

An Exploration on How Advertising Contents Are Produced in The Era of Artificial Intelligence

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ABSTRACT

With the onset of the intelligent era, the monopoly of humans as the sole creators of traditional advertising content has been disrupted, leading to a diversification in the production landscape. Machine learning, especially deep learning, has revolutionized the industry by rapidly analyzing and processing large volumes of advertising data using artificial intelligence algorithms to produce advertising products. This has greatly improved production efficiency, allowing for the creation of a vast amount of unique content in a short period. However, challenges persist in the form of insufficient integration and collaboration among entities involved in the production of advertising content. Furthermore, there is an issue with the localization or independence of intelligent advertising content production due to a lack of advanced intelligence in the interaction of advertising content, which impedes the full potential of intelligent advertising.

KEYWORDS

Artificial Intelligence; Content Production; Deepening Services

1 Introduction

Technological progress has transformed content production, with AI and machine learning now enabling machines to create what was once solely the domain of humans. As AI-generated content (AIGC) permeates various creative fields, it marks a pivotal shift, challenging the human monopoly on content creation. This paper will explore the ramifications of this change on the production object, method, and efficiency, as well as the current issues and future trajectory of intelligent advertising content production, offering insights into a field on the cusp of significant evolution.

2 The Ai Way Of Advertising Content Production

2.1 Professional Generated Content (PGC)

At present, the supply of means of production, the most front-end of intelligent content production in advertising, mainly relies on humans rather than intelligent machines. In the early stages of intelligent content production, the role of advertising creatives is still important. At present, the material for advertising intelligent content production is basically provided by advertising creatives rather than machines. The materials of Internet enterprises engaged in the production of intelligent advertising content mainly have three sources: advertiser production,

supplier provision and internal material library call. Strictly speaking, these three sources are essentially produced by human creative and production personnel, but due to the increase of copyright awareness and labour costs and other factors, Internet companies basically do not directly provide intelligent advertising production materials (Villena, J. A., 2015).

Particularly, image advertising and video advertising, the creative and filming personnel must complete the shooting of the material in advance before the intelligent production. This is obvious in Chopstick technology company. Chopsticks Technology is an intelligent creative production and management company, currently in the intelligent video production can reach tens of thousands of pieces per month, and most of the raw materials of these videos come from advertisers or suppliers; The person in charge of the company even directly calls the producer of advertising video raw materials the director, who is responsible for creative planning, writing scripts and video scripts as well as video shooting. The difference with conventional advertising creative personnel is that for the same product or brand, the director is likely to plan the script of multiple use scenarios, and then shoot multiple videos. After shooting, these videos are uploaded to the platform (Xu, Z., 2020).

2.2 User Generated Content (UGC)

UGC refers to User Generated Content, a form of content produced by users rather than professional content creators, a model that emphasizes the three identities of users as recipients, creators and disseminators of information. UGC helps to build and maintain an active user community, and forms an organic content ecosystem through interactions and exchanges between users. User-generated content not only enriches the platform's content library, but also promotes the emotional connection between users and the establishment of a sense of community.

Through UGC, enterprises and platforms can quickly obtain user feedback, which helps to improve products and services in a timely manner. UGC mode not only changes the traditional way of content production and dissemination, but also plays an important role in enhancing user interaction, enriching the content ecosystem, and boosting the activity of the platform. With the development of digital platforms and social media, UGC will continue to be a key driver of information dissemination and community building.

2.3 Artificial Intelligent Generated Content (AIGC)

In the field of advertising, in addition to playing the above important role, intelligent machine production will appear more human-like functions. Recently, the intelligent chat dialogue language model represented by ChatGPT, which has attracted much attention from all walks of life, can not only chat with people contextually and interactively, but also automatically write emails, copy-writing, scripts and even code, which means that intelligent machines have taken a big step forward in the field of content production and content interaction. Before the birth of ChatGPT, AIGC has been well applied in many fields, but it has two shortcomings:

First, the model used by the previous AIGC is not a large model, which fundamentally determines that it can only produce content in a specific field, such as specializing in the production of pictures, copy-writing or video, but can not open up all areas; Second, it is impossible to carry out situational communication and interaction according to context and semantics, not to mention rich emotional colours. ChatGPT can overcome the above limitations to a certain extent, which means that intelligent machines will play a new role in advertising content production: First, it will produce new intelligent advertising content production and service personnel such as advanced intelligent customer service, virtual anchor, intelligent narrator and intelligent brand purchasing guide; The second is the interaction and communication between the digital virtual human image and

consumers without interface scene.

2.4 Artificial Intelligence Engineers

At the heart of intelligent content production is advanced technology, which is part of a highly specialized and barrier-laden field within science and engineering. The intelligent creative and management platform is supported by a dedicated technical team consisting of front-end developers, algorithm engineers, data engineers, computer vision specialists, test engineers, and product managers, all under the supervision of a technical director.

A key responsibility for an AI engineer is to train the machine from scratch. Take Alibaba's Luban system as an example; with no existing models to follow, Alibaba's AI lab conducted extensive initial machine training to gradually develop its intelligence. The training process includes four main steps: the first being the design of a framework that allows machines to understand advertising elements through data thinking and pattern recognition.

3 Production Efficiency Involves Achieving Short Turnaround Times, Producing Large Quantities, And Avoiding Duplication

3.1 Intelligent Content Production Efficiency

Intelligent content production is characterized by its exceptional efficiency, with the ability to generate a vast array of content in a short span of time, and each piece is unique, distinguishing it from traditional mass production methods.

3.2 Simplicity in Operation

Intelligent platforms simplify the content creation process with user-friendly operations, often offering "one-click generation" features that allow for quick and easy content production.

3.3 Template Matching

The efficiency of one-click generation is rooted in the rapid integration of advertising materials into pre-existing templates. Machines match user-uploaded content with stored templates to produce advertising works swiftly.

3.4 Multi-Modal Conversion

Intelligent technology enables the transformation of various media forms into audiovisual content. This conversion process allows for the creation of short videos from text, images, and sound, streamlining the content production workflow.

4 The Main Problems Of Intelligent Content Production Of Advertising

4.1 The Integration And Cooperation Between The Main Bodies Of Advertising Content Production Are Not Close Enough

The main body of advertising content production has shown obvious diversified characteristics, both machines and people, both professional advertising creative personnel, but also amateur network users, both humanities and social sciences and arts background professionals, as well as

science and technology background technicians.

To enhance the efficiency and effectiveness of intelligent advertising content production, leveraging the strengths of both humans and machines is crucial. However, current human-machine collaboration is suboptimal, with 48% of respondents indicating insufficient synergy. Machines excel at rapid data analysis and processing, such as segmenting, reorganizing, and distributing advertising materials, but they fall short in creative and emotional aspects, where human inspiration remains paramount. Despite recognizing the importance of collaboration, both academia and industry have yet to find effective ways to combine human creativity with machine efficiency. The current state is more about division of labor than true collaboration; real synergy would involve humans training machines to evolve and machines enhancing human capabilities, fostering mutual improvement and efficiency in task completion.

4.2 The Intelligence Level Of Advertising Content Interaction Is Insufficient

Man-machine interaction in Web1.0 era and Web2.0 era relies on mouse and keyboard operation and touch control respectively, which have completed the upgrading and evolution of man-machine interaction mode well. In the mouse and keyboard operation mode, people input information to the machine in a fixed state and then the machine gives feedback; Touch operation changes the interaction state between human and machine, making human beings move from fixed human-computer interaction to mobile human-computer interaction. This interaction mode not only reduces mouse and keyboard in the use of machine, but also liberates human body by simply touching the screen to realize instruction input and receive feedback. So that people only need to use the fingers instead of the whole body to sit down and operate. However, whether it is mouse and keyboard operation or touch control, its essence is interface operation.

From the perspective of design, the interface operation needs to help people understand and use the machine through visual, auditory and tactile metaphors and other senses. Further, it also needs to carry out associative design of elements from the aspects of concept, characteristics, structure and behavior, so as to achieve good interaction between human and machine. Although the interface operation can realize the intelligent interaction between man and machine well, it obviously has the problem of insufficient intelligence. One is that the space for interaction is not flexible enough. Mouse and keyboard operation limits people in a relatively static space, and people cannot interact with the machine while moving. Although touch operation makes people's body move from a fixed state to a moving state, people still need to give instructions to the machine through manual operation, which means that the freedom of the hand is restricted. In many scenes in real life, the movement of the body often requires the free cooperation of the hand to achieve full spatial convenience, and touch operation obviously limits the freedom of human-computer interaction.

5 The Development Trend Of Intelligent Content Production Of Advertising

5.1 "Three-in-one" Of The Main Body Of Production

Three refers to natural persons, robots and virtual digital people, the three will form a global collaboration in the advertising intelligent content production process, and jointly complete all links of the entire production process. According to the survey data, up to 87% of the respondents believe that the main body of advertising production will appear people, robots, and virtual digital people to create the development trend of integration. Natural persons, robots and digital people play roles in the upstream, midstream and downstream of content production, respectively, and the

entire process cannot be separated from the coordination and maintenance of natural persons.

In intelligent content production, human roles are focused on training, supervising, and guiding machines, while robots excel at executing tasks involving rapid data collection, analysis, and processing. Virtual digital personas then bring the content to life, showcasing and disseminating the advertising material, thereby completing the integrated human-machine collaborative approach in intelligent advertising content production.

5.2 Intelligent Integrated Operation

The so-called intelligent integrated operation means that intelligent technology is embedded in the entire process of advertising content production, thereby bringing about a comprehensive upgrade of the entire process. According to the survey data, 72% of the respondents believe that advertising content production will develop in the direction of full process and full link intelligent integration.

In the traditional sense, a complete advertising content production process mainly includes advertising investigation and analysis, advertising planning, advertising creativity and performance, advertising and feedback. At present, intelligent content production is mainly concentrated in the two major links of advertising creativity and performance, advertising delivery and feedback, that is to say, intelligent technology embedded in the advertising content production process is local rather than holistic.

The future intelligent content production of advertising will certainly break this limitation and realize the intelligent integration of upstream and downstream operation. Specifically, the first is to realize the embedding of intelligent technology in the front end of advertising creativity and performance, that is, advertising investigation and analysis, and advertising planning.

In short, Han and Lee (2002) conducted a study on intelligent technology, intelligent technology embedded in the whole process of intelligent advertising content production and management will bring intelligent integrated operation, is the inevitable trend of the development of intelligent advertising, and means that intelligent advertising content production will change from extensive intelligent production to intensive intelligent production, from local intelligent

5.3 In-depth Service For Advertising Content Interaction

As a typical representative of AIGC, ChatGPT, which has been popular in recent years, has core functions such as content generation, answering questions, dialogue interaction, data processing, and assisting creativity. It also symbolizes that the interaction mode represented by intelligent voice to voice has begun to break the traditional interface interaction mode in human-computer interaction: Unlike remote control, keyboard input and touch screen, which interact through the interface, intelligent voice interaction is a "zero interface" interaction. This interaction does not need to be done with a manual click or touch, but only through intelligent voice dialogue. In short, the in-depth service of advertising content interaction can be achieved through this "zero interface" method.

The first is the upgrading of content services. The essence of advertising interaction is content service to some extent, but for a long time, the scope and ability of its service are limited. As we all know, advertising content service has roughly experienced two stages of development: informing service in the era of mass communication and recommendation service in the era of network communication.

The second is question-as-a-service. For advertising marketing, the process of consumers asking questions to the agent is not only the process of the agent's insight into consumers, mastering

consumer information and needs, but also the process of timely marketing services. The agent can process and analyze the data according to the questions raised by consumers. By invoking the algorithm, the questions raised by consumers can be extracted into keywords, generate topics and themes, and combine multi-party data to print consumer labels or even enrich consumer portraits.

Third, dialogue as a service. Dialogue is not just communication, it is an interface to services. Consumers will get the following three levels of service experience during the dialogue with the agent. The first level is intelligent socializing. Virtual assistants, intelligent robots, intelligent customer service and other intelligent agents can provide users with conversational anthropomorphic social services through natural language processing and voice recognition technologies.

6 Conclusion

The embedding of artificial intelligence technology into the field of advertising content production has brought about major changes in key factors such as production subjects, production modes and production efficiency. The "creative city" that advertisers have always been proud of has suffered an unprecedented impact, and new concepts, new propositions and new paradigms continue to emerge, especially in the context of the rapid development of artificial intelligence, the future picture of advertising content production has infinite possibilities, which will also bring new missions and new opportunities to advertising research. At the same time, we should also be soberly aware of the current plight of intelligent content production of advertising, and try our best to solve the existing problems. Of course, advertising intelligent content production is a dynamic development process, from initial intelligence to local intelligence to overall intelligence and even deep intelligence, which requires the continuous joint efforts of the industry and academia.

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