

A study on, Brains vs Bots: Exploring Human Creativity in the Era of AI – Driven Marketing

Rashmi Shanbhag^{1*} and Apoorva Jain²

¹Lecturer, Department of Business Studies, Transcend PU College, Bangalore, Karnataka, India

²Assistant Professor, Department of Commerce & Management, Transcend Degree College, Bangalore, Karnataka, India

*Corresponding Author Email: rashmishanbhag@gmail.com

Abstract

Artificial Intelligence (AI) has transformed modern marketing through personalized advertisements, recommendation systems, and automated customer interactions. This study, “Brains vs. Bots: Exploring Human Creativity in the Era of AI-Driven Marketing,” examines the relationship between AI-driven marketing and human creativity and analyses consumer perceptions toward AI-based marketing campaigns. The study follows a descriptive and quantitative research design using data collected through online questionnaires. The findings show that consumers appreciate AI for improving convenience, personalization, and customer experience. However, respondents consider human-created advertisements to be more creative, authentic, emotionally engaging, and trustworthy than AI-generated content. The study comes to the conclusion that although AI increases productivity and data-driven marketing, human creativity and emotional connection cannot be completely replaced by AI. For modern marketing to be effective, human creativity and AI technology must be harmonized.

Keywords: Technology, Human Resource, Human Creativity, Consumers, AI

Introduction

Rapid technological breakthroughs and the increasing usage of artificial intelligence (AI) in the digital age have significantly changed marketing. In order to evaluate consumer behavior, personalize ads, automate customer interactions, and produce marketing content, businesses nowadays depend more and more on AI-driven tools and technology (Chaffey & Ellis-Chadwick, 2019). AI-powered marketing solutions assist businesses in increasing productivity, cutting expenses, and more accurately delivering

targeted advertisements (Kotler et al., 2021). As a result, AI is now a crucial part of contemporary marketing plans in many different sectors.

However, the core of effective marketing has long been thought to be inventiveness. Human creativity is essential for forging emotional bonds with customers, establishing distinctive brand identities, and generating novel concepts that impact consumer choices (Amabile, 1996). In ways that technology might not be able to fully accomplish, creative thinking enables marketers to comprehend human experiences, emotions, and cultural trends. As a result, significant concerns regarding the function of human creativity in an automated setting have been brought up by the growing use of AI in marketing.

For marketers, the rise of AI-driven marketing has presented both benefits and difficulties. On the one hand, AI is faster than humans at creating content, forecasting consumer preferences, and optimizing campaigns (Davenport et al., 2020). However, there are issues with AI-generated content's authenticity, emotional depth, and uniqueness. Many academics and business experts disagree about whether artificial intelligence (AI) can genuinely replace human creativity or if it should be seen as a helpful tool that fosters creative processes (Huang & Rust, 2021).

The purpose of this study, "Brains vs. Bots: Exploring Human Creativity in the Era of AI-Driven Marketing," is to investigate how human creativity and AI-driven marketing interact in modern marketing strategies.

Main Objective

- To explore the relationship between AI-driven marketing and human creativity in modern marketing practices.

Specific Objectives

1. To study consumer perceptions toward AI-driven marketing campaigns.

Scope of the Study

The study focuses on consumer perceptions of AI in marketing, particularly in areas such as personalized advertisements, recommendations, chatbots, and content generation. It also evaluates the importance of human creativity in influencing consumer decisions.

Limitations of the Study

- The study is limited to responses collected through online surveys.
- Responses may be subject to personal bias and individual interpretation.
- Time and resource constraints may limit the sample size and geographical coverage.
- Consumer opinions may change over time with advancements in AI technology.

Review of Literature

Artificial Intelligence (AI) has become one of the most influential technological developments shaping modern marketing practices. In recent years, researchers have increasingly focused on how AI-driven systems are transforming marketing processes such as customer segmentation, personalization, content creation, and campaign optimization. At the same time, there is ongoing academic discussion about whether AI enhances or limits human creativity in marketing. The literature suggests that the relationship between AI and creativity is not one of replacement, but rather one of interaction and co-evolution.

Thomas H. Davenport and colleagues (2020) studied the impact of AI on marketing functions and found that AI significantly improves efficiency in decision-making and customer targeting. Their research highlights that AI systems can analyse large datasets quickly and identify patterns that humans may miss. However, they also note that creativity, intuition, and strategic thinking are still human strengths. They conclude that AI should be seen as a tool that supports marketers rather than replaces them, especially in areas requiring originality and innovation.

Ming-Hui Huang and Roland T. Rust (2021) further developed a framework for integrating AI into marketing. They divide marketing tasks into three categories: mechanical tasks, analytical tasks, and intuitive tasks. AI performs well in mechanical and analytical tasks, such as automation and prediction, but human marketers are still needed for intuitive tasks like creativity, empathy, and ethical decision-making. Their work strongly supports the idea of collaboration between humans and machines, rather than competition.

From a psychological perspective, Teresa M. Amabile (1996) explains that creativity is driven by intrinsic motivation, domain knowledge, and creative thinking skills.

She emphasizes that creativity is deeply rooted in human emotions, experiences, and social environments. This means that while AI can generate content based on existing data patterns, it does not possess true emotional experience or intrinsic motivation. Therefore, AI-generated marketing content may lack originality and emotional depth unless guided by human input.

Overall, the literature clearly shows that AI has revolutionized marketing by increasing efficiency, scalability, and personalization. However, it also consistently highlights that human creativity remains essential for emotional storytelling, innovation, and brand identity development. The most widely supported view among researchers is that the future of marketing lies in the collaboration between AI systems and human creativity, where AI handles data-driven tasks and humans focus on meaning-making, emotional intelligence, and strategic creativity.

Through Ihor Dervishov lens, he describes that,

The Creative Dilemma- AI vs Human Creativity

The debate between AI and human is going to reshape the future of marketing. With artificial intelligence developing further and further, a number of marketers seem to question how to keep the delicate balance between automation and human-driven creativity. Though there are tons of useful tools, like the M1-Project AI-driven Marketing Assistant Elsa, which effectively streamlines most routine processes, marketers still need to ask themselves: how much can they rely on AI? And how can they make sure human creativity still plays a central role in campaign strategies? Marketers must learn to balance their creativity and marketing objectives to ensure campaigns are effective and engaging.

The Role of AI in Modern Marketing

In advertising, artificial intelligence has been revolutionary. Maybe its most significant contribution is how it can sort through vast amounts of data much quicker than human beings. This data power allows AI to offer actionable intelligence on the performance of advertising campaigns, which helps companies refine their strategies and perform better. Although AI is extremely capable of data analysis, its relative advantages over human creativity and strategic thinking are controversial. The controversy is usually short-sighted in not acknowledging the degree to which AI can enhance creativity by freeing marketers from devoting their time to time-consuming, lower-level tasks.

The greatest advantage of AI for marketing is its ability to process and analyse massive amounts of data quickly. Achieving an AI marketing ads balance is crucial for creating advertisements that leverage data while maintaining a human touch. Such sets of data may include customer action, engagement data, social activity, and other such things. The volume of data might prove to be excessive for human workers to process, but AI platforms can sift through the data in a few minutes, recognizing trends and patterns which would be impossibly difficult otherwise. The ability to analyse data in real-time enables businesses to make smarter decisions and make necessary adjustments to campaigns mid-stream in order to produce maximum performance.

Research Methodology

Research Design

This study uses a descriptive research approach to investigate customer attitudes toward human innovation and AI-driven marketing. The study seeks to evaluate consumer trust, engagement, dependency, and preferences for AI-generated and human-created marketing content.

Type of Study

The study's methodology is quantitative, with a focus on quantitative analysis using structured questionnaires.

Data Gathering

The study makes use of primary data gathered via a structured questionnaire distributed to customers via social media, email, and online platforms like Google Forms. Journals, publications, research papers, websites, and published studies about AI-driven marketing and consumer behavior are the sources of secondary data.

Sampling Procedure

Due to its accessibility and ease of data collection, a convenience sampling approach is utilized to choose respondents. Customers of various ages and backgrounds who are exposed to digital marketing and AI-based recommendations are the target audience for the poll.

Sample Quantity

A chosen sample of individuals provides the replies used in the study. The number of valid responses obtained during the survey period may affect the sample size.

Instrument for Research

The main research tool is a structured questionnaire that includes multiple-choice, Likert scale, and opinion-based questions. In terms of AI-driven marketing and human creativity, the questionnaire is intended to gauge consumer awareness, trust, dependence, and preferences.

Data Analysis

Data analysis is a critical component of research that entails organizing, interpreting, and assessing obtained data to draw useful insights and conclusions. In this study, data from the questionnaire was evaluated to better understand customer perceptions of human creativity and AI-driven marketing. The study aims to determine customer preferences, trust levels, engagement, reliance on AI-based marketing tools, and the overall influence of AI-generated marketing content on consumer behavior.

Participants' replies were systematically identified and evaluated using percentage analysis, rating scale analysis, and graphical representation approaches such as bar charts and pie charts. The analysis aids in comparing consumer views between human-created and AI-generated marketing techniques, resulting in a better knowledge of how AI influences modern marketing practices.

The findings of the investigation serve as the foundation for drawing conclusions and making recommendations about the role of artificial intelligence and human creativity in the changing marketing landscape.

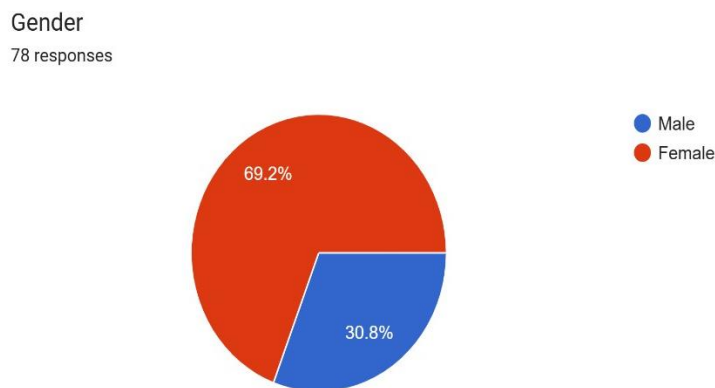
Data Analysis Tools

The collected data is analysed using statistical and graphical tools such as: Bar Charts and Pie Charts

The analysis helps in interpreting consumer attitudes and identifying trends related to AI-driven marketing.

Question-wise Analysis and Interpretation

Gender of Respondents



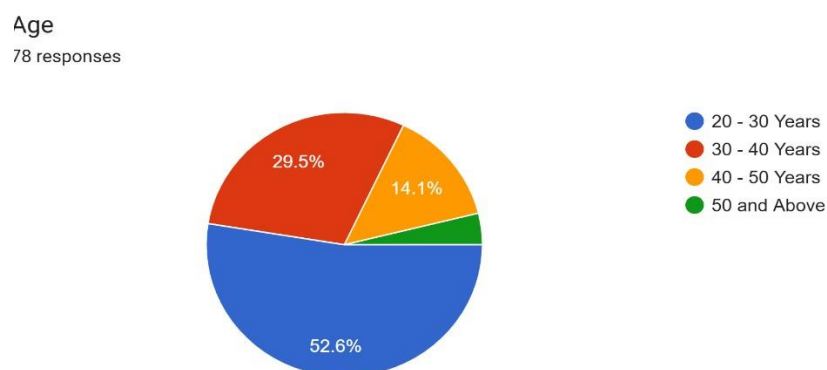
Analysis

The responses indicate that a larger proportion of participants were female respondents, while male respondents formed a comparatively smaller portion of the sample.

Interpretation

The higher participation of female respondents reflects greater engagement in sharing opinions regarding AI-driven marketing and human creativity.

Age Group of Respondents



Analysis

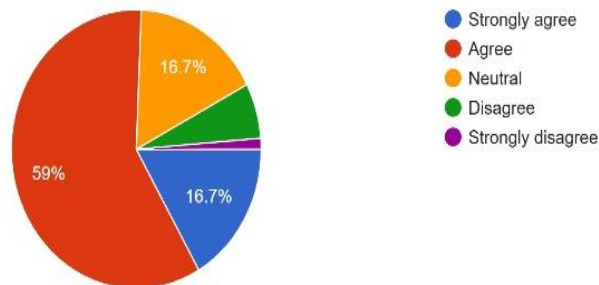
The majority of respondents belong to the 20–30 years age group, followed by respondents from the 30–40 years category. Fewer responses were collected from the 40–50 years and 50 years and above groups.

Interpretation

Younger consumers are more actively exposed to AI-driven digital platforms and modern marketing technologies, resulting in higher participation from this age group.

AI-based recommendations (like Netflix/YouTube) are helpful.

78 responses



Analysis

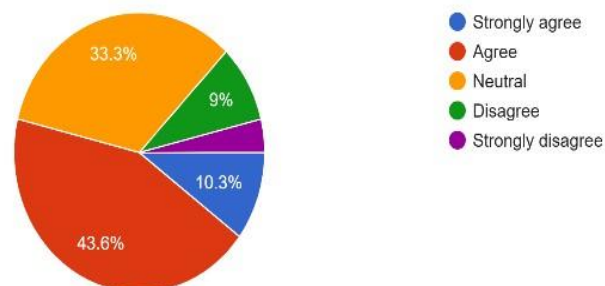
Most respondents selected Agree and Strongly Agree, while a smaller number chose Neutral and Disagree. Very few respondents strongly disagreed with the statement.

Interpretation

The results indicate that AI-based recommendation systems are widely considered helpful by consumers, mainly for improving convenience and personalized content discovery.

Personalized ads improve my shopping experience.

78 responses



Analysis

Most respondents selected Agree and Strongly Agree, while a smaller portion chose Neutral and Disagree. Very few respondents strongly disagreed with the statement.

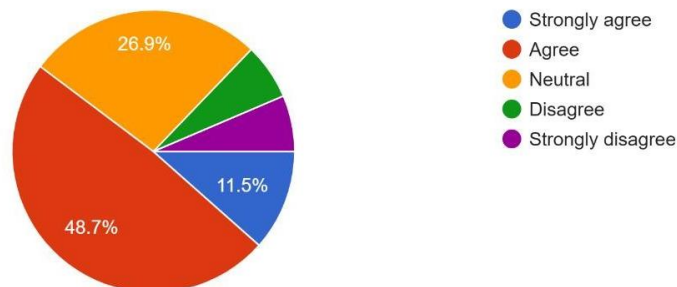
Interpretation

The findings indicate that personalized advertisements are generally perceived positively by consumers, as they enhance shopping convenience and help in discovering

relevant products. This shows that AI-driven ad personalization plays a significant role in improving the overall shopping experience for most users.

AI marketing makes online shopping easier.

78 responses



Analysis

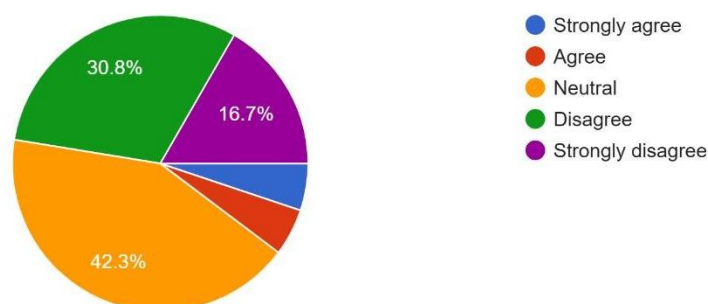
Most respondents selected Agree and Strongly Agree, while a noticeable group remained Neutral. A small number of respondents selected Disagree and Strongly Disagree, indicating limited negative perception.

Interpretation

The findings suggest that AI marketing is largely viewed as helpful in simplifying online shopping, mainly through personalization and recommendations. However, some respondents still show uncertainty or dissatisfaction, indicating mixed experiences with AI-based shopping tools.

I trust AI-generated advertisements.

78 responses



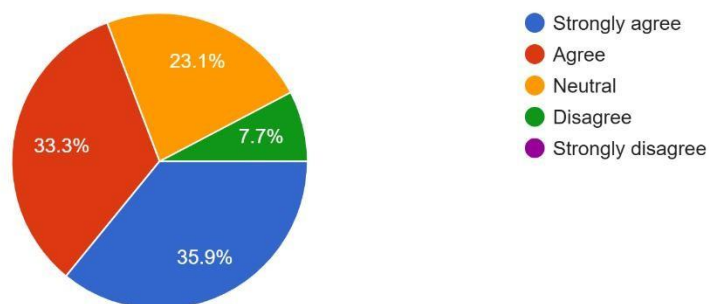
Analysis

The responses indicate that participants generally hold a neutral to negative perception regarding trust in AI-generated advertisements, while only a small portion expressed positive trust. This reflects a cautious consumer attitude toward AI-driven marketing content.

Interpretation

The findings suggest that AI-generated advertisements may still struggle to establish authenticity, credibility, and emotional connection with audiences. It highlights that human creativity and personalized communication continue to play a significant role in building consumer trust in marketing.

Human-created ads are more trustworthy than AI-generated ads.
78 responses



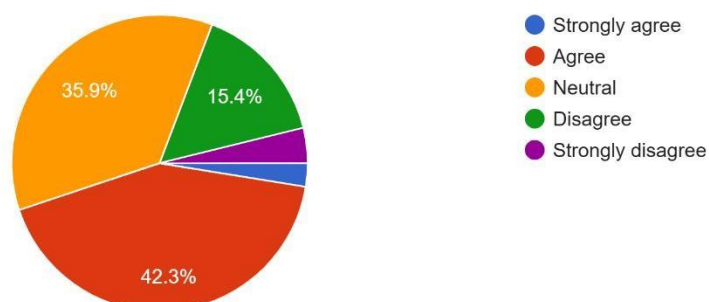
Analysis

The responses show that participants largely believe human-created advertisements are more trustworthy than AI-generated advertisements, while only a small proportion expressed disagreement. This indicates a strong preference for human involvement in advertising communication.

Interpretation

The findings suggest that consumers associate human-created advertisements with greater authenticity, emotional appeal, and credibility. Despite advancements in AI-driven marketing, human creativity continues to be viewed as more reliable and effective in establishing consumer trust.

AI understands customer needs well.
78 responses



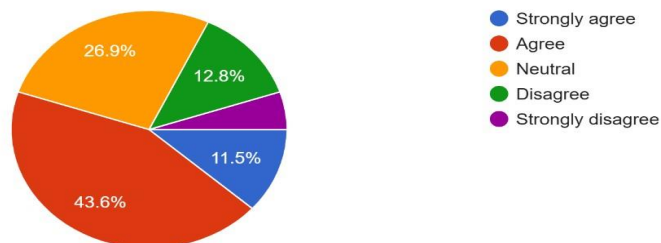
Analysis

The responses indicate that participants generally believe AI is capable of understanding customer needs, although a considerable proportion remained neutral. This suggests moderate confidence in AI's ability to analyze consumer preferences and behaviors.

Interpretation

The findings imply that AI is increasingly recognized for its data-driven efficiency and personalization capabilities in marketing. However, the presence of neutral and negative opinions suggests that some consumers still doubt AI's ability to fully understand human emotions and complex customer expectations.

I prefer ads that feel emotionally creative. AI understands customer needs well.
78 responses



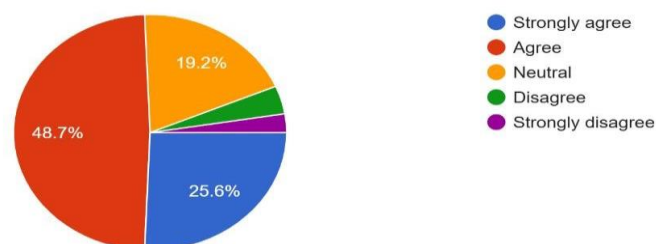
Analysis

The responses show that participants generally agree that AI understands customer needs well, although a notable proportion remained neutral. This indicates a moderate level of confidence in AI's capability to analyze consumer behavior and preferences effectively.

Interpretation

The findings suggest that consumers recognize AI's potential in delivering personalized and targeted marketing experiences. However, the presence of neutral and negative responses implies that many still believe AI may lack the emotional intelligence and human understanding required for deeper customer connection.

I can easily identify AI-generated marketing content.
78 responses



Analysis

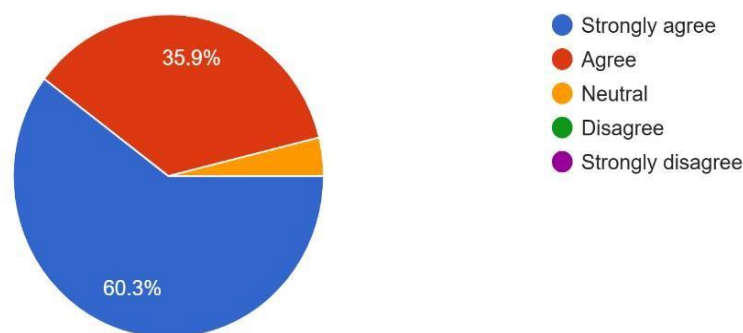
The responses indicate that most participants believe they can easily identify AI-generated marketing content, while only a small proportion expressed disagreement. This suggests a high level of consumer awareness regarding the characteristics of AI-created advertisements.

Interpretation

The findings imply that audiences are becoming increasingly familiar with AI-driven marketing techniques and may recognize patterns that distinguish AI-generated content from human-created advertisements. This highlights the importance for marketers to balance technological efficiency with authenticity and creativity to maintain audience engagement.

Human creativity is essential in marketing.

78 responses



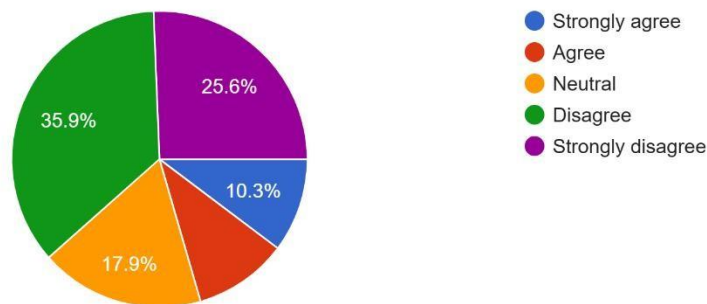
Analysis

The responses show a very strong consensus that human creativity is essential in marketing, with almost all participants expressing agreement and no disagreement recorded. This reflects a highly positive perception of the role of human input in advertising and branding.

Interpretation

The findings suggest that despite the rise of AI-driven marketing tools, human creativity is still viewed as fundamental for effective communication, emotional appeal, and originality in advertisements. It reinforces the idea that AI can support marketing processes, but human imagination remains central to impactful brand storytelling.

AI can fully replace human creativity in marketing.
78 responses



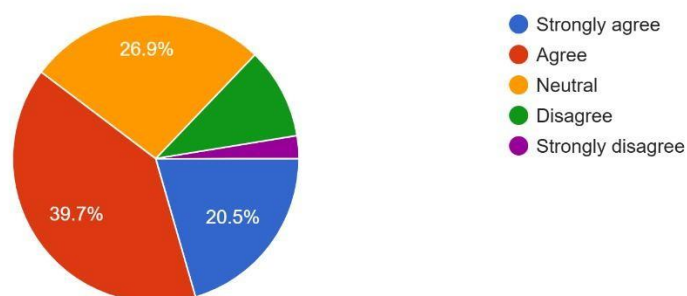
Analysis

The responses show a clear tendency toward disagreement with the idea that AI can fully replace human creativity in marketing, while a smaller portion either agreed or remained neutral. This indicates scepticism about the complete substitution of human creative roles by AI.

Interpretation

The findings suggest that participants believe AI can support and enhance marketing efforts but cannot fully replicate human imagination, emotional depth, and originality. It highlights the continued importance of human creativity as a core element in effective and meaningful marketing communication.

AI-generated ads feel less creative than human-made ads.
78 responses



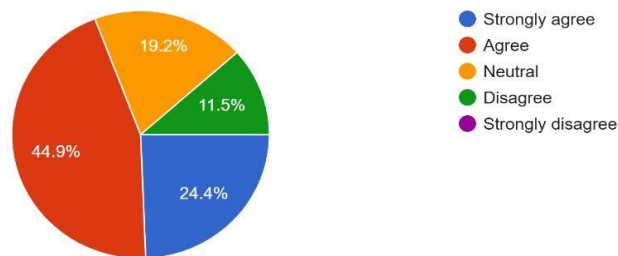
Analysis

The findings suggest that consumers perceive human-created advertisements as more emotionally engaging, authentic, and innovative than AI-generated content. This highlights that although AI is becoming an important tool in marketing, human creativity continues to play a dominant role in effective advertising.

Interpretation

Most respondents agreed that AI-generated advertisements feel less creative than human-made ads, indicating a stronger trust in human creativity and originality in marketing. Only a small number of respondents disagreed, while some remained neutral.

Creativity in ads influences my buying decisions.
78 responses



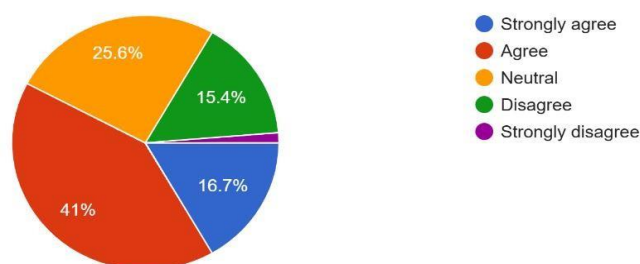
Analysis

The findings indicate that creative advertisements play an important role in attracting consumers and shaping purchasing behavior. This suggests that originality, emotional appeal, and engaging content in marketing campaigns can significantly impact consumer decision-making.

Interpretation

Most respondents agreed that creativity in advertisements influences their buying decisions, with a high number of participants choosing “agree” and “strongly agree.” Very few respondents disagreed, and none strongly disagreed with the statement.

Emotional storytelling in ads is important to me.
78 responses



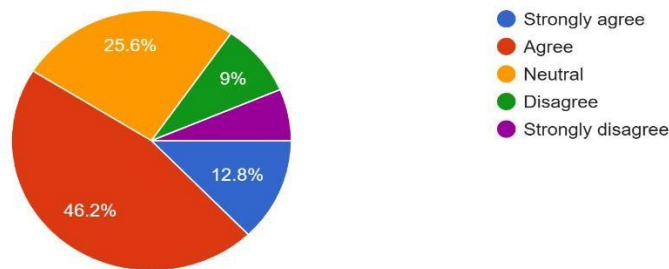
Analysis

The findings suggest that emotional storytelling helps make advertisements more engaging, relatable, and memorable for consumers. This highlights the importance of human creativity in creating emotional appeal, which may be difficult for AI-generated advertisements to fully replicate.

Interpretation

A majority of respondents agreed that emotional storytelling in advertisements is important to them, showing that consumers value emotional connection in marketing content. However, a noticeable number of respondents remained neutral or disagreed, indicating varying preferences among audiences.

AI helps brands understand customers better.
78 responses



Analysis

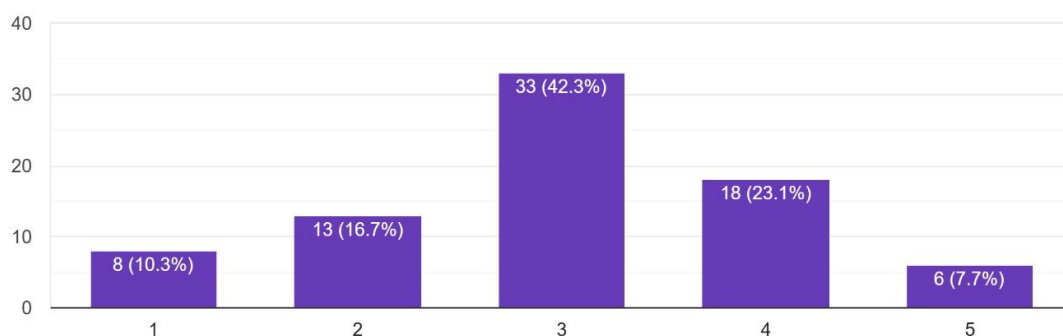
The findings suggest that consumers recognize AI as a valuable tool for improving customer insights, personalization, and targeted marketing strategies. This highlights that while human creativity is important in advertising, AI is also seen as beneficial in enhancing data-driven decision-making and customer engagement.

Interpretation

Most respondents agreed that AI helps brands understand customers better, indicating a positive perception of AI's role in analyzing consumer behavior and preferences. However, some respondents remained neutral or disagreed, reflecting mixed opinions about the effectiveness of AI in customer understanding.

On a scale of 1–5 (1 being the least and 5 being the highest), How much do you rely on AI-driven marketing content (such as personalized ads, recom...ted suggestions) in your day-to-day decisions?

78 responses



Analysis

The findings suggest that AI-driven marketing content has a noticeable influence on consumer decision-making, but consumers still maintain a balanced approach rather than depending entirely on AI recommendations. This indicates that while AI plays an important role in personalized marketing, human judgment and traditional decision-making factors continue to remain significant.

Interpretation

Most respondents selected the middle rating (3) when asked about their reliance on AI-driven marketing content in day-to-day decisions, indicating a moderate level of dependence on AI-based recommendations and personalized ads. Fewer respondents chose the highest rating, suggesting that complete reliance on AI-driven marketing is still limited.

Findings of the Study

According to the survey, AI-driven marketing has grown to be a significant component of consumer experiences, especially for younger audiences (20–30 years old) who use digital platforms and personalized technology more frequently. Because they enhance ease, product discovery, and the online purchasing experience, the majority of respondents had a good opinion of AI-based recommendations and tailored ads. Through data-driven insights and focused marketing tactics, participants also stated that AI helps organizations better understand consumer preferences and behaviours.

The results, however, clearly show that respondents still place a higher value on human innovation in marketing than on AI-generated originality. In comparison to AI-generated ads, the majority of participants thought that human-created ads were more genuine, innovative, emotionally compelling, and trustworthy. The importance of originality and emotional connection in marketing communication was highlighted by the discovery that emotional storytelling and creativity in advertising had a substantial impact on customer purchasing decisions.

The report also reveals that although consumers acknowledge AI's efficiency and personalization potential, they are still dubious about AI's capacity to completely replace human innovation. The majority of respondents thought AI lacked the emotional intelligence, creativity, and genuineness needed for powerful advertising and a closer bond with customers.

While AI-driven marketing content has a moderate impact on customer decisions, total reliance on AI-generated suggestions is still restricted, suggesting that human judgment still plays a significant part in consumer behaviour.

Conclusion

The study comes to the conclusion that AI-driven marketing has drastically changed contemporary advertising by enhancing purchasing comfort, client comprehension, and customisation. In general, consumers value the effectiveness and applicability of AI technologies in marketing strategies. But despite these developments, customers still place a higher value on human creativity because of its emotional depth, uniqueness, authenticity, and capacity for storytelling.

The study backs the notion that AI in marketing should be seen as a helpful tool rather than a substitute for human innovation. AI can improve automation, personalization, and data analysis, but human marketers are still necessary to provide relevant and emotionally compelling advertising. Therefore, a balanced mix of AI skills and human creativity—where technology fosters innovation while human imagination fosters genuine consumer connection—is likely to be key to the future of marketing.

References

- Amabile, T. M. (1996). *Creativity in context*. Westview Press.
- Chaffey, D., & Ellis-Chadwick, F. (2019). *Digital marketing (7th ed.)*. Pearson.
- Davenport, T. H., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, 48(1), 24–42.
- Huang, M.-H., & Rust, R. T. (2021). A strategic framework for artificial intelligence in marketing. *Journal of the Academy of Marketing Science*, 49(1), 30–50.
- Kaplan, A., & Haenlein, M. (2019). Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence. *Business Horizons*, 62(1), 15–25.
- Kotler, P., Kartajaya, H., & Setiawan, I. (2021). *Marketing 5.0: Technology for humanity*. Wiley.