

Research on the Impact, Risks and Ethical Boundaries of AI-Generated Content in Advertising Creativity and Delivery

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Abstract

With the rapid development of artificial intelligence technology, AI-generated content has been increasingly used in advertising creativity and delivery, significantly improving the efficiency of advertising production and personalized marketing capabilities. However, this technological innovation has also brought multiple risks and ethical challenges. This paper systematically analyzes the application scenarios of AI-generated content in the advertising field and its impact on the industry, and at the same time deeply explores its potential risks. Based on this, an ethical framework and governance method are proposed.

Keywords

AI-generated content; advertising creativity; advertising delivery; ethical boundaries

1. Introduction

With the rapid development of artificial intelligence technology, AI-generated content is penetrating into all aspects of the advertising industry at an unprecedented rate[1]. From creative generation to delivery optimization, AI not only improves the efficiency of advertising production, but also achieves highly personalized and precise marketing. However, while improving commercial value, AI advertising also brings a series of risks and ethical challenges such as false propaganda, copyright disputes, user privacy leakage, and algorithmic discrimination. How to find a balance between technological innovation and social responsibility has become an important issue that the current advertising industry needs to solve. This paper aims to systematically analyze the current status and impact of AI-generated content in the advertising industry, deeply analyze potential risks, and explore feasible paths to build ethical boundaries for AI advertising, so as to provide theoretical support and practical reference for promoting the healthy and sustainable development of AI advertising.

2. Current status of AI-generated content in advertising creativity and delivery

With the rapid development of artificial intelligence technology, AI-generated content is gradually penetrating into all aspects of the advertising industry, covering multiple dimensions from creative content production to advertising delivery strategy optimization. AI not only improves the efficiency of advertising production, but also achieves unprecedented personalized and precise marketing.

2.1. Classification of technology application scenarios

Creative content generation: Natural language processing drives copywriting automation

AI has achieved full process automation from keyword extraction to complete copywriting output in advertising copywriting. Taking Starbucks advertising as an example, the brand uses a large language model to automatically generate multiple sets of copywriting based on the consumption habits of the target audience, social media interaction data and holiday

atmosphere, greatly shortening the creative cycle and reducing labor costs. In addition, AI can also learn patterns from historically high-click-through-rate copywriting, thereby continuously optimizing the attractiveness and conversion rate of new content.

Visual material production: Image generation model enables dynamic poster design

Visual content is the core carrier of advertising communication, and AI image generation technology is reshaping this link. In the field of e-commerce, platforms can quickly generate product display pictures, promotional posters and even virtual model images to meet the needs of high-frequency updates and multi-scenario adaptation.

Delivery strategy optimization: machine learning improves advertising accuracy

In the advertising delivery stage, the role of AI is more hidden but far-reaching. Through machine learning algorithms, AI can analyze user behavior data, historical click records, device information, etc. in real time, automatically adjust advertising delivery strategies, and achieve accurate reach and optimal resource allocation [2].

2.2. Industry penetration and market size

AI-generated content has entered large-scale application in the advertising industry from the exploration stage, showing strong growth potential. According to iResearch data, the global AI advertising market size is expected to reach US\$18.5 billion in 2024, with an average annual compound growth rate of more than 28%. In China, Statista data shows that the AI advertising market size in 2024 will be approximately US\$3.7 billion, accounting for 11% of the digital advertising market, and it is expected that this proportion will exceed 15% by 2026.

Leading global platforms such as Google, Meta and ByteDance widely use AI technology to optimize advertising creativity and delivery. Google's AdSense and Performance Max have built-in AI recommendation engines to help automatically generate copy and materials; Meta's "Automatic Creative Optimization" function intelligently combines copy, images and CTA buttons to improve advertising effectiveness; ByteDance uses AI tools to support one-click generation of short video scripts and cover images, and dynamically matches creative ideas based on user interests to promote the intelligent upgrade of advertising content production.

3. Multi-dimensional impact of AI-generated content on the advertising industry

3.1. Positive impact: efficiency and innovation drive

Efficiency revolution at the creative production level

AI automated processes significantly improve creative production efficiency. For example, a certain car brand requires a traditional team to produce 1,000 sets of materials in several weeks, while AI tools can complete the entire process from copy generation, visual design to video editing in just 48 hours. GPT-4 combines DALL-E to achieve "text-visual" integrated creation, compressing the creative cycle from several days to several hours, greatly improving efficiency [3].

Data-driven creative expansion

AI mines consumers' hidden needs by analyzing data such as social media topics and user comment sentiment. A cosmetics brand uses AI to analyze discussions among "ingredient party" groups, generating differentiated advertising slogans such as "no additives" and "scientific formula" to accurately match consumer trends. This "data-insight-creativity" closed loop promotes advertising from experience-oriented to demand-driven, capturing segmented needs that are difficult for humans to perceive.

Precision and scientific delivery operations

AI algorithms achieve "thousands of people, thousands of faces" precise reach: Netflix dynamically adjusts ads based on multi-dimensional data such as user viewing history and devices, and CTR increases by 30%; an e-commerce platform uses AI real-time bidding tools on "Double Eleven" to dynamically allocate budgets based on real-time data such as competitors' bids and inventory, and ROI increases by 15%. The delivery closed loop enables advertising to shift from extensive exposure to scientific operations.

3.2. Potential challenges: Deep changes in the industry ecology

Creative homogeneity: the "template" trap under technology dependence

AI relies on historical data training, which easily leads to creative convergence. The "ingredient party" copywriting in the beauty industry is highly similar, and the e-commerce advertising pictures are "one picture for thousands of pictures", which weakens brand recognition and causes user aesthetic fatigue and trust crisis.

Reconstruction of professional roles: the pain and transformation of human-machine collaboration

AI impacts traditional positions, and the demand for basic copywriting in a certain company has decreased by 40%. New positions such as "AI trainer" and "creative reviewer" have emerged. Practitioners need to shift from execution to management and master skills such as machine learning, but the lag in talent transformation has led to structural unemployment and skill gaps [4].

The challenge of lagging ethics and supervision

The use of AI to forge celebrity endorsements and user reviews disrupts the market order, and algorithmic bias may exclude specific groups from advertising coverage. Despite attempts to regulate by the EU Digital Services Act and other laws, technological iterations still far exceed the speed of policy improvement, and the regulatory vacuum period continues to exist [5].

4. Risk analysis of AI-generated content in advertising

4.1. Technical and legal risks

Content compliance risk

Advertising content generated by AI may lead to false propaganda due to technical out-of-control or training data bias. For example, the statement of "curing diseases" in health care product advertisements may violate the Advertising Law. AI models lack the ability to make ethical judgments, and the generated content may be exaggerated or misleading. If companies do not conduct strict audits, they will face legal risks. In addition, there are disputes over the ownership of copyright of AI-generated content. For example, a brand's AI poster was accused of plagiarizing an illustrator's work. If the training data contains copyrighted works, there is a fuzzy area in determining the originality of AI-generated content.

Data security risks

AI advertising relies on user data, but excessive collection and abuse may violate privacy protection laws and regulations. For example, tracking user consumption habits through smart home devices without explicit authorization may violate the "Personal Information Protection Law". Some advertising algorithms set invisible thresholds for small and medium-sized enterprises, and complex machine learning logic is difficult to explain, resulting in difficulties in supervision and the formation of "technological hegemony".

4.2. Social and cultural risks

Information cocoon and cognitive bias

The precise targeting technology of AI advertising may strengthen the information cocoon effect. For example, a news APP pushes single-position advertisements based on user history records,

causing users to fall into the "echo chamber effect", exacerbating group polarization, weakening the public's access to diverse information, and undermining the basis of social consensus.

Tendency to vulgarize culture

AI tools may be abused to generate vulgar content. For example, some short video platforms use AI to synthesize "borderline" ads, attract clicks through sexy hints or violent elements, and challenge public order and morality. Although it can improve conversion rates in the short term, it may lower the bottom line of the industry in the long term and have a negative impact on the values of young people.

5. Ethical boundaries and normative paths of AI advertising

5.1. Construction of ethical theoretical framework

Principle of transparency

AI-generated ads should clearly mark the source to protect the user's right to know. For example, the EU Digital Services Act requires all AI advertising logo generation methods to help users identify the difference between them and artificial creations. Such logos help enhance user trust. At the same time, advertisers should also be transparent during data collection and use, and explain the purpose and protection measures to users.

Principle of informed consent

Users should authorize the use of data on the premise of full understanding. According to GDPR, platforms must obtain explicit consent from users and provide an opt-out option before using AI for personalized advertising. For example, when users register, they should be informed that their data will be used for AI advertising and can choose whether to accept it. This mechanism not only meets legal requirements, but also helps to enhance user trust.

Principle of authenticity

AI advertising content should be authentic and reliable, and should not contain false or misleading information. The US Federal Trade Commission (FTC) has made clear regulatory requirements, and exaggerated or fictitious propaganda will face legal liability. For example, AI-generated health care product advertisements must not claim to "cure diseases" unless there is scientific evidence to support them. Advertisers and platforms should strengthen content review to prevent the spread of false information and maintain the credibility of the industry.

5.2. Multi-party collaborative governance plan

Enterprise self-discipline

As the main participants in AI advertising, companies should take the initiative to assume ethical responsibilities. Establishing an AI advertising content review mechanism is an important manifestation of corporate self-discipline. For example, Meta's AI advertising compliance detection tool can automatically identify and filter illegal content. In addition, companies should strengthen employee training, enhance AI ethical awareness, and formulate internal management policies to ensure that advertising content is legal and compliant.

Industry standards

Promoting the formulation of a unified AI advertising ethics guide is a key measure to promote industry self-discipline. Industry organizations can take the lead in formulating guidelines covering transparency, authenticity, privacy protection and other content to provide companies with an operating basis and enhance the overall image and social responsibility of the industry.

Policy supervision

The government should speed up the improvement of relevant laws and regulations, and clarify the legal responsibilities of AI advertising, such as copyright ownership and false propaganda. Regulatory authorities need to strengthen the monitoring and law enforcement of AI advertising

content, investigate and punish violations in accordance with the law, effectively protect the rights and interests of consumers, and promote the healthy development of the industry.

Technology empowerment

Technology has important value in the ethical governance of AI advertising. By developing ethical review AI tools, biased words, discriminatory expressions or false promises in advertisements can be automatically identified to improve the efficiency and accuracy of content review. For example, natural language processing can be used to identify exaggerated terms, and image recognition can be used to determine infringement risks, helping the advertising industry to achieve intelligent and ethical coordinated development.

6. Conclusion and Outlook

AI-generated content is reshaping the operating model of the advertising industry, and it has shown great potential in improving creative efficiency and achieving precise delivery. But at the same time, problems such as content homogeneity, lack of legal compliance, data abuse and distorted cultural values cannot be ignored. The development of AI advertising is a "double-edged sword". Only under the premise of simultaneous advancement of technological progress and ethical norms can true sustainable development be achieved to cope with the rapidly evolving technological ecology and complex and changing social needs.

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