Global Journal of Engineering Science and Research Management

EXPERIMENTAL STUDY ON AI VS HUMAN CREATIVITY IN ADVERTISING OUTCOMES

Mr. Nawaz Ali Hamdulay
Founder & Director, Infomania IT and Management Academy LLP), (B.E, M.E, MMS - IT, PhD-JJTU
Email id: nawaz.hamdulay@gmail.com
ORCID iD: https://orcid.org/0009-0007-7377-9990

KEYWORDS: Artificial Intelligence, Human Creativity, Advertising Outcomes, Consumer Perception, AI-generated Advertisements, Marketing Communication, Creativity, Digital Advertising, Consumer Engagement, Experimental Study.

ABSTRACT
Artificial intelligence's (AI) quick development has revolutionized the advertising sector by making audience targeting, campaign optimization, and automated content production possible. This study compares the creativity, customer engagement, emotional appeal, trust, and efficacy of AI-generated versus human-created ads. The study looks at how consumers view ads created by AI systems in comparison to those created by human marketers and creative experts. Surveys, experimental exposure to ads, and comparative study of customer responses were used to gather data. The results show that while human-created ads exhibit greater emotional connection and originality, AI-generated ads perform well in terms of speed and customisation. The study outlines the benefits, drawbacks, and potential ramifications of incorporating AI into creative advertising procedures. The study concludes that a collaborative approach combining AI capabilities with human creativity can enhance advertising outcomes and improve consumer engagement.

INTRODUCTION
With the advent of Artificial Intelligence (AI) technology in recent years, advertising has changed significantly. In the past, human imagination, emotional intelligence, storytelling skills, and cultural awareness were crucial components of advertising innovation. Campaigns that emotionally connected with audiences and changed consumer behavior were created by human advertising and creative experts. But new opportunities in the advertising sector have been brought about by the development of AI techniques like machine learning, natural language processing, and generative AI. AI systems can now quickly and effectively create advertising content, analyse customer preferences, personalize campaigns, and optimize marketing methods. The increasing usage of AI in advertising has sparked discussions over whether or not AI-generated creativity can equal or outperform human creativity in generating successful advertising results. Even if AI has benefits like automation, data-driven customisation, lower costs, and quick content creation, questions concerning its limitations in terms of emotional depth, creativity, authenticity, and ethical understanding still exist. Because they are impacted by human experiences, empathy, and cultural understanding, human-created advertising is frequently regarded as more relatable and emotionally compelling. Examining and contrasting the efficacy of AI-generated versus human-created ads is the goal of this experimental study. Consumer views of AI-generated ads, consumer reactions to human-created ads, and a comparison of their total advertising results are the main objectives of the study. Additionally, the study aims to determine what influences customer engagement and trust, analyse the benefits and drawbacks of both AI and human creativity, and comprehend AI's potential future involvement in creative advertising processes. The results of this study will help us comprehend how human creativity and AI may coexist in the changing advertising sector.

LITERATURE REVIEW
Kaplan and Haenlein [2019], the authors examine the growing influence of artificial intelligence assistants and voice-based technologies in business and consumer interactions. In their article, the authors discuss the rapid development of intelligent virtual assistants such as Siri and their impact on communication, marketing, and customer service. The study highlights how AI-powered systems use natural language processing and machine learning to provide personalized and interactive user experiences. Kaplan and Haenlein argue that voice assistants are transforming the relationship between businesses and consumers by enabling faster access to information and more convenient digital interactions. However, the authors also address concerns related to privacy, data security, and the ethical implications of AI technologies. The article concludes that organizations must carefully integrate AI assistants into their strategies while maintaining consumer trust and transparency. Overall, the study provides valuable insight into the opportunities and challenges associated with AI-driven virtual assistants in modern business environments.

Global Journal of Engineering Science and Research Management

Smith [2020], the author examines the growing role of artificial intelligence (AI) in enhancing creativity within digital marketing practices. The study highlights how AI-driven tools support marketers in content creation, audience targeting, and personalized advertising campaigns. Smith argues that AI improves efficiency by analysing consumer behaviour and generating data-driven creative strategies, enabling brands to produce more engaging and relevant content. The article also discusses the integration of machine learning and predictive analytics in campaign development, emphasizing their ability to optimize customer engagement and marketing performance. However, the author notes concern regarding the overreliance on automation, which may reduce human originality and emotional depth in creative processes. Smith concludes that AI should complement rather than replace human creativity, as emotional intelligence and cultural understanding remain essential in effective marketing communication. Overall, the study provides valuable insight into the balance between technological innovation and human creativity in modern digital marketing.

Chatterjee, Rana, Tamilmani, and Sharma [2021], the authors explore the factors influencing the adoption of artificial intelligence (AI) in marketing and its impact on business performance. The study emphasizes that AI technologies help organizations improve customer engagement, decision-making, and operational efficiency through data-driven marketing strategies. The authors identify key drivers of AI adoption, including technological readiness, organizational support, and competitive pressure. The research further explains how AI applications such as chatbots, recommendation systems, and predictive analytics enable businesses to better understand consumer behaviour and deliver personalized experiences. However, the study also highlights challenges related to data privacy, lack of technical expertise, and resistance to organizational change. The authors conclude that successful AI implementation requires strategic planning, employee training, and effective integration with existing marketing systems. Overall, the article contributes valuable insights into the opportunities and barriers associated with AI adoption in contemporary marketing practices.

Huang and Rust [2021], the authors present a strategic framework explaining the role of artificial intelligence (AI) in modern marketing practices. The authors argue that AI is transforming marketing by automating tasks, improving customer interactions, and enhancing decision-making through advanced data analysis. The study categorizes AI applications into mechanical, analytical, intuitive, and empathetic intelligence, demonstrating how each contributes to different marketing functions. Huang and Rust emphasize that AI can increase efficiency and personalization, allowing firms to deliver more tailored customer experiences. However, they also note that human involvement remains essential in areas requiring empathy, ethical judgment, and creativity. The article further discusses the evolving relationship between human marketers and intelligent systems, suggesting that collaboration between both will shape the future of marketing strategies. Overall, the study provides a comprehensive theoretical framework for understanding how organizations can strategically integrate AI into marketing while balancing technological capabilities with human expertise.

David Rogers [2021], the author discusses how digital technologies are reshaping business strategies and organizational practices in the modern economy. The book emphasizes that digital transformation is not solely about adopting new technologies but also about changing business models, customer engagement, and organizational culture. Rogers explains how companies can use data, artificial intelligence, and digital platforms to create value, improve decision-making, and enhance customer experiences. The author identifies key strategic areas of transformation, including customers, competition, data, innovation, and value creation. The book also highlights the importance of adaptability and continuous learning in maintaining competitiveness in rapidly evolving markets. Rogers argues that organizations must embrace innovation and digital capabilities to survive and grow in the digital era. Overall, the book provides a practical framework for understanding and implementing digital transformation strategies across industries.

OBJECTIVES

The following are the main goals of this study:

1. To examine how consumers view ads produced by AI.
2. To assess how customers react to commercials made by humans.
3. To evaluate the efficacy of advertising results produced by humans and AI.
4. To determine what influences customer involvement and trust in ads.
6. To comprehend how AI will be used in creative advertising processes in the future.

RESEARCH METHODOLOGY

Research Design

Global Journal of Engineering Science and Research Management

The study uses an experimental and descriptive research design. Two sets of advertisements were created for the same products:

- AI-generated advertisements
- Human-created advertisements

Participants were exposed to both advertisement types and asked to evaluate them based on creativity, emotional appeal, trustworthiness, engagement, clarity, and purchase intention.

Sample Size

A sample of 200 respondents was selected using convenience sampling techniques. Participants included students, working professionals, and online consumers aged between 18 and 45 years.

Data Collection Methods

Primary data were collected through:

- Online questionnaires
- Consumer surveys
- Experimental exposure sessions

Secondary data were collected from:

- Research journals
- Books
- Marketing reports
- Academic articles

Variables Studied

Independent Variables

- AI-generated advertisements
- Human-created advertisements

Dependent Variables

- Consumer engagement
- Emotional response
- Creativity perception
- Trust
- Purchase intention

Statistical Tools Used

- Percentage analysis
- Mean score analysis
- Comparative analysis
- Correlation analysis

CONSUMER VIEW ADS PRODUCED BY AI

The quick development of artificial intelligence in digital communication has made consumer perception of AI-generated ads a crucial topic of research in contemporary marketing. AI-generated ads produce individualized and eye-catching promotional content using automation techniques, machine learning, and data analytics. These commercials are typically seen by consumers as inventive, imaginative, and technologically sophisticated. AI is being used by several businesses, including Google and Meta, to enhance client interaction and targeting.

Personalization is a significant component that affects consumer impression. AI-generated ads give personalized messaging by analyzing internet activity, customer behaviour, and preferences. Because they enhance shopping experiences and offer pertinent product recommendations, consumers frequently value advertisements that align with their interests. Attention, contentment, and buy intention can all rise with personalized AI ads. But too much customisation can also raise privacy and data security issues, making some customers feel uneasy or duped.

Perception is also influenced by originality and authenticity. AI-generated advertisements are often both visually appealing and effective. The quickness and inventiveness of AI-generated advertisements amaze a lot of

Global Journal of Engineering Science and Research Management

consumers. Some consumers believe that AI lacks emotional nuance, human touch, and inventiveness compared to human-made advertisements. Human creativity, which is often associated with emotive storytelling and authenticity, can impact trust and an emotional connection with a firm. Another important factor in assessing AI-generated ads is consumer trust. Because they are more accustomed to digital technologies, younger, tech-savvy customers typically see AI advertising more favourably. On the other hand, some customers are still dubious about the dependability and moral implications of AI-generated material, particularly when commercials seem deceptive or unrealistic. Consequently, customer perception ultimately rests on elements like trust, authenticity, inventiveness, and ethical use of technology, even though AI-generated ads promise efficiency, customisation, and innovation.

HOW CUSTOMERS REACT TO COMMERCIALS MADE BY HUMANS

Ads made by humans still have a big impact on consumer behaviour and brand perception. Human marketers, copywriters, and creative experts create these ads using storytelling tactics, emotions, and cultural awareness to engage viewers. Because human-made ads are seen as more genuine, emotionally compelling, and reliable, consumers frequently react favorably to them. Emotional appeal is one of the main advantages of commercials made by humans. Artificial intelligence is not as good at understanding consumer emotions, social values, and cultural surroundings as human creators. Human-made advertisements frequently feature relevant narratives, comedy, empathy, and emotional experiences that forge closer psychological bonds with viewers. Customers are therefore more inclined to recall and believe commercials that depict genuine human emotions and experiences.

Consumer reactions to commercials produced by humans are also influenced by creativity and originality. In general, consumers value original concepts, creative expression, and poignant narratives in advertising campaigns. In order to make advertising feel more authentic and natural, human advertisers can modify their creative in response to shifting consumer expectations and social trends. Customer loyalty and brand image are enhanced by this authenticity.

Credibility and trust are two other crucial elements. Because human-made ads incorporate social awareness, emotional intelligence, and ethical judgment, many consumers think they are more trustworthy. In contrast to AI-generated ads, consumers may view human-generated content as less misleading, particularly when the ads provide clear and honest messages. Additionally, human engagement in advertising raises the content's sense of accountability and responsibility. However, compared to AI-generated ads, human-created ads could need more time, money, and effort. Customers nevertheless appreciate the emotional nuance, originality, and genuineness offered by human advertisements in spite of these drawbacks. As a result, customer reactions to commercials produced by humans are typically positive, especially when those commercials are successful in fostering emotional engagement, trust, and deep brand relationships.

EVALUATE THE EFFICACY OF ADVERTISING RESULTS PRODUCED BY HUMANS AND AI

Basis of Comparison	AI-Generated Advertising Outcomes	Human-Created Advertising Outcomes
Creativity	Based on algorithms and existing data patterns	Based on imagination, originality, and innovation
Emotional Appeal	Moderate emotional connection	Strong emotional storytelling and empathy
Personalization	Highly personalized using consumer data	Personalized through human understanding and experience
Speed of Content Creation	Very fast and automated	Slower due to manual creative processes
Cost Efficiency	Lower production and operational cost	Higher production cost involving creative teams
Consumer Trust	Moderate trust among consumers	Higher trust due to authenticity and human touch
Audience Engagement	Effective in targeted digital engagement	Effective in emotional and long-term engagement
Originality	Limited originality due to data dependency	High originality and unique creative ideas

Global Journal of Engineering Science and Research Management

Basis of Comparison	AI-Generated Advertising Outcomes	Human-Created Advertising Outcomes
Data Analysis Capability	Excellent ability to analyze large datasets	Limited data processing capability
Adaptability	Quickly adapts based on consumer behavior data	Adaptation depends on human decision-making
Cultural Understanding	Limited contextual and cultural awareness	Better cultural sensitivity and social understanding
Scalability	Easily scalable for mass campaigns	Scalability is comparatively limited
Consistency	Produces consistent output	Output may vary depending on creative professionals
Ethical Judgment	Limited ethical reasoning ability	Better ethical and social judgment
Purchase Influence	Effective for personalized recommendations	More effective in emotional purchase decisions
Overall Effectiveness	Strong in automation and targeting	Strong in emotional branding and trust-building

Table 1: The Effectiveness of AI-Generated Vs Human-Created Advertising Outcomes

Interpretation

The comparison shows that AI-generated advertisements are highly effective in automation, personalization, speed, and data analysis, making them suitable for large-scale and targeted advertising campaigns. On the other hand, human-created advertisements are more effective in emotional appeal, originality, creativity, and building consumer trust. The findings suggest that combining AI technology with human creativity can produce more balanced and successful advertising outcomes.

WHAT INFLUENCES CUSTOMER INVOLVEMENT AND TRUST IN ADS

Customer involvement and trust in advertisements are influenced by several important factors that shape how consumers perceive and respond to marketing messages. In today's competitive business environment, companies aim not only to attract customers but also to build long-term relationships through credible and engaging advertisements. Understanding the factors that influence customer involvement and trust helps marketers create effective promotional strategies. One major factor influencing customer involvement is the relevance of the advertisement. Consumers are more likely to pay attention to ads that match their needs, interests, lifestyles, and preferences. Personalized advertisements, which are tailored according to customer behaviour and demographics, increase engagement because customers feel the message is directly related to them. Attractive visuals, emotional appeal, and creative storytelling also enhance involvement by capturing the audience's attention and encouraging interaction with the advertisement. Another important factor is the quality and clarity of information provided in the advertisement. Customers tend to trust advertisements that offer accurate, detailed, and understandable information about products or services. Misleading claims, exaggerated promises, or hidden details can reduce trust and negatively affect customer attitudes toward the brand. Therefore, honesty and transparency are essential in advertising communication.

Brand reputation also plays a significant role in determining customer trust. Well-known and reputable brands are generally considered more reliable because customers associate them with quality and consistency. Positive customer reviews, testimonials, and endorsements by celebrities or influencers can further strengthen trust in advertisements. However, if influencers promote products without authenticity, customer skepticism may increase. Social and cultural factors also influence customer involvement and trust. Family opinions, peer recommendations, and social media discussions strongly affect how consumers interpret advertisements. In the digital era, customers often verify advertising claims through online reviews and social networks before making purchasing decisions. Additionally, the medium of advertisement impacts customer trust. Advertisements shown on trusted platforms such as established television channels, newspapers, or reputable websites are often perceived as more credible than ads on unreliable or unknown platforms. Interactive digital advertising, including social media campaigns and online engagement, can also improve customer involvement when managed effectively. Customer involvement and trust in advertisements are influenced by relevance, transparency, brand reputation, social influence, and the credibility of advertising platforms. Businesses that focus on honest, engaging, and customer-cantered advertising are more likely to build trust, attract loyal customers, and achieve long-term success.

Global Journal of Engineering Science and Research Management

HOW AI WILL BE USED IN CREATIVE ADVERTISING PROCESSES IN THE FUTURE

Artificial Intelligence (AI) is expected to play a transformative role in the future of creative advertising processes. As technology continues to evolve, AI is becoming an essential tool for marketers and advertisers to create more effective, personalized, and engaging campaigns. Understanding how AI will be used in creative advertising helps businesses prepare for future trends and maintain competitiveness in the digital marketplace. One of the most significant uses of AI in advertising is personalized content creation. AI systems can analyse large amounts of consumer data, including browsing habits, purchase history, preferences, and online behaviour. Based on this analysis, advertisers can create highly targeted advertisements that match the interests and needs of individual consumers. Personalized advertising increases customer engagement because people are more likely to respond to content that feels relevant to them. AI will also improve the creative design process. Advanced AI tools can generate images, videos, slogans, and advertising copy within seconds. These technologies help creative teams save time and reduce production costs while maintaining high-quality output. For example, AI-powered design software can suggest layouts, colours, and content styles that are most appealing to specific audiences. This allows advertisers to experiment with multiple creative ideas quickly and efficiently.

Another important future application of AI is predictive analytics. AI can forecast customer behaviour and market trends by analysing historical and real-time data. Advertisers can use these insights to design campaigns that are more likely to succeed. AI can also optimize advertisements in real time by adjusting content, timing, and placement according to audience response and engagement levels. Chatbots and virtual assistants powered by AI are also becoming part of creative advertising strategies. These tools enable brands to interact directly with customers, answer questions instantly, and provide personalized recommendations. Such interactions improve customer experience and strengthen relationships between brands and consumers. Furthermore, AI can enhance advertising performance measurement. Traditional methods of evaluating advertisements often take time and may not provide accurate results. AI can instantly analyse campaign performance, customer feedback, and engagement metrics, helping companies make faster and smarter marketing decisions. However, despite its advantages, the use of AI in advertising also raises ethical concerns. Issues such as data privacy, transparency, and overdependence on automation must be carefully managed. Human creativity and emotional understanding will still remain important in developing meaningful and authentic advertisements. AI is expected to revolutionize future creative advertising processes through personalization, automation, predictive analysis, and improved customer interaction. Businesses that effectively combine AI technology with human creativity will be better positioned to create innovative, engaging, and successful advertising campaigns in the future.

THREATS

Several limitations and threats may affect the validity of this research study:

1. **Sample Bias**
   The study used convenience sampling, which may not fully represent the entire consumer population.
2. **Subjective Responses**
   Consumer opinions regarding creativity and emotional appeal are subjective and may vary among individuals.
3. **Technological Changes**
   AI technology evolves rapidly, and findings may become outdated as AI systems improve.
4. **Limited Product Categories**
   The study focused on selected product advertisements, which may not reflect all advertising industries.
5. **Experimental Environment**
   Responses collected in experimental settings may differ from real-world purchasing situations.

DATA ANALYSIS

The collected data were analyzed using percentage and comparative analysis techniques.

Consumer Preference Results

Factors	AI-generated Ads	Human-created Ads
Creativity	68%	85%
Emotional Appeal	55%	90%
Personalization	88%	70%

Global Journal of Engineering Science and Research Management

Factors	AI-generated Ads	Human-created Ads
Trustworthiness	60%	82%
Engagement	72%	84%
Purchase Intention	66%	80%

Interpretation

- Human-created advertisements scored higher in emotional appeal, trust, and creativity.
- AI-generated advertisements performed better in personalization and speed of content delivery.
- Consumers preferred human-created advertisements for emotionally driven products.
- AI advertisements were considered efficient and data-oriented but less emotionally authentic.

KEY FINDINGS

- Human-created advertisements are perceived as more emotionally engaging and trustworthy.
- AI-generated advertisements excel in personalization and quick content generation.
- Consumers still value human creativity for originality and storytelling.
- AI advertisements are more effective for data-driven and repetitive marketing tasks.
- Hybrid advertising strategies combining AI tools and human creativity produce better outcomes.
- Younger consumers show greater acceptance of AI-generated advertisements compared to older consumers.

ADVANTAGE

AI-generated Advertisements

1. Faster content creation
2. Cost efficiency
3. Personalized advertising
4. Data-driven decision making
5. Ability to analyze large consumer datasets
6. Continuous optimization of campaigns

Human-created Advertisements

1. Strong emotional storytelling
2. Higher creativity and originality
3. Better cultural understanding
4. Ethical judgment and empathy
5. Greater consumer trust
6. Improved emotional connection with audiences

DISADVANTAGE

AI-generated Advertisements

1. Lack of emotional depth
2. Limited originality
3. Dependence on existing datasets
4. Ethical concerns regarding authenticity
5. Risk of repetitive or generic content

Human-created Advertisements

1. Higher production costs
2. Time-consuming creative process
3. Limited scalability
4. Human bias and inconsistency
5. Difficulty in processing large consumer datasets quickly

Global Journal of Engineering Science and Research Management

COMPARISON

Basis of Comparison	AI-generated Advertising	Human-created Advertising
Creativity	**Algorithm-based**	**Imagination-based**
Speed	**Very fast**	**Relatively slower**
Emotional Appeal	**Moderate**	**High**
Personalization	**High**	**Moderate**
Cost	**Lower**	**Higher**
Consumer Trust	**Moderate**	**High**
Originality	**Limited**	**Strong**
Data Analysis	**Excellent**	**Limited**
Cultural Understanding	**Limited**	**Strong**
Scalability	**High**	**Moderate**

Table 2: AI-generated Advertising Vs Human-created Advertising

The comparison indicates that AI and human creativity possess unique strengths and weaknesses. AI improves operational efficiency, while humans contribute emotional intelligence and originality.

CONCLUSION

The experimental study on AI vs. Human Creativity in Advertising Outcomes emphasizes both the ongoing significance of human creativity and the expanding impact of artificial intelligence in the advertising sector. According to the study, AI-generated ads are very successful in terms of automation, speed, customisation, and data-driven marketing tactics. AI solutions are helpful for increasing productivity and cutting advertising expenses since they can swiftly assess customer preferences and provide tailored ads. Customers like AI-generated advertising content's relevancy and personalization as well. But the study also shows that human-made ads still do better in terms of emotional appeal, uniqueness, narrative, and consumer trust. Empathy, cultural awareness, and emotional intelligence are all closely linked to human creativity, and this helps ads forge closer emotional bonds with viewers. When compared to AI-generated content, consumers typically view human-created ads as more genuine, relatable, and reliable. Both AI and human creativity have distinct advantages and disadvantages, according to the comparison investigation. While human innovation may result in greater prices, slower production, and limited scalability, AI lacks emotional depth and true originality. Customer engagement and the efficacy of advertising are greatly influenced by elements like emotional connection, authenticity, personalization, and trust. The study comes to the conclusion that human innovation in advertising is unlikely to be entirely replaced by AI. Instead, human creative professionals and AI technologies will work together to shape the future of advertising. In the rapidly changing digital age, a well-balanced blend of human emotional intelligence and AI efficiency can boost advertising results, improve consumer experiences, and assist creative marketing communication tactics.

REFERENCES

1. Stone, M., & Woodcock, N. (2014). *Interactive, direct and digital marketing*. Journal of Research in
2. Rust, R., & Huang, M. (2014). *The service revolution and the transformation of marketing science*. Marketing Science, 33(2), 206–221.
3. Kotler, P., & Keller, K. (2016). *Marketing Management*. Pearson Education.
4. Brynjolfsson, E., & McAfee, A. (2017). *Machine, Platform, Crowd*. W.W. Norton & Company.
5. Punj, G. (2017). *The relationship between consumer characteristics and willingness to use AI in advertising*. Journal of Consumer Marketing, 34(3), 205–214.
6. Belk, R. (2018). *Artificial intelligence and consumer behavior*. Marketing Intelligence Review, 10(3), 6–11.
7. Kietzmann, J., Paschen, J., & Treen, E. (2018). *Artificial intelligence in advertising: How marketers can leverage AI*. Business Horizons, 61(5), 683–688.
8. Brown, T. (2019). *Human-centered creativity in advertising*. Advertising Research Quarterly, 45(2), 77–90.
9. Kaplan, A., & Haenlein, M. (2019). *Siri, Siri in my hand: Who's the fairest in the land?* Business Horizons, 62(1), 15–25.
10. Davenport, T., 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.

Global Journal of Engineering Science and Research Management

11. Smith, A. (2020). *AI and creativity in digital marketing*. Journal of Digital Media Studies, 12(4), 55–69.
12. Chatterjee, S., Rana, N., Tamilmani, K., & Sharma, A. (2021). *The adoption of AI in marketing*. Journal of Business Research, 124, 293–302.
13. Lee, J., & Cho, M. (2021). *Consumer trust in AI-generated advertising content*. International Journal of Advertising, 40(7), 1120–1138.
14. Huang, M., & Rust, R. (2021). *A strategic framework for artificial intelligence in marketing*. Journal of the Academy of Marketing Science, 49(1), 30–50.
15. Rogers, D. (2021). *The Digital Transformation Playbook*. Columbia University Press.