Artificial intelligence and predictive marketing: an ethical framework from managers' perspective

Hina Naz and Muhammad Kashif
GIFT University, Gujranwala, Pakistan

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Abstract

Purpose – Artificial intelligence (AI) offers many benefits to improve predictive marketing practice. It raises ethical concerns regarding customer prioritization, market share concentration and consumer manipulation. This paper explores these ethical concerns from a contemporary perspective, drawing on the experiences and perspectives of AI and predictive marketing professionals. This study aims to contribute to the field by providing a modern perspective on the ethical concerns of AI usage in predictive marketing, drawing on the experiences and perspectives of professionals in the area.

Design/methodology/approach – The study conducted semistructured interviews for 6 weeks with 14 participants experienced in AI-enabled systems for marketing, using purposive and snowball sampling techniques. Thematic analysis was used to explore themes emerging from the data.

Findings – Results reveal that using AI in marketing could lead to unintended consequences, such as perpetuating existing biases, violating customer privacy, limiting competition and manipulating consumer behavior.

Originality/value – The authors identify seven unique themes and benchmark them with Ashok's model to provide a structured lens for interpreting the results. The framework presented by this research is unique and can be used to support ethical research spanning social, technological and economic aspects within the predictive marketing domain.

Keywords Artificial intelligence, Predictive marketing, Ethical implications, Resource advantage theory, Pakistan, Managers, Ethics

Paper type Research paper

La inteligencia artificial en el marketing predictivo: una perspectiva ética desde el punto de vista de los gerentes

Resumen

Objetivo – La Inteligencia Artificial (IA) ofrece muchos beneficios para mejorar la práctica del marketing predictivo. Sin embargo, plantea preocupaciones éticas relacionadas con la priorización de clientes, la concentración de cuota de mercado y la manipulación del consumidor. Este artículo explora estas preocupaciones éticas desde una perspectiva contemporánea, basándose en las experiencias y perspectivas de profesionales en IA y marketing predictivo. El estudio tiene como objetivo contribuir a la literatura de este ámbito al proporcionar una perspectiva moderna sobre las preocupaciones éticas del uso de la IA en el marketing predictivo, basándose en las experiencias y perspectivas de profesionales en el área.

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Diseño/metodología/enfoque – Para realizar el estudio se realizaron entrevistas semiestructuradas durante seis semanas con 14 participantes con experiencia en sistemas habilitados para IA en marketing, utilizando técnicas de muestreo intencional y de bola de nieve. Se utilizó un análisis temático para explorar los temas que surgieron de los datos.

Resultados – Los resultados revelan que el uso de la IA en marketing podría tener consecuencias no deseadas, como perpetuar sesgos existentes, violar la privacidad del cliente, limitar la competencia y manipular el comportamiento del consumidor.

Originalidad – El estudio identifica siete temas y los comparan con el modelo de Ashok para proporcionar una perspectiva estructurada para interpretar los resultados. El marco presentado por esta investigación es único y puede utilizarse para respaldar investigaciones éticas que abarquen aspectos sociales, tecnológicos y económicos dentro del ámbito del marketing predictivo.

Palabras clave Inteligencia artificial, Marketing predictivo, Implicaciones éticas, Teoría de ventaja de recursos, Pakistán

Tipo de artículo Trabajo de investigación

预测营销中的人工智能：来自管理者视角的伦理观点

摘要

人工智能（AI）为改进预测营销实践带来了诸多益处。然而，这也引发了与客户优先级、市场份额集中和消费者操纵等伦理问题相关的观点。本文从当代角度深入探讨了这些伦理观点，充分借鉴了人工智能和预测营销领域专业人士的经验和观点。旨在通过现代视角提供关于在预测营销中应用人工智能时所涉及的伦理观点，为该领域做出有益贡献。

研究方法 – 本研究采用了目的性和雪球抽样技术，与14位在人工智能营销系统领域具有丰富经验的参与者进行为期六周的半结构化访谈。研究采用主题分析方法，旨在深入挖掘数据中显现的主要主题。

研究发现 – 研究结果表明，在营销领域使用人工智能可能引发一系列意外后果，包括但不限于加强现有偏见、侵犯客户隐私、限制竞争以及操纵消费者行为。

独创性 – 本研究通过明确定义七个独特的主题，并采用阿肯克模型进行基准比较，为读者提供了一个结构化的视角，以解释研究结果。所提出的框架具有独特之处，可有效支持在跨足社会、技术和经济领域的预测营销中展开的伦理研究。

关键词 人工智能（AI）、预测营销、伦理应用、资源优势理论、巴基斯坦

文章类型 研究型论文

1. Introduction

Emerging technologies like the Internet of Things, big data analytics, blockchain and artificial intelligence (AI) have transformed the business landscape. Among these technologies, AI is the most recent and has significant potential to revolutionize marketing. Marketers worldwide are exploring AI-based solutions to find the best fit for their marketing needs (Anayat and Rasool, 2022). AI refers to the simulation of human intelligence in machines, enabling them to perform tasks that typically require human intelligence, such as learning, problem-solving and decision-making, which can be used in predictive marketing to analyze data and anticipate future customer needs and preferences. Predictive marketing, on the other hand, uses data analytics, machine learning (ML) and other technologies to predict consumer behavior and tailor marketing strategies accordingly (Bezuidenhout *et al.*, 2022; Hair and Sarstedt, 2021; Jarrahi, 2018).

Predictive marketing is now an essential component of modern business strategy, enabling organizations to gain insights into customer's behavior and preferences and anticipate future trends and needs (Rathore, 2023). Moreover, the rise of digital technologies and big data analytics has transformed the field of predictive marketing, making it possible to analyze vast amounts of data and generate actionable insights in real-time (Wedel and Kannan, 2016). However, while AI offers a range of benefits for predictive marketing, it

raises ethical concerns. The complexities of modern consumer behavior, the proliferation of channels and touchpoints and the need for personalized experiences pose significant challenges to traditional predictive marketing methods (Frizzo-Barker *et al.*, 2016). Therefore, it is important to consider AI's ethical implications in predictive marketing and ensure that these systems are designed responsibly.

Predictive marketing powered by AI has become a transformative force in the business landscape, enabling organizations to gain profound insights into consumer behavior (Wu and Monfort, 2023). This technological shift holds the potential to optimize marketing strategies and deliver highly personalized experiences to customers. However, as AI continues to reshape marketing practices, there is an increasing need to explore and address the ethical concerns it brings to the forefront (Davenport *et al.*, 2020). This paper aims to comprehensively examine the ethical implications of using AI in predictive marketing and contribute to a nuanced understanding of these concerns within Ashok's model of digital ethics implications of the ontological framework.

Recent advances in AI and ML have led to the development of new approaches to predictive marketing that offer solutions to many of these challenges. AI-powered predictive marketing uses advanced algorithms and models to analyze consumer data sets and identify patterns and trends that may be challenging or impossible to detect using traditional methods (Duan *et al.*, 2019). By applying advanced techniques such as natural language processing (NLP), deep learning and neural networks, AI-powered predictive marketing can generate more accurate and personalized insights into consumer behavior, enabling organizations to optimize their marketing efforts and deliver more engaging and relevant experiences to their customers (Kim and Briley, 2020).

In addition, using AI in marketing may result in unintended consequences, including perpetuating existing biases and inequalities (Anayat and Rasool, 2022; Shikha Verma, 2019). For example, if the data used to train predictive marketing algorithms is biased, the resulting predictions may also be limited, leading to unfair or discriminatory outcomes (Hajian *et al.*, 2016). These concerns raise questions about the responsibility of organizations to ensure that their predictive marketing systems are fair and transparent and that they do not perpetuate existing biases. The authors further provide insights into how ML can improve marketing outcomes while highlighting the importance of meticulous data management and ethical considerations (Hair and Sarstedt, 2021).

One of the primary ethical concerns in predictive marketing is customer prioritization, which protects privacy. Using personal data to establish AI models while making predictions raises concerns regarding data protection, transparency and obtaining informed consent (Selbst *et al.*, 2019). Consumers should be aware of how their data is used. They may feel uncomfortable with the level of intrusion into their private lives (Ghanbarpour *et al.*, 2022). Predictive marketers need to prioritize customer privacy and ensure that data is collected, stored and used in a way that respects individual autonomy.

Another ethical concern in customer prioritization is fairness and nondiscrimination. Predictive marketing systems have the potential to perpetuate societal biases, leading to unfair or discriminatory outcomes (Hajian *et al.*, 2016). For instance, suppose the data used to train predictive marketing algorithms is biased; the resulting predictions may also be restricted, leading to unfair or discriminatory outcomes for certain groups of consumers (van Giffen *et al.*, 2022). The concentration of market share is another ethical concern related to the use of AI in predictive marketing. The dominance of a small number of companies in the predictive marketing industry can limit competition, reduce consumer choices and stifle innovation (Jarrahi, 2018).

Moreover, the use of AI in marketing raises concerns about the manipulation of consumer behavior. Sophisticated techniques can be used by predictive marketing systems to influence consumer decisions, raising questions about the ethics of persuasion and manipulation (Shikha Verma, 2019). This paper offers a novel perspective on the ethical implications of AI in predictive marketing by focusing on the underexplored facets of customer prioritization, market share concentration and consumer behavior manipulation. While existing studies have primarily focused on the potential benefits of AI-powered predictive marketing, such as increased efficiency, accuracy and personalization (Rosário, 2021), our study sheds light on these less-discussed ethical concerns. Still, we know little about other potential ethical problems. Considering these research gaps and contributions, this study aims to address the following research questions:

RQ1. What are the best practices for the responsible use of AI-enabled systems for customer prioritization?

RQ2. How do AI-driven systems perpetuate or exacerbate existing societal biases and contribute to a concentration of market share among a small number of companies?

RQ3. What techniques/methods do e-commerce companies use to gather and use personal data and psychological profiling in stealthy manipulation of consumer behavior?

Therefore, to understand the ethical concerns in AI-powered predictive marketing, focusing particularly on customer prioritization, market share concentration and consumer manipulation, we explored a contemporary perspective of AI and predictive marketing professionals about their experiences and perspectives on ethical concerns raised in AI-driven predictive marketing. This research offers valuable insights into the ethical concerns of customer prioritization, market share concentration and consumer manipulation within AI-driven predictive marketing. It aligns with Hermann (2022) on transparency and fairness in AI algorithms, extending the discussion into customer prioritization in marketing. The exploration of market share concentration draws parallel to existing studies on market share concentration's impacts on competition and innovation, as Fan and He (2023) exemplified. In addition, in the context of consumer manipulation, this research builds upon Nzama-Sithole (2023) findings. Thematic analysis (Terry *et al.*, 2017) was applied to increase our understanding of the ethical concerns of using AI in predictive marketing and their impact on consumer attitudes and behaviors toward this technology. Subsequently, after thematic analysis, the emerging themes within the study were systematically analyzed using an inductive approach, covering four distinct global domains. This analysis was then guided by the dimensions outlined in the ontological framework that Ashok *et al.* (2022) illustrated in Figure 1. This paper enhances Ashok's model of digital ethics implications of the ontological framework by introducing new themes aligned with different cognitive domains within the model. The findings were then framed within the dimensions of Ashok's ontological framework, which provided a structured and comprehensive way to represent the results. Through this study, we aim to offer an insightful ethical perspective on using AI in predictive marketing, focusing on customer prioritization, market share concentration and manipulation of consumer behavior. Data analysts and digital marketers can leverage our findings to make more informed and ethical decisions when using AI in marketing. This knowledge equips them with a deeper understanding of the potential ethical pitfalls and best practices. Subsequently, we propose strategies

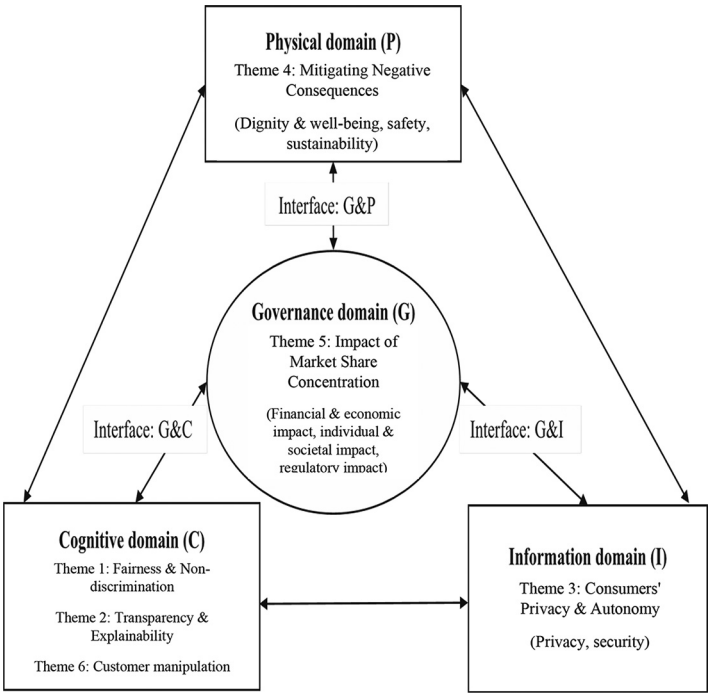

Figure 1.
Ethical implications mapped to the ontological framework

for addressing these ethical challenges data analysts and predictive marketers face, ultimately enhancing the ethical use of AI-driven marketing systems. Second, by being informed about the ethical considerations raised in this study, policymakers and regulators can craft policies that protect consumers' rights and interests while fostering innovation and economic growth.

Moreover, the research findings are relevant for businesses and organizations adopting AI-driven marketing strategies. The current study aims to understand how the interviewed companies address ethical concerns associated with AI systems and implement principles and guidelines with particular attention to customer prioritization, market share concentration and manipulation of consumer behavior. Furthermore, we strive to identify best practices and policies for organizations to adopt when implementing AI-based marketing tools to ensure transparency and accountability.

2. Literature review

2.1 Artificial intelligence in predictive marketing

AI and data ethics have recently gained prominence in marketing technologies, with AI's wide-ranging applications spanning multiple sectors. However, despite AI's popularity, various challenges have emerged, such as social uncertainties, biased algorithms and ethical concerns (Sáez-Ortuño *et al.*, 2023). These concerns extend to data possession, potential human rights harm and moral business ethics. In addition, AI-based technologies must adhere to sustainability and corporate social responsibility principles to ensure human well-being. In adopting AI, organizations encounter ethical issues related to privacy, security and

regulatory compliance. AI has been recognized among the top five areas of marketing (Shaik, 2023). This recognition has led to the rapid evolution of predictive marketing that uses advanced analytics and ML techniques to anticipate customer behavior and preferences (Belk *et al.*, 2023). There has been a growing interest in predictive marketing due to its potential benefits for businesses in revenue growth, customer retention and personalization (Verma *et al.*, 2021). The rise of digital technologies and big data analytics has made it possible to collect and analyze extensive data from multiple sources, including social media, mobile devices and online transactions. This has enabled businesses to gain insights into consumer behavior and preferences and to deliver more personalized and engaging experiences. In a study by Patel and Trivedi (2020), applying NLP and deep learning algorithms in predictive marketing was investigated, showing promising results in generating more accurate and personalized insights into customer behavior.

In developed countries, AI-driven predictive marketing has seen substantial growth and adoption. Research by Wu and Monfort (2023) in the USA highlights the implementation of AI-based systems to analyze consumer behavior, enabling companies to tailor marketing strategies effectively. AI's integration into CRM systems, allowing for more personalized consumer interactions, is well-documented in the literature (Dwivedi *et al.*, 2023). These studies illustrate how AI technology, coupled with abundant consumer data, has become a cornerstone of marketing strategies in developed nations. Moreover, the ethical considerations surrounding AI in predictive marketing have received attention in developed countries (Wakunuma *et al.*, 2020). Strusani and Houngbonon (2019) discusses the importance of maintaining consumer privacy and transparency when implementing AI in marketing, emphasizing the significance of adhering to ethical standards. The rise of customer data protection regulations in developed countries, such as the GDRP in Europe, has further underscored the relevance of moral concerns (Mazurek and Małagocka, 2019).

However, the integration of AI in predictive marketing in developing countries has exhibited promising potential. AI-driven marketing solutions enable businesses in developing nations to optimize customer engagement, precisely target audiences and enhance marketing efficiency. However, implementing AI in predictive marketing in developing countries also presents unique challenges (Wright and Schultz, 2018). Infrastructure limitations, budget constraints and varying levels of digital literacy can influence the adoption and impact of AI in these regions (Barsha and Munshi, 2023). In addition, while universal, ethical considerations may have different contextual implications in developing nations, as discussed in the study by World Health Organizaion (WHO) (2021) on AI ethics in a South Asian context.

To better connect with current research, it is crucial to explain how important AI is for businesses in marketing. Recent studies (Kar *et al.*, 2021) have elucidated how AI-driven marketing solutions enable firms to optimize customer engagement, target audiences with unprecedented precision and enhance overall marketing efficiency. These advancements have opened new avenues for firms to remain competitive in an increasingly data-driven business landscape. Furthermore, AI empowers firms to streamline operations and equips them with the tools to deliver highly personalized customer experiences, thus, ensuring customer loyalty and satisfaction (Kar and Kushwaha, 2021). Consequently, firms must strike a balance between enhancing customer engagement and retaining ethical considerations in the deployment of AI-based marketing systems. We explored a different scenario about how AI is really important in the world of protecting the environment. Recent studies have highlighted how AI-driven solutions are instrumental in monitoring and mitigating environmental challenges (Bibri *et al.*, 2023). These technological advancements offer novel ways to track deforestation, predict natural disasters and manage resources

sustainably. By embracing AI, conservationists can harness data-driven insights to make more informed decisions for the preservation of our planet. However, integrating AI into environmental efforts must carefully consider ethical implications, ensuring that these systems protect, rather than harm, our natural world. Therefore, striking the right balance between technological innovation and environmental ethics is pivotal for successful conservation endeavors.

Integrating AI within predictive marketing practices represents a growing intersection of technology and commerce (Verma *et al.*, 2021). However, using AI in predictive marketing raises ethical concerns about privacy, fairness and transparency. For example, using personal data to train AI models and make predictions raises questions about data protection, transparency and informed consent (Selbst *et al.*, 2019). With its ability to analyze vast data sets, AI offers marketers the potential to make precise, data-driven decisions (Saurabh *et al.*, 2022). However, ethical concerns surrounding its use are equally emerging as the technology becomes more pervasive. Consumers may need to be made aware of how their data is being used or feel uncomfortable with the level of intrusion into their private lives. Predictive marketers need to prioritize customer privacy and ensure that data is collected, stored and used in a way that respects individual autonomy.

In addition, predictive marketing systems have the potential to perpetuate or amplify existing societal biases, leading to unfair or discriminatory outcomes. Furthermore, there are concerns about data privacy and the potential to manipulate consumer behavior. Several studies have emphasized the importance of transparency and accountability in predictive marketing (Chintalapati and Pandey, 2022; Scarpi *et al.*, 2022). Prior research in AI-driven marketing contributed to the issue of privacy (Cheng and Jiang, 2020). Numerous studies have examined the implications of collecting and processing consumer data in predictive marketing contexts, revealing the potential for breaches in privacy. Scholars such as Wieringa *et al.* (2021) have exemplified the importance of privacy considerations in their work.

The literature suggests that privacy concerns in AI-driven marketing have been widely addressed, but ethical questions about customer prioritization, market share concentration and consumer manipulation remain relatively uncharted. We identified some research gaps by comprehensively analyzing the current literature on predictive marketing. First, there needs to be a more holistic understanding of how AI is adopted and used in organizations. Researchers (De Bruyn *et al.*, 2020) conducted a qualitative study investigating firms that use AI-based marketing tools. They found that these firms experienced benefits such as increased efficiency and better decision-making but faced challenges in data quality and algorithmic bias. In our paper, we aimed to provide insights into how data analysts can help mitigate the negative consequences of AI-based marketing tools and ensure that ethical considerations are taken into account to address the abovementioned issues.

Second, there needs to be more consistency between theory and practice (Clarke and Whittlestone, 2022).

2.2 Resource advantage theory

Resource advantage theory (RAT) provides a robust theoretical foundation for understanding how an organization can gain a competitive edge through resource allocation. Our research is informed by the resource-advantage theory (Hunt and Morgan, 1995), which assumes a better understanding of how organizations can use their resources to gain a competitive advantage. It emphasizes the strategic deployment of resources to outperform competitors, and this aligns with the central theme of leveraging AI in predictive marketing for optimizing marketing campaigns and achieving a competitive advantage. In addition, a firm's success depends on its

ability to leverage its unique resources and capabilities to outperform its competitors. Burrell (2016) asserts that if organizations prioritize certain customers over others based on predictive models can result in discriminatory practices that negatively impact marginalized groups. Empirical research supports the claim that a few dominant organizations control the market due to their superior resources and capabilities, which can result in reduced competition and consumer choice (Athey and Imbens, 2017). Researchers have also reported that organizations use AI-powered predictive marketing to manipulate consumers into purchasing they might not otherwise make, which can erode trust and damage their reputation (Moews *et al.*, 2019). This empirical support not only substantiates the relevance of RAT but also showcases the practical implications of the theory in different contexts. There needs to be more research that specifically focuses on the application of resource-advantage theory in the context of predictive marketing. However, RAT has been widely used in the broader context of strategic management and marketing to explore resource allocation, competitive advantage and firm performance. Some researchers, such as Hunt and Morgan (2017), have applied RAT to examine the role of various resources, such as knowledge, technology and human capital, in achieving a competitive advantage in marketing. For instance, Varadarajan (2020) used the resource-advantage theory to investigate how firms can leverage their resources to gain a competitive advantage in emerging markets. The study revealed that firms that effectively used their resources could capture market share and achieve superior performance. RAT emphasizes the strategic allocation of resources to gain a competitive advantage, and in predictive marketing, ethical resource allocation is vital to prevent discriminatory practices. RAT has been widely applied to various business contexts. For instance, studies by Collins (2021) and Parker *et al.* (2015) have used RAT to examine firms' resource allocation strategies in digital marketing and international market expansion.

Furthermore, scholars have extensively investigated the application of RAT to understand the conversion of specific resources into competitive advantages. Research by Inseng and Uford (2019) has explored the role of brand equity, while Varadarajan (2020) has focused on customer knowledge. Therefore, in our research, we propose that AI can be considered a resource that organizations can leverage to gain a competitive advantage, similar to the resources discussed in previous studies (Anayat and Rasool, 2022; Bezuidenhout *et al.*, 2022). By effectively using AI, organizations can gain insights into customer behavior and preferences, make accurate predictions, can effectively leverage their resources and capabilities, all while addressing the ethical concerns related to customer prioritization, market share concentration and consumer manipulation in the context of AI-powered predictive marketing and optimize marketing campaigns in real-time, thus, gaining a competitive advantage over their rivals. The ethical concerns in predictive marketing are consistent with RAT's focus on resource allocation for competitive advantage. Aligning with RAT, ethical resource allocation principles can help organizations address these concerns effectively, optimize marketing practices and achieve a sustainable competitive edge.

3. Materials and methods

3.1 Research design

The use of AI in predictive marketing has raised concerns about data privacy, market share concentration and potential manipulative practices (Ogbuke *et al.*, 2022). Therefore, this study used a qualitative research design to explore the ethical implications of AI in predictive marketing. The methodology used for this study is qualitative. We conducted in-depth interviews and content analysis to gather and analyze data. The use of qualitative research design in this study was deemed necessary to examine the ethical implications of

AI in predictive marketing for several reasons. First, the concerns surrounding the use of AI in predictive marketing, including data privacy, market share concentration and potential manipulative practices (Ogbuke *et al.*, 2022), are complex and multi-dimensional issues warranting in-depth exploration. Second, the research question focuses on understanding the attitudes, perceptions and experiences of AI and predictive marketing experts/managers toward using AI in predictive marketing. Thus, qualitative methods were used to capture rich, detailed data on individuals' subjective experiences and perceptions. In addition, qualitative research has been extensively used in exploring ethical issues related to technology and marketing, including AI, as it allows for a deeper understanding of stakeholders' experiences and perceptions in real-world contexts (Umer *et al.*, 2019), which led us to opt for qualitative research.

3.2 Participants and procedures

This study used purposive sampling to select participants with direct involvement and expertise in using AI in predictive marketing, including data analysts and predictive marketing experts/managers. In addition, snowball sampling was used to identify additional participants who may have been initially overlooked through purposive sampling. These sampling techniques were chosen to ensure the selection of participants to select participants based on their relevance to the research question and to capture diverse perspectives on the ethical implications of AI in predictive marketing. The sample comprised 14 participants, including 8 data analysts and 6 digital marketers, with experience in AI-enabled systems for customer prioritization, market share concentration and consumer manipulation. The participants were selected based on their expertise in AI-enabled predictive marketing, aiming to include individuals with pertinent knowledge and experiences that could provide valuable insights into the research question. Potential participants were approached through email/message, explaining the purpose and objectives of the study. In cases where personal connections existed, direct communication was established. The e-mail/message also included an information sheet detailing the research's purpose, the voluntary nature of participation and data confidentiality. In addition, informed consent was obtained from each participant, and this process was documented through a consent form.

The participants in the study represented a diverse demographic profile, including a mix of data analysts and digital marketers from various industries such as e-commerce, finance and technology. This diversity in participant demographics aimed to capture multiple experiences and perspectives on using AI in marketing, making the findings more robust and applicable across various domains. The participants exhibited a wide range of professional experience in digital marketing and data analysis. Their work experience ranged from 3 to 15 years, with an average of 8 years. Participants had extensive experience in digital marketing practices. Their roles encompassed a spectrum of digital marketing functions, including but not limited to search engine optimization, social media marketing and content marketing, e-mail marketing and paid advertising campaigns.

Regarding data analysis, participants had a varied level of proficiency. Some were proficient in data analytics tools and techniques such as data mining, statistical analysis and predictive modeling, while others focused on data interpretation and strategy development. Our participant group was diverse in terms of gender. It consisted of both male and female professionals, providing a balanced representation. Participants were included with experience in both multinational corporations and national companies. This diversity gave us insights into how ethical considerations in AI-driven marketing differ in

varying business structures. The saturation method has determined the sample size, commonly used in several qualitative research studies involving interviews (Hennink and Kaiser, 2022). After conducting 14 interviews, nine conducted online and five born in person, data saturation was observed, which led us to fix the sample size to a maximum of 14 informants.

3.3 Data collection

Given the research focus on the experiences and perceptions of the data analysts, semistructured interviews were conducted with each participant. The research involved a thorough ethics approval process, ensuring participant welfare data protection and addressing ethical considerations. This transparent approach enhanced the study's credibility and trustworthiness. The interviews were performed using the Zoom platform, allowing for remote discussions and making it more convenient for the participants, given their busy schedules. In addition, it provided a recording feature that allowed for the accurate transcription of the interviews, ensuring that the data collected was comprehensive and precise. The use of Zoom for qualitative research interviews has become more prevalent in recent years in different research contexts (Antoine *et al.*, 2022). However, certain challenges were encountered, including technical issues related to internet connectivity and audio quality, which could affect the accuracy of data collection. Field notes were taken during in-person interviews, which were later analyzed alongside the recordings for a comprehensive understanding. The data collection process spanned over six weeks, from February 2023 to March 2023. The interviews were conducted conversationally, allowing participants to freely share their experiences and perspectives on using AI in predictive marketing. Some of the interviews were conducted in English. The rest were born in the local language, Urdu. The preliminary analysis was done in the language of the discussion. The final analysis was done in English after translating initial insights from Urdu to English, which was a time-consuming process that required careful attention to detail but was necessary to ensure accuracy and avoid misinterpretation. In addition, including participants with limited English proficiency enhanced the diversity of perspectives and experiences captured in the study.

3.4 Data analysis

Our analysis involved three distinct steps: iteratively reviewing and refining the data collected and then re-examining the data to assess the extent to which the refined data aligns with the baseline theory. We began by reviewing the data collected throughout the study. The interview data were transcribed manually and then analyzed using thematic analysis to identify, investigate and report patterns (themes) within the data. After the interviews, the researcher transcribed the data manually by listening to the audio recordings of the discussions and diligently typing out the spoken words. This meticulous process allowed for a more accurate and detailed record of the data gathered during the interviews. A thematic map was developed in five phases to identify main themes, subthemes and interconnection between pieces and subthemes.

In Phase 1, we familiarized ourselves with the data. Once the data was transcribed, the researcher read the transcripts several times to identify recurring themes and patterns related to the ethical implications of using AI in predictive marketing. For this data, we used an "open-coding" approach to identify distinct themes that were either repeated or new and surprising in the data and recognized. This led to the identification of different codes to

represent these identified themes. Major ideas were highlighted and written down in each transcript (see Appendix for details).

In Phase 2, we generated initial codes by systematically identifying and labeling relevant data features throughout the complete dataset, corresponding to each respective code (Terry *et al.*, 2017). This process involved a careful and systematic approach to coding the data, which involved labeling text segments with codes representing the themes that emerged from the data. It is important to note that only an inductive approach was used during the coding process. Upon analyzing the data, it became clear that the results reflect a strong commitment to ethical practices and the responsible use of AI in business operations (see Table 1).

In Phase 3, we searched for themes. Our analysis started to take shape as we shifted from codes to themes. This phase involved reviewing the coded data to identify similar and overlapping areas between codes, compiling principles to form potential themes and collecting all data related to each possible theme (Terry *et al.*, 2017). The data underwent repeated reading, and the cycle was repeated several times to narrow down the number of codes and categorize them into identifiable themes (see Table 1).

In Phase 4, we critically reviewed the potential themes by re-reading the complete set of interview data to validate the assigned codes (Terry *et al.*, 2017). This iterative process involved continuous reflection and close observation of the data and its interpretation. This phase was all about quality checking. At this stage, additional themes were created, and adjustments were made to existing themes, including consolidating different themes into fine-grained detail.

The final Phase 5 of the analysis involved conducting a comprehensive study of the chosen extracts, connecting the findings with the research question and relevant literature and creating a report of the examination in the form of results (Terry *et al.*, 2017). Several fundamental statements representing the data were extracted to highlight the resulting outcomes.

The thematic analysis allowed for thoroughly examining the data and identifying themes, which can provide valuable insights for researchers and practitioners in this field. To finalize our investigation, we reviewed and double-checked all the data and articles used in the study (see Table 2).

Table 1. Thematic coding process

Transcripts	Codes
Interviewee: Absolutely. AI can analyze large amounts of data quickly and accurately, which helps us make informed decisions for marketing strategies Interviewer: mm	Transparency and explainability
Interviewee: Ethical concerns must be addressed, which can seriously affect individuals Interviewee: mm	Ethical considerations
Interviewee: One way to address this issue is to ensure companies regularly monitor and audit their systems are non-discriminatory Interviewer: mm	Promoting Fairness
Interviewee: My pleasure; these conversations are important to ensure AI-based predictive marketing is used ethically and responsibly Interviewer: mm	Evaluating the effectiveness

Transparency and explainability	Protecting consumers' privacy and autonomy	Promoting fairness and nondiscrimination	Evaluating the effectiveness	Market share concentration	Negative consequences	Customer manipulation
1. Ethical and moral principles that guide decision-making in the use of AI 2. Ethics and morality in AI-driven decision-making 3. Ethical considerations in the use of AI 4. Ensuring ethical practices in AI applications 5. Upholding ethical standards in AI usage 6. Ethical decision-making in the use of AI 7. The ethical framework for AI applications 8. Integrating ethical considerations into AI development 9. The role of moral principles in the use of AI	1. Ensuring that AI systems do not violate consumers' rights or infringe upon their autonomy 2. Establishing clear standards for the development and use of AI systems 3. Incorporating privacy principles 4. Ensuring AI systems are designed with the user in mind 5. Ensuring AI systems comply with relevant laws related to consumer privacy 6. Providing consumers with accessible and user-friendly means of recourse 7. Ensuring AI systems	1. Ensuring that AI systems do not perpetuate biases or discriminate against any group of people 2. Evaluating the potential harms and benefits 3. Creating diverse teams 4. Providing clear and accessible information 5. Promoting public awareness 6. Ensuring that data used to train AI systems is representative 7. Regularly auditing 8. Ensuring ethical and fair AI practices 9. Encouraging social justice 10. Regularly updating AI systems to address potential biases 11. Encouraging awareness to promote nondiscrimination	1. Measuring the success of AI systems in achieving their intended goals 2. Assessing the accuracy and reliability of AI systems in delivering desired outcomes	1. Examining the concentration of power and market share in the AI industry 2. Studying the impact of AI on economic inequality 3. Examining the potential of AI to exacerbate existing power imbalance 4. Exploring the role of AI in shaping the social and political system 5. Considering long-term societal effects 6. Examining the role of AI on economic and social inequality	1. Examining and mitigating potential negative consequences of AI systems 2. Mitigating negative consequences 3. Identifying unintended consequences 4. Addressing potential ethical dilemmas 5. Ensuring AI systems do not cause harm to society 6. Encouraging AI systems do not have negative consequences 7. Addressing the negative impact of AI 8. Addressing the potential impact of AI on the job market	1. Ensuring that AI systems are not designed to manipulate or exploit customers 2. Ensuring AI systems are designed with privacy 3. Designing AI systems that can be audited 4. Promoting awareness of AI technologies 5. Develop guidelines to promote transparency and accountability 6. Establishing ethical standards for the collection and use of consumer data

Table 2.
Key themes

Reliability and validity in qualitative research are paramount to ensure data quality: triangulation and peer debriefing corroborated findings (Awan *et al.*, 2023). An audit trail documented decisions, and reflexivity addressed potential biases (Ritter *et al.*, 2023). Ethical considerations were maintained in line with recognized ethical guidelines (Association, 1992). External review of scholars ensured expert evaluation of the research. These measures collectively improved the data analysis process's quality, reliability and validity, adhering to established qualitative research best practices.

4. Results

The authors identified seven key themes using the thematic analysis approach. Subsequently, the emerging themes were clustered using an inductive analysis of four global domains, followed by the dimensions of an ontological framework developed by Ashok *et al.* (2022), as depicted in Figure 1.

The interviews encompassed 18 main questions as a framework but were not limited exclusively to these questions. Initially, to understand the data analysts or digital marketers are well acquainted with the ethical concerns that arise while dealing with AI-driven systems, they were asked: "Are there any ethical concerns in AI-based marketing"? Among the 14 informants, the majority believed there is a significant potential for discrimination and bias in AI-based systems. They served as a helpful guide for discussing concepts with experts and gathering their insights based on their practical experiences. This paper describes the themes derived from the analysis of interview data.

The findings of this study support Ashok's dimensions of digital ethics implications of the ontological framework, specifically about the digital ethics implications.

The views and concerns of the informants are summarized under the following themes.

Cognitive domain: theme 1: promoting fairness and nondiscrimination: Based on the study's findings, it is evident that promoting fairness and nondiscrimination is an essential theme within the context of AI-based marketing. This theme is aligned with the cognitive domain of Ashok's dimensions of digital ethics implications of the ontological framework,

specifically promoting fairness and nondiscrimination. It was noticed that using AI-enabled systems for customer prioritization requires companies to protect consumers' privacy and autonomy and promote justice and nondiscrimination. The informants shared that AI-driven systems may perpetuate or exacerbate existing societal biases, but using diverse data sources can mitigate the risk of bias.

One respondent said:

> Although AI systems are responsive, there is an important ethical issue related to biases, and we can avoid the risk of biases by regularly monitoring and auditing our systems. [Male, 28 years]

The interviews highlight the importance of using different data sources to reduce the risk of bias and the importance of regular monitoring and auditing AI systems to ensure fairness and nondiscrimination. Our study found that promoting fairness and nondiscrimination is crucial in AI-based marketing. The study identified the importance of protecting consumers' privacy and autonomy and ensuring fairness when using AI-enabled systems. Extending on Ashok's model, our study proposes adding a more comprehensive understanding of promoting justice and nondiscrimination, regularly monitoring AI systems and addressing ethical concerns related to customer prioritization. These suggestions render the model more relevant and comprehensive in addressing ethical considerations associated with AI-enabled methods.

Theme 2: encouraging transparency and explainability: The theme highlights the importance of transparency and explainability, which aligns well with the cognitive domain of "transparency and explainability" in Ashok's dimensions. It is evident from the interviews conducted for the study that transparency and explainability are crucial in ensuring that consumers can trust AI-based predictive marketing. Discussions revealed that consumers should be informed about the collected data and its use. The informants seem to be saying the same about the transparency of the data:

> To build trust in consumers, it is fundamental to ensure that AI-based predictive marketing is used ethically, which can help business generate positive outcomes. [Male, 34 years]

Overall, this theme implies the need for businesses to inform consumers about the data being collected and its usage, which is a key aspect of transparency. By providing this information, companies can foster trust with consumers, which is crucial for the success of AI-based predictive marketing. The theme also highlights that businesses should be able to explain how their AI-based systems work clearly and understandably, which is a key aspect of explainability. In conclusion, incorporating this theme into Ashok's model as a separate cognitive domain can help businesses address emerging ethical concerns related to transparency and explainability in AI-based predictive marketing.

Theme 3: customer manipulation: This theme aligns with multiple cognitive domains in Ashok's dimensions of digital ethics implications of the ontological framework. Firstly, it aligns with the cognitive domain of customer manipulation, which involves understanding the potential for AI-driven marketing systems to manipulate customers and how to prevent it. It is evident from the interviews that the impact of AI-driven marketing systems on customer manipulation is complex. Sometimes, it can lead to customers making decisions outside their best interests, such as purchasing products they do not need or cannot afford. However, sometimes, these systems can help customers discover products and services that may be of interest and provide customers with more personalized and relevant experiences. The informants were of different views:

> "It is important to note that the impact of AI-driven marketing systems is not necessarily negative; they also can provide benefits such as improved customer experiences and more efficient marketing." [Male, 26 years]

Secondly, this theme also aligns with the cognitive domain of prosperity, as the potential negative impact of AI-driven marketing systems on customer manipulation can lead to customers making decisions that are not in their best interests, ultimately harming their financial well-being. Lastly, the theme aligns with the cognitive domain of intelligibility, as understanding the impact of AI-driven marketing systems on customer manipulation requires understanding how these systems work and how they may influence customer behavior.

Therefore, as AI systems continuously evolve, it will be important to consider their impact carefully. This can lead to unfair treatment of certain groups of customers and may contribute to systematic inequalities. In conclusion, our study suggests enhancing Ashok's digital ethics framework to address the ethical implications of AI-driven marketing systems. This includes promoting transparency and explainability, preventing manipulation, and ensuring fairness through unbiased algorithms. By doing so, we can better understand and address the ethical implications associated with these systems.

Theme 4: evaluating the effectiveness of AI-driven marketing systems (accountability): Evaluating the efficacy of AI-driven marketing systems is crucial for holding businesses accountable for their actions and ensuring that they use these systems ethically and responsibly, as highlighted by Ashok's model of the cognitive domain. Informants believed that evaluating the effectiveness of AI-driven marketing systems requires a nuanced approach that considers both the benefits and potential drawbacks of these systems. One informant said:

> It is worth noting to consider potential drawbacks when evaluating the effectiveness of AI-driven marketing systems. By taking steps to mitigate potential negative consequences, it is possible to determine whether these systems are effective and beneficial for businesses and customers. [Male, 30 years]

Extending on Ashok's model, this study suggests developing a detailed framework for evaluating the effectiveness of AI-driven marketing systems, considering ethical and societal implications such as privacy, autonomy, trust and potential biases. This will enable holding businesses accountable for their actions and ensure the ethical use of these systems.

Information domain: theme 5: protecting consumers' privacy and autonomy: This theme focuses on the importance of maintaining confidentiality and security of consumers' data in the digital age and clubbed under the information domain of Ashok's dimensions of digital ethics implications of an ontological framework which highlights the need for strong data protection laws and regulations to prevent companies from misusing consumer data for their benefit. The key to improving Ashok's model include establishing clear data protection regulations, enhancing transparency and accountability in data collection, educating consumers about their rights and conducting ongoing research to assess the impact of AI-driven marketing systems on privacy and autonomy. Most of the interviewees were of the view that protecting consumers' privacy and independence is of utmost importance. They emphasized that consumers should have the right to control their data and how companies use it. One interviewee said:

> It is crucial to establish strong data protection laws and regulations to ensure that companies cannot misuse consumer data for their benefit. [Female, 25 years]

However, it is important to note that one informant expressed a negative opinion regarding the extent of protecting consumers' privacy. He explained:

> While protecting consumers' privacy and autonomy is important, overly strict regulations can stifle innovation and hinder the growth of the digital economy. [Male, 37 years]

Overall, all the interviewees agreed that protecting consumers' privacy and autonomy is important. Nevertheless, they had differing perspectives on achieving this goal, highlighting the need to balance protecting consumers' privacy and independence and fostering innovation and economic growth. Ensuring ethical considerations are central to these systems can build trust with consumers and ensure the long-term sustainability of business operations.

Physical domain: theme 6: mitigating negative consequences: The theme of mitigating negative effects falls under the physical domain of Ashok's dimensions of digital ethics implications to ensure dignity and well-being, safety and sustainability. It is evident from the interviews that mitigating negative consequences requires a multifaceted approach that includes education and awareness, policy and regulation and innovation and technology development. One respondent said:

> It is important to ensure that individuals are treated fairly, without discrimination, their privacy is protected, and they maintain autonomy over their lives. Violations of these can lead to significant harm, so there is a huge need to be prevented at all times. [Male, 30 years]

The approach mentioned in this theme – education and awareness, policy and regulation and innovation and technology development – all have physical implications regarding protecting individuals from harm, promoting their overall well-being and reducing negative environmental impacts. Overall, the Ashok theory provides a useful framework for understanding the implications of digital technologies across various cognitive, physical and information domains. In addition, to enhance the model, our study suggests creating a thorough evaluation framework for AI-driven marketing systems, balancing privacy and autonomy with innovation and growth, increasing education and awareness about potential negative consequences, and encouraging businesses to prioritize ethical principles that prioritize consumer well-being.

Governance domain: theme 7: impact on market share concentration: The impact of AI-driven marketing systems on market share concentration can have financial and economic effects on companies, individuals and society. In addition, market share concentration can contribute to inequality and have implications for individual and societal well-being; this is why Ashok categorizes it under the governance domain of the ontological framework. In this regard, the informants believed that AI-driven marketing systems significantly impacted market share concentration in many industries. These systems use machine-learning algorithms to analyze data and automate decision-making processes, allowing companies to target their marketing efforts.

One informant was of the view:

> The impact of AI-driven marketing systems on market share concentration is not necessarily negative. These systems can help increase the efficiency of the market, leading to lower prices for consumers and increased innovation as companies compete to develop new and better products and services. [Male, 32 years]

Overall, it is evident from the interviews that the impact of AI-driven marketing systems on market share concentration is complex and multifaceted. While these systems can contribute to increased market share concentration, they can also help level the playing field for smaller companies and increase the efficiency of the market. Therefore, governing AI-driven marketing systems concerning market share concentration should consider these economic, societal and regulatory impacts. Furthermore, exploring the effects of AI-driven marketing systems on the distribution of economic benefits and the potential for inequality would be a valuable area of research in improving Ashok's framework.

5. Discussion

Using AI in predictive marketing presents both opportunities and challenges for businesses. On the one hand, AI-powered predictive marketing can generate more accurate and personalized insights into consumer behavior, enabling organizations to optimize their marketing efforts and deliver more engaging and relevant experiences to their customers. On the other hand, using AI in marketing can lead to unintended consequences, such as perpetuating or exacerbating existing biases and inequalities, violating customer privacy, limiting competition and manipulating consumer behavior (Dwivedi and Wang, 2022). AI is a powerful tool to improve marketing practices, but it requires careful consideration and planning to ensure that its benefits are realized and potential risks are mitigated (Bezuidenhout *et al.*, 2022).

Ethical concerns in the context of customer prioritization, market share concentration and manipulation of consumer behavior to investigate the impact of AI on predictive marketing are considered unique products of this study. While many studies have focused on the privacy implications of predictive marketing (Quach *et al.*, 2022), our study explores the other side of the coin, which is distinct and novel. In this way, the present study reveals several ethical concerns associated with using AI in predictive marketing, including customer prioritization, market share concentration and consumer behavior manipulation. These findings are consistent with previous studies that have raised similar concerns (Jarrahi, 2018).

Our interviews with data analysts and digital marketers highlight their awareness of the importance of ethical concerns. Most informants acknowledged that using consumer data to train AI models and make predictions raises questions about transparency and informed consent. However, some informants also recognize that ensuring complete transparency and un-biases is challenging, especially when dealing with complex AI algorithms that may be difficult to explain to nontechnical users, as highlighted in previously conducted studies in different contexts (Mittelstadt *et al.*, 2016).

Another prime contribution is addressing ethical concerns related to market share concentration, which is very important and practically relevant but has yet to be noticed by researchers (Brynjolfsson *et al.*, 2018). The results revealed that the dominance of a small number of companies in the industry could limit competition, reduce consumer choice and stifle innovation, especially given the complexity of the sector and the rapid pace of technological change.

Finally, using AI in marketing raises concerns about manipulating consumer behavior. Many studies have explored predictive marketing systems and their ability to influence consumer decisions but in a different context (de Marcellis-Warin *et al.*, 2022). Logically, business objectives aim to attract new customers and predict consumer behavior, along with the capability to personalize and predict behaviors using "smart" systems, which allow them to increase sales and decrease customer loyalty and satisfaction. Moreover, the results are the same across different contexts, highlighting the importance of ethical considerations when using AI in predictive marketing.

6. Theoretical implications

The results of our study have enriched Ashok's model of digital ethics implications of the ontological framework by identifying several themes aligned with different cognitive domains of the model. By highlighting the importance of promoting fairness and nondiscrimination, encouraging transparency and explainability, customer manipulation and evaluating the effectiveness of AI-driven marketing systems, the study has provided a more nuanced understanding of the ethical implications of AI-based marketing within

Ashok's framework. Furthermore, the study suggests improving the model by incorporating ethical concerns related to AI-based marketing for political purposes beyond customer data and updating the model regularly to address emerging ethical concerns, further enriching the model's utility and applicability. This recommendation aligns with prior research on AI's political and societal implications (Dwivedi *et al.*, 2021). By adopting a stakeholder perspective and considering the societal impacts of AI-based marketing, the model can provide a more comprehensive and relevant framework for addressing the ethical implications of this technology. The model should also be updated regularly to address emerging ethical concerns. This aligns with the dynamic nature of technology and ethical considerations, as supported by scholars (Chang, 2021). Therefore, the study's results and suggestions are valuable additions to Ashok's model, enhancing its ability to guide ethical decision-making in AI-based marketing.

The current research helps organizations optimize their marketing efforts and deliver personalized experiences to customers and organizations, resulting in a win-win situation. The research study is one of the first attempts to explore ethical concerns related to customer prioritization, market share concentration and consumer manipulation in the context of AI and predictive marketing. By identifying new ethical considerations related to market share concentration, consumer manipulation and customer prioritization, the study adds to the academic literature. While previous studies have focused on the privacy implications of AI in predictive marketing (Davenport *et al.*, 2020), our study explores the impact of market share concentration on competition and innovation.

A previous study has underlined the significance of AI in enhancing customer experience and improving customer engagement (Hollebeek *et al.*, 2021). However, they may have overlooked the ethical concerns related to the use of AI in these areas. For example, using AI to influence consumer behavior and decision-making may raise concerns about manipulation. This work, thus, provides a comprehensive overview for understanding the perspectives and experiences of data analysts in the context of ethical considerations to mitigate unintended consequences associated with AI-driven systems.

Furthermore, this study contributes significantly to the RAT by expanding our understanding of the factors that affect a firm's resource advantage and the importance of considering ethical considerations in resource management, particularly using AI in predictive marketing.

In addition, this research contributes to the growing body of literature on AI and ML by examining the ethical implications of these technologies in marketing. By focusing on the potential ethical concerns related to AI-driven predictive marketing, this research extends our understanding of the ethical implications of AI and ML beyond the privacy and security concerns that have dominated much of the existing literature. By considering the societal impacts of AI-based marketing, our study builds on the work of Du and Xie (2021) on stakeholder theory and ethical considerations. This expansion enhances the model's utility and applicability by incorporating principles from well-established theories and aligning with existing research in the field.

Finally, this study contributes to developing practical guidelines and frameworks for ethical decision-making using AI-driven predictive marketing. By identifying ethical considerations and potential unintended consequences, this study provides organizations with a basis for developing ethical guidelines for using AI in marketing. These guidelines help organizations ensure their marketing practices are effective and ethical, contributing to long-term sustainability and success.

7. Practical implications

Instilling AI ethics within an organization via its managers or leaders demands extensive engagement efforts. Managing and designing ethics programs has become increasingly challenging for today's managers, given the intricacies of their roles (Benlian *et al.*, 2022). In an ideal AI ethics program, managers must balance rational, human-centered and technology-driven approaches (Flink *et al.*, 2023). Achieving this requires the active participation of the entire workforce and a keen awareness of human-centric qualities among managers. It is important to handle this properly to ensure the AI as a whole initiative is successful, and its success hinges not only on intrinsic organizational factors but also on various external factors influencing AI ethics. Therefore, effectively anticipating and implementing a digital AI ethics program necessitates a harmonious blend of human and machine rationalization, decision-making, monitoring, control and timely audits (Díaz-Rodríguez *et al.*, 2023).

AI requires thoughtful management. Therefore, based on the findings of this study, we offer some suggestions to AI and predictive marketing experts/managers involved in developing and implementing AI-driven marketing systems. It also provides implications for policymakers and regulators responsible for ensuring that AI-based systems are designed and used ethically, protecting consumers' rights and interests. First, there is a strong need to promote fairness and nondiscrimination for companies using AI-enabled systems for customer prioritization aligns with the principles of ethical AI systems as advocated by Chang and Ke (2023). Study respondents expressed concern about AI-driven systems' potential to perpetuate societal biases. It is important to use different data sources, and regular monitoring and auditing of strategies can help mitigate the risk of preferential treatment. Second, building trust in consumers is fundamental to ensure that AI-based predictive marketing is used ethically, which can help businesses generate positive outcomes. To build trust among consumers, organizations and professionals should consider the recommendations provided by Wang *et al.* (2020) on building ethical practices. Third, it is important to determine whether these systems are effective and beneficial for companies and customers alike. While these systems can contribute to increased market share concentration and customer manipulation, they can also help level the playing field for smaller companies and increase the efficiency of the market. The authors suggest that AI will continue to play an increasingly important role in marketing and that researchers and practitioners must stay updated on the latest developments and opportunities to remain competitive (Anayat and Rasool, 2022).

In addition to the suggestions made to businesses and regulators, the researcher proposes some agenda items for high-authority professionals to consider. For instance, an independent organization should develop and oversee a certification program for AI-enabled marketing systems. This organization would evaluate marketing systems for their ethical and unethical practices. Companies that pass the certification process could then display a badge on their website or marketing materials to signify to consumers that their system is ethical. While it is true that overly strict regulation can stifle innovation, it is important to balance innovation with ethical considerations. In addition, the certification program could help build trust between companies and consumers. This program would be particularly beneficial in the case of market share concentration and consumer manipulation. By establishing ethical guidelines and certification standards, the program could help ensure smaller companies compete effectively in the market and help prevent using manipulative techniques that exploit consumer vulnerabilities. Our suggestion for an independent certification program for an AI-enabled marketing system resonates with existing proposals for ethical standards in AI (Blösser and Weihrauch, 2023) while acknowledging the need to

balance innovation with ethical considerations, as discussed by Hastuti (2023). This study can serve as a valuable resource for managers in developing tools and facilitators for different scenarios linked to the ethical decision-making process. Managers can use it as a moral instrument to engage in ethical reasoning, uphold human rights and adhere to virtuous ethical principles.

8. Limitations and future research directions

Despite the meaningful contribution, the study has several limitations. First, the study's limited scope was a conscious decision to focus solely on the ethical implications of AI in predictive marketing. However, this overlooked other important aspects of the technology, which could have affected the overall understanding and implications of the findings. Future research should explore other important factors of the technology, such as its technical capabilities, impact on customer experience or broader societal issues. This would provide a more comprehensive understanding of the technology's implications in marketing. Future research could also examine the ethical implications of AI in other domains beyond predictive marketing, such as healthcare, education or finance. This would broaden the scope of understanding the ethical implications of AI. Second, the potential for social desirability bias may have affected the accuracy of the participant's responses. Participants may have hesitated to share their experiences and perceptions due to social pressure to provide socially desirable answers. Future research should consider alternative data collection methods, such as observations or experiments, to complement or expand the findings obtained through interviews. This would mitigate potential biases and provide a more nuanced understanding of the technology's implications. Third, using both English and Urdu may have introduced language bias in the analysis because participants may express their experiences differently depending on the language used; the translation process may have resulted in a loss of meaning, which could have impacted the accuracy of the findings. Future research could also explore the use of alternative translation methods to help mitigate language bias. Fourth, the study may have overlooked the perspectives of other stakeholders, such as consumers and regulators, who may have different experiences, concerns and views regarding the ethical implications of AI in predictive marketing. Future research should address this limitation by incorporating the perspectives of a broader range of stakeholders, thus, providing a more holistic understanding of the ethical implications of AI in predictive marketing.

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Appendix

New and different repeated examples surprising things relate to theories or concepts in literature	
Ensuring transparency and fairness in manipulating consumer behavior is important to build trust with consumers and prevent unethical behavior. AI-driven systems should not be used to exploit vulnerable populations or perpetuate biased or discriminatory outcomes, as this would be unethical and potentially illegal. Potential concerns of using AI-enabled systems for customer manipulation include loss of privacy, exploitation of vulnerabilities and perpetuation of biases and stereotypes. Future risks and challenges in using AI-enabled methods to manipulate consumer behavior could include increased regulation, public backlash and potential legal liabilities. The problems and dilemmas encountered in using personal data and psychological profiling to influence consumer behavior may include concerns over privacy violations, unethical or misleading advertising and potential negative impacts on consumer autonomy and decision-making	Fair competition ensures companies do not engage in anti-competitive practices that harm consumers. While AI-driven market concentration can contribute to income disparities and exacerbate existing economic inequalities, companies can mitigate these negative consequences by being transparent in how they use AI and working to ensure that their AI systems do not contribute to market concentration. Companies can also work with regulators and other stakeholders to develop guidelines and best practices for the responsible use of AI in the market. However, it is important to note that using AI for market share concentration also presents challenges and risks, such as the potential for unintended consequences and the need to monitor and adjust the AI systems continually
E-commerce companies use various techniques and methods to gather personal data and perform psychological profiling of consumers, such as tracking online behavior, analyzing social media activity and using machine learning algorithms to predict consumer preferences and behaviors. This information is then used to tailor advertising and marketing campaigns to influence consumer behavior. The impact on consumer behavior can vary, but it may lead to increased purchases or choices not entirely in the consumer's best interest	While AI-driven systems can perpetuate or exacerbate existing societal biases and contribute to a concentration of market share among a small number of companies, there are ways to mitigate these negative consequences. One best practice is to ensure that the data used to train AI models is diverse and representative of the population. It is also important to regularly monitor the models for emerging biases and adjust them accordingly

Table A1.
Thematic analysis

Corresponding author
Muhammad Kashif can be contacted at: kashifsaeedjanjua33@gmail.com