alleviate the adverse effects of AI-based systems.

By exploring the ethical implications of AI and machine learning in marketing, this research enhances the literature, moving our understanding beyond common privacy and security concerns. It delves into the social implications of AI-driven marketing, advancing both

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stakeholder theory and ethical considerations, and thus boosts the model's applicability through the integration of well-established theoretical principles.

In the end, this study contributes to forming practical guidelines for ethical choices in AI-driven predictive marketing. It highlights ethical points and unforeseen issues, giving organizations a starting point to build their own ethical rules for using AI. These rules help ensure marketing is both effective and ethical, which in turn boosts an organization's long-term survival and achievement.

Integrating AI ethics within organizations necessitates significant engagement from managers due to the intricacy of their existing responsibilities. An optimal AI ethics program necessitates an equilibrium between rational, human-centric, and technology-driven methodologies. The program's success relies on the engagement of the entire workforce and the managers' recognition of human values. Moreover, it is essential to account for external factors influencing AI ethics; thus, the establishment of a digital ethics program must encompass the rationalization between humans and machines, alongside prompt decision-making and auditing.

The study offers guidance for managers and specialists on developing and implementing AI-driven marketing systems. Policymakers and regulators also have a role in ensuring AI systems are built and used ethically, protecting consumer rights. A primary recommendation is to champion equity and non-discrimination in AI system applications. Using varied data sources and ongoing monitoring can help reduce bias. Secondly, establishing consumer trust is essential for ethical AI use in marketing. Thirdly, it's crucial to assess the system's effectiveness and benefits for both businesses and consumers. While these systems could lead to more concentrated market share and potential consumer exploitation, they can also foster competition and improve market efficiency. Given AI's continued significance, both research and practice must adapt to new advancements to remain competitive.

Alongside recommendations for businesses and regulators, researchers advocate for the establishment of a certification program by independent authorities to assess the ethical and unethical practices of AI-based marketing systems. Organizations that fulfill the certification criteria may exhibit a badge as an indication of their ethical systems. Although stringent regulations may hinder innovation, it is crucial to maintain a balance between innovation and ethics. This certification program can boost consumer confidence, especially concerning market share concentration and consumer manipulation, and help small businesses compete fairly. This idea aligns with proposals for ethical standards in AI (Blösser & Weihrauch, 2024) and highlights the importance of ethical equilibrium in innovation (Hastuti & Syafruddin, 2023). Furthermore, this study acts as a resource for managers to develop ethical tools and principles for their decision-making processes.

CONCLUSION

This research addresses ethical issues arising from the use of artificial intelligence (AI) in predictive marketing, specifically related to fairness, transparency, privacy, manipulation of consumer behavior, and market share concentration by AI-based companies. The main findings show that five crucial aspects need serious attention, namely the importance of fairness and non-discrimination in algorithms, transparency in data governance, protection of consumer privacy, risk of behavioral manipulation, and ethical implications of market dominance by AI-based companies.

The results confirm that while AI offers strategic advantages in marketing, its application without ethical considerations may exacerbate social injustice and undermine

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consumer trust. Therefore, transparency and responsible data governance and privacy protection should be top priorities for organizations. An important suggestion to address this issue is the application of ethical principles in the design and use of AI, including algorithm auditing, information disclosure to consumers, and strict regulation of market monopolistic practices. This research opens the way for further studies exploring the mechanisms of ethical implementation of AI in predictive marketing, as well as the development of adaptive regulatory frameworks to ensure fair, transparent, and sustainable use of AI in the future.

However, this study has several limitations. First, the analysis is still conceptual in nature, requiring further empirical studies to test the application of AI ethics principles in different industries. Second, the scope of this study does not directly include the consumer perspective, even though the user's perception of ethics is an important aspect in assessing the success of responsible AI implementation. Therefore, future research should explore empirically measurable AI ethics implementation frameworks and examine the relationship between algorithm governance, perceptions of fairness, and consumer trust in AI-based marketing. Future research could also examine cross-border regulatory dynamics to formulate AI ethics policies that are adaptive to global technological changes and diverse socio-economic contexts.

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