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STUDY ETHICAL AI IN MARKETING COMMUNICATION IN VADODARA

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ABSTRACT

This research explores public opinions regarding the ethical use of Artificial Intelligence (AI) in marketing communication in Vadodara. The study focuses on six primary aspects: data transparency, adherence to privacy laws, fairness, prevention of deceptive advertising, responsibility for errors, and the role of human oversight. Using a descriptive research design, responses from 107 participants were gathered via a structured questionnaire using a 5-point Likert scale. A one-way Analysis of Variance (ANOVA) determined variations across age group. Findings reveal consistent views among groups for most factors, with fairness in AI marketing being the only area of significant difference. The results emphasize that while transparency, compliance, and oversight are generally agreed upon, fairness requires targeted action to build trust and mitigate bias. The study offers region-specific contributions to AI ethics literature and provides practical insights for marketers and policymakers seeking to create culturally aligned, ethically sound AI governance practices.

Keywords: Artificial Intelligence, Marketing Communication, Ethics, Fairness, Transparency, Consumer Perception

I. INTRODUCTION

Artificial Intelligence has become a key driver in modern marketing communication, enabling brands to customize content, optimize advertising strategies, and boost customer engagement. From predictive analytics to recommendation systems, AI has revolutionized how companies interact with their target audiences. While these innovations enhance efficiency, they also raise critical ethical concerns regarding transparency, fairness, privacy, and accountability. Ensuring consumer trust in the face of such advancements has become a pressing challenge, fuelling discussions worldwide on the responsible use of AI in marketing.

Ethical considerations in AI-driven marketing extend beyond merely meeting legal requirements; they also encompass corporate responsibility toward

consumers and the community. Misuse of personal data, generation of misleading content, and algorithmic bias have the potential to damage both consumer confidence and brand credibility. Globally, initiatives such as the European Union's AI Act and India's Digital Personal Data Protection (DPDP) Act emphasize safeguarding individual rights in AI applications. Businesses must therefore balance technological progress with ethical safeguards to meet both legal and societal expectations.

In Vadodara, AI adoption within marketing is gaining momentum in sectors such as retail, healthcare, banking, and e-commerce. AI tools are being used for audience targeting, customer support automation, and behavior-based promotions. While these practices improve efficiency, limited research has examined their ethical impact within the local cultural and economic context. Understanding how consumers in Vadodara view AI ethics can inform strategies that are not only innovative but also socially acceptable and transparent.

The objective of this study is to assess consumer perceptions of ethical AI marketing practices in Vadodara, focusing on transparency, compliance, fairness, prevention of deceptive ads, accountability, and human oversight. It further investigates whether demographic variables influence these perceptions, aiming to identify areas where ethical marketing policies require greater focus. The insights derived are intended to guide policymakers and marketing professionals toward ethical, culturally responsive AI marketing strategies.

II. REVIEW OF LITERATURE

Floridi et al. (2018) studied that the earliest comprehensive frameworks for ethical Artificial Intelligence, emphasizing principles such as transparency, accountability, fairness, and human oversight. Their work highlights how ethical AI practices can enhance public trust, especially in data-driven decision-making environments like marketing. However, the study remains conceptual in nature and does not empirically examine consumer perceptions, particularly in emerging economies such as India.

Martin (2019) studied ethical issues in data-driven marketing and argued that consumer trust largely depends on how transparently firms collect and use personal data. The study found that consumers are more accepting of personalized advertising when companies clearly explain data usage practices. While insightful,

the research is primarily based on Western markets, leaving a gap in understanding how consumers in culturally diverse regions like Vadodara perceive such practices.

Aguirre et al. (2016) studied consumer reactions to personalized advertising and found that transparency and perceived control over personal data significantly influence consumer acceptance. The authors noted that excessive personalization can lead to discomfort if consumers feel monitored. Although the study provides strong empirical evidence, it does not address ethical AI explicitly nor consider regulatory environments like India's Digital Personal Data Protection (DPDP) Act.

Dwivedi et al. (2021) studied the growing role of AI in marketing and highlighted ethical challenges such as bias, lack of accountability, and manipulation of consumer behavior. The study emphasized the need for responsible AI adoption to maintain long-term consumer trust. Despite its relevance, the paper takes a global perspective and does not empirically test consumer perceptions within specific demographic segments.

Zarsky (2016) studied the algorithmic bias and fairness, explaining how AI systems may unintentionally discriminate against certain consumer groups through automated targeting. The study raised concerns about unequal treatment in digital advertising but did not examine how consumers themselves perceive such unfairness. This creates scope for perception-based studies in regions like Vadodara, where awareness levels may vary.

Shin (2020) found consumer trust in AI systems and found that explainability and transparency play a key role in shaping ethical perceptions. Consumers were more willing to accept AI-driven decisions when they understood how outcomes were generated. However, the study was conducted in technologically advanced economies, and its findings may not directly apply to Indian consumers with diverse digital literacy levels.

Mittelstadt et al. (2016) studied accountability issues in AI systems, stressing that unclear responsibility for AI errors can weaken public trust. The authors argued for stronger human oversight and governance mechanisms. While the study provides a strong ethical foundation, it lacks empirical validation from consumer-focused marketing contexts, particularly in developing regions.

Pasquale (2015) emphasized the problem of "black box" algorithms and the need for transparency and labeling of automated content. The study argued that consumers have a right to know when AI systems influence their choices. Although influential, the work is largely theoretical and does not measure consumer agreement or disagreement with AI labeling practices in marketing communication.

Chaudhuri and Holbrook (2001) linked trust and ethical behavior directly to consumer attitudes and loyalty, suggesting that ethical practices strengthen long-term brand relationships. While not AI-specific, their framework is highly relevant for understanding ethical AI in marketing. The study, however, predates AI-driven personalization and does not account for modern algorithmic marketing environments.

Kapoor et al. (2023) examined AI adoption in Indian businesses and noted increasing regulatory awareness and consumer concern regarding data privacy and misuse. The authors suggested that Indian consumers are becoming more sensitive to ethical issues but highlighted a lack of city-level empirical studies. Their findings point directly to the need for focused research in regions such as Vadodara.

Research Gap

While existing literature strongly founds the importance of ethical AI practices—such as transparency, fairness, accountability, and human oversight—in building consumer trust, most empirical studies are focused in Western or global contexts. There is little or region-specific evidence from India, particularly at the city level. Local cultural, economic, and regulatory factors in Vadodara may affect how consumers perceive ethical AI in marketing This study addresses this gap by empirically by studying consumer perceptions of ethical AI in marketing communication within Vadodara.

III. RESEARCH METHODOLOGY,

This study employed a descriptive research design to examine public perceptions of ethical issues related to Artificial Intelligence (AI) in marketing communication in Vadodara. The research focused on six core dimensions: transparency in the use of personal data, adherence to privacy regulations, fairness, prevention of

misleading advertising, responsibility for AI-driven errors, and the role of human oversight in marketing activities.

The target population consisted of residents of Vadodara with awareness or experience of AI applications in marketing. Using non-probabilistic convenience sampling, 107 respondents were selected to ensure diversity age group.

Data were collected using a structured questionnaire divided into two sections: demographic information and ten statements assessing perceptions of ethical AI marketing practices. Each statement was rated on a 5-point Likert scale from "Strongly Disagree" (1) to "Strongly Agree" (5). The instrument was developed following a thorough literature review.

The survey was administered both online and offline. Data analysis was conducted using SPSS software, applying descriptive statistics to summarize findings and one-way ANOVA to detect differences among age groups of respondents.

Hypothesis

Null Hypothesis (H_0): There is no significant variance in mean responses among the age groups of respondents for use of ethical AI in Marketing Communication.

Alternate Hypothesis (H_1): There is significant variance in mean responses among the age groups of respondents for use of ethical AI in Marketing Communication.

IV. DATA ANALYSIS AND DISCUSSION

A one-way Analysis of Variance (ANOVA) was conducted to determine whether perceptions regarding various ethical, transparency, and fairness aspects of Artificial Intelligence (AI) in marketing significantly differed among age groups of respondents. The null hypothesis for each item stated that there is no statistically significant difference in mean responses among age groups, while the alternative hypothesis anticipated the existence of such differences.

<Table 1>

The ANOVA results indicate that, the ethical AI dimensions considered in the study, there is no significant difference in mean responses among age groups, as shown by p-values greater than the significance level of 0.05. Variables associated with transparency, including the acceptability of using online activity for advertising when companies are transparent and the clarity with which

organizations explain the use of personal data for AI-driven advertisements, show similar perceptions across age groups. This advocates that expectations regarding transparency in AI-based marketing communication are widely shared among respondents, regardless of age, signifying a common ethical baseline shaped by increased digital awareness and exposure. Secondly the perceptions regarding compliance with government privacy regulations, concerns about AI-generated ads treating certain groups unfairly, the ability of companies to prevent fake or misleading AI advertisements, and the adequacy of human oversight in maintaining ethical AI practices are similar among the age groups. These results imply that ethical concerns related to privacy protection, misinformation, algorithmic bias, and oversight are not age-specific but are largely recognized across generations. These supports accepting the null hypothesis for these statements, reinforcing the idea that ethical expectations from AI-driven marketing are increasingly universal. A notable exception is originated for the statement on whether companies ensure AI marketing is fair for everyone. The ANOVA result for this variable is statistically significant ($p = 0.036$), means to the reject the null hypothesis. This means that perceptions of fairness in AI marketing differ significantly across age groups. While respondents see fairness as important, but their view of how fairly companies use AI differs significantly across age groups. This variation influenced by differing levels of digital engagement, exposure to targeted advertising, and trust in automated decision-making systems among age groups. Thirdly, perceptions related to accountability in AI marketing, such as clarity of responsibility when AI systems make errors, and beliefs about the extent to which AI marketing influences consumer choices rather than merely informing them, also show no significant variation across age groups. This means that a shared understanding of both the risks and responsibilities associated with AI-driven marketing communication, irrespective of respondents' age. So these results indicate that while ethical dimensions of AI marketing are perceived constantly across age groups, fairness remains a reasonably sensitive issue where age-based differences in perception persist.

V. CONCLUSION

The research concludes that individuals from different groups hold similar views on transparency in data usage, adherence to regulations, prevention of misleading advertising, accountability for errors, and maintaining adequate human oversight

in AI marketing. The only notable divergence lies in perceptions of fairness in AI marketing for all consumers. Fairness emerges as a key factor that demands greater focus to strengthen trust and prevent bias. By ensuring open communication, implementing bias-reduction strategies, and adopting equitable policy measures, organizations can enhance public trust in AI-powered marketing practices.

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List of Tables

Table 1 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Companies can use my online activity for ads if they are transparent.	Between Groups	2.788	3	.929	.397	.755
	Within Groups	241.062	103	2.340		
	Total	243.850	106			
Companies clearly explain how they use my personal data for AI ads.	Between Groups	2.647	3	.882	.458	.712
	Within Groups	198.418	103	1.926		
	Total	201.065	106			
Businesses follow government privacy rules when using AI in marketing.	Between Groups	1.851	3	.617	.308	.820
	Within Groups	206.448	103	2.004		
	Total	208.299	106			
AI ads can treat some groups unfairly by showing different offers.	Between Groups	1.621	3	.540	.294	.830
	Within Groups	189.370	103	1.839		
	Total	190.991	106			
Companies ensure AI marketing is fair for everyone.	Between Groups	15.501	3	5.167	2.949	.036
	Within Groups	180.499	103	1.752		
	Total	196.000	106			
Companies can stop fake or misleading AI ads.	Between Groups	5.654	3	1.885	.917	.436
	Within Groups	211.766	103	2.056		
	Total	217.421	106			
AI-made marketing content should be clearly labelled.	Between Groups	3.414	3	1.138	.574	.633
	Within Groups	204.268	103	1.983		
	Total	207.682	106			
When AI marketing makes a mistake, responsibility is clear.	Between Groups	9.608	3	3.203	1.593	.196
	Within Groups	207.046	103	2.010		

		Sum of Squares	df	Mean Square	F	Sig.
	Total	216.654	106			
Companies have enough human oversight to keep AI ads ethical.	Between Groups	2.961	3	.987	.562	.642
	Within Groups	181.039	103	1.758		
	Total	184.000	106			
AI in marketing can influence my choices more than inform me.	Between Groups	3.871	3	1.290	.562	.641
	Within Groups	236.428	103	2.295		
	Total	240.299	106			

Author Profile

Dr. Rashvin Tailor is an Associate Professor at C.K. Shah Vijapurwala Institute of Management, Vadodara, with over 18 years of academic experience. He has published 20+ research papers in peer-reviewed, Scopus-indexed, and reputed journals, with research interests in marketing, consumer behavior, and integrated marketing communication.