

# Analysis of Commercial Film Production in the Age of Artificial Intelligence -Focusing on Alibaba Wood case-

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## Abstract

Image is one of the most important advertising media. Thanks to the development of the Internet, technology has opened up a new medium for human life. In particular, the rapid development of online shopping market in China has built a broader trading platform for countless small and medium-sized enterprises. At the same time, in order to make the product information accepted by consumers more quickly and accurately, commercial film, as an important media for product and brand promotion, has been paid more attention by online shopping merchants. However, the traditional production procedure is complex and high-cost, which cannot meet the market demand. This paper summarizes the characteristics of commercial film and the elements of production. By analyzing the changes of media environment, the impact of such alterations on the dissemination of information is investigated. Combining with the case analysis of film production AI(Artificial Intelligence) – “Alibaba Wood”, we studied the influence of AI on traditional commercial film production and production characteristics, and then proposed a more efficient and cheaper production scheme. In the digital media environment of IoT and AI, the data-driven AI technology can make the production much easier. AI proposes a variety of solutions for different needs. In the era of artificial intelligence, the production of commercial film will be made with the help of designers, engineers and AI together. AI gives commercial film demanders greater power and more possibilities, which makes the creation popular.

Keyword : commercial film, artificial intelligence, commercial film production, commercial film design, Alibaba Wood

## 1. Introduction

### 1.1 Background

Contemporarily, people have been very familiar with the film and television media, and their cognitive abilities to the image content have reached a certain height. Commercial film can use audio-visual language to transmit information in a short period of time, which has become a medium with significance. The demand for commercial film majorly comes from the government, enterprises and

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individuals. These advertisements are mainly put on TV stations and outdoor media. It has been a long time since enterprises started to promote and new products through commercial films. Because of its ideal communication effect, video-film advertising has been favored by most enterprises [1]. However, the traditional production cannot meet the needs of small and medium-sized enterprises and individual advertisers in a relative long period of time.

With the rapid development of the Internet, various e-commerce platforms also emerge in an endless stream, and online shopping has become the mainstream way. In order to attract the attention of customers, businesses began to use a large number of video advertisements to display their own products. In 2016, short videos started to rise in the Chinese market [2]. Since 2017, China's e-commerce platform has been fully videotaped [3]. Followed by a huge demand for short video advertisement production. The production process of traditional commercial film used to be quite complex, which requires professional advertising companies. Moreover, its long production cycle and low production efficiency makes it impossible for mass producing. Different from that, cost of making short video seems not high, due to the limitation of the magnitude of such advertising. Therefore, how to use the limited cost to produce high-quality visual images turn to be social problem. Thus, it is necessary to explore and establish a new production method of commercial film, not only for reducing the cost, but also enhancing productivity.

## **1.2 Scope and method**

At present, some services or tools have been used to support the production of commercial film, such as Rawshorts, Jumptvs, Magisto, Giacloud and so on. Rawshorts is a simple AI video editing tool. Users can easily operate it by dragging and dropping, adding text, media, videos and other contents. Video works can be conveniently spreaded on social media platforms. Jumptvs is an operational business data platform, which provides data-driven content services. With Jumptvs, daily analysis can be carried on the commercial advertisement image, user experience can be enhanced, the marketing activity effect can be tracked and so on. Another famous AI film and television editing tool is Magisto, which can help users automatically complete the production of entertainment images. It provides a large number of copyrighted music and supports cross-channel video content distribution and hosting. Advertisers can use Giacloud to transform content into the form of video. Users only need to upload the URL or file of the content, after that the content will be analyzed autonomously, keywords and main concepts will be extracted, and multiple different versions for A/B testing will be created by Giacloud. Alibaba Wood is an AI image production tool launched by Alibaba in 2018. It mainly serves Alibaba Taobao, T-mall and

other e-commerce platform for online business product promotion, with a high degree of awareness in the China market thus attracts a large number of users . The application of AI in the production of commercial film has been demonstrated to be the development trend of the image industry in the future [4]. Therefore, in this study, we summarized the classification and characteristics of commercial film, and further explored the relationship between the changes in the media environment and the production of commercial film. On this basis, the case of Aalibaba Wood was selected for in-depth investigation. Firstly, we introduced the background of choosing this case for research, then analyzed its working principle indetail, summarized the influence of AI on the production mode of commercial film, and finally predicted the production of commercial film in the future.

## **2. The influence of media environment on commercial film production**

During the Renaissance period, the paradigm of media has undergone socialized changes with the help of printing technique emergence. Thereinto, the development of newspapers and magazines is closely related to the changes of politics, economy, commodities and circulations et al. All media is a response to necessity, but also a stimulus to another development [5]. Radio was born in the 1920s and became the first mass electronic media to enter the family along human's history. However, the rapid rise of television media has an impact on broadcasting. Compared with radio, television can spread voice and visual information at the same time, which achieves a more powerful acceptance effect. Before the 1980s, commercial film production had always been based on analog. From the 1950s to the 1990s, the Internet gradually matured and till the 1980s brought the era of personal computers, which had gradually become a new digital media communication platform. In 2007, Steve Jobs released the first generation of iPhone, marking the beginning of the mobile Internet era [6]. Smart phones have a more friendly browsing interface and a faster network experience, and have gradually developed into a new digital media communication platform. With the development and maturity of digital technology, it has basically completed the transformation from analog to digital. At the same time, the old media and the new media are integrated and developed in a form of continuous integration. These image and digital media are combined into one to form image media. Through the integration of "content" with other media, the media can play a strong role and continue to develop. The media is the message and the re-media makes the content richer [7][8]. Thus it can be seen that with the development of communication platform, the change of media is the transition from oral communication to text communication, from text to print media, from print media to radio, from radio to television, from television to computer,

from computer to smartphone.

Due to the development of dual-way communication, the center of advertising could no longer be limited to the four major media of newspapers, television, radio, and magazines, but could form a converged media that could communicate directly with consumers. Eventually we have entered the "one-person media era". Therefore, how to meet the personalized customers' requirements has become a new issue for commercial film production.

Commercial film integrates the design of images, sounds and subtitles to generate vivid, fast and accurate dynamic image for the audience. It is one of the most important means of modern advertising, which transmits the information of products, services or concepts that advertisers want to convey with strong expressive force. Television commercials are widely used for corporate image publicity and product promotion. It has the characteristics of various forms of expression, vivid pictures, rapid spread and wide audience. Television advertisements can be spread through TV, Internet and other media.

With the change of media environment, commercial film is becoming more and more diversified. According to the transmission platform and application scenario, it can be divided into four types. Projection advertising mainly uses cameras to record product information and make slides by computer, which is a kind of advertisement type used for internal publicity and customer presentation. Live advertising is mainly recorded on the scene of television programs such as studios or relay rooms. The production of TV advertisement generally needs to go through three stages of pre-production, production and post-production, and spread through TV. Online advertisement production is similar to that of TV advertisement, the difference mainly lies in the mode of transmission. Different from the one-way transmission of traditional media, it has interactivity. The classification of commercial film is shown in [Table 1].

[Table 1] Commercial Film Classification

Type	Characteristics	
	Advantages	Disadvantages
Projection Advertising	Short period, simple production mode, low cost and rapid spreading	Little influence due to static images
Live Advertising	Higher time-effect	Poor performance
TV Advertising	Great impact, deep impressive	High cost, strong professionalism, long production cycle and weak audience orientation
Online Advertising	Strong creativity, powerful interaction, high arrival rate and clear directivity	Limited impact on groups other than the target audience

### **3. Commercial Film Production by AI**

#### **3.1 The Background of Alibaba Wood**

In the era of the integration of the Internet and digital media, the demand for online shopping sellers to display commodities through commercial films has greatly increased. In the online shopping mode, consumers cannot see details of the real products. To attract consumers, merchants can only use images or videos showing product information. With the help of text, images and videos, the relevant properties such as appearance, material and usage of the products are presented. The display of commodity information can help consumers understand more intuitively and make up for the lack of experience in perceiving, thus improving sales and maximizing profits [9]. In order to facilitate consumers to understand the advantages and design highlights as soon as possible, the e-commerce industry has chosen online video advertising to replace traditional graphical descriptions. With the increasing fierce competition, e-commerce platforms and businesses try the best to improve display pages and consumer experience through more comprehensive, fast and accurate contents. Among them, short video clips, as the most rapidly developing form of content marketing in recent years, has become the main way of information dissemination besides text and image [10]. Short video clip, as a new carrier of fragmented information, belongs to the category of online merchandise dynamic display method. Compared with static display, it can improve the attention effect of content and enhance consumers' effective perception of commodity value [11]. As a main short video form, online commercial film can provide consumers with smooth and realistic viewing experience, and at the same time, shorten shopping and decision-making time. On the other hand, for the merchants in the platform, the information display of online commercial film expands the playing space of content marketing. If it can be used reasonably, it can further promote the improvement of order conversion rate. However, the production cycle of traditional commercial film is long and complicated, and it cannot meet the market demand while satisfying the personalized demand of narrative and composition of commercial film of different products. Therefore, the online commercial film production tool "Alibaba Wood" based on AI (artificial intelligence) is proposed.

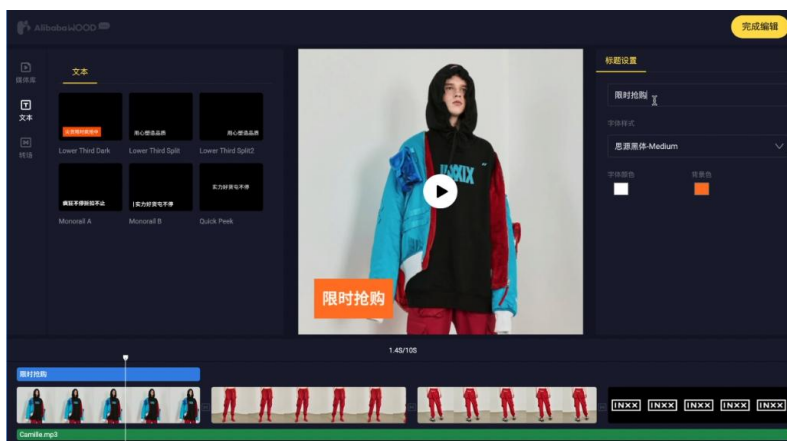
#### **3.2 Introduction to Alibaba Wood**

Alibaba Wood, also known as the intelligent director of commercial micro movies, is a commercial

short video advertising design and production tool developed by Alibaba Intelligent Design Laboratory. Based on intelligent image recognition technology and video generation technology, it is able to change the traditional way of video production, and enable users to complete the design and production of a large number of commercial films in a very short time, thus improving the working efficiency of users [12 ].



[Fig. 1] Alibaba Wood Homepage



[Fig. 2] Alibaba Wood User Interface

The four main functions of Alibaba Wood include script generation, intelligent text generation, automatic editing and music recommendation. After searching into the link of the commodity, the system could combine narrative shots according to the commodity style and selling points, sort out the main story line, generate scripts, complete editing, rendering and output. Based on personalized needs,

corresponding solutions will be provided. In addition, it's able to analyze complex information and present it visually, and understand the style of merchandise and automatically match the copyright music, provide a large number of video templates for promotional activities, which are suitable for the centralized placement and promotion of advertisements in all industries. The homepage and user interface of Ailibaba Wood are shown in [Fig. 1] and [Fig. 2].

### **3.3 Principle of Alibaba Wood**

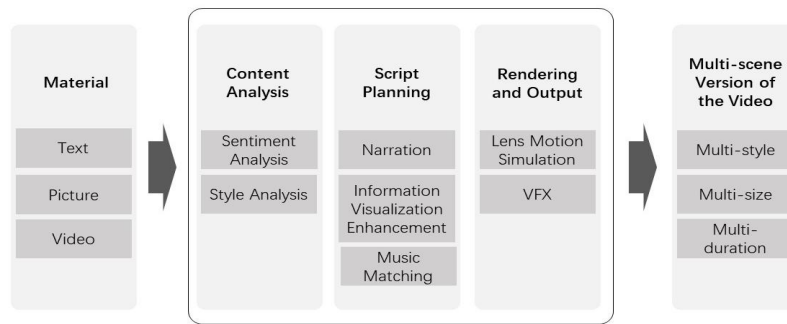
The application of deep learning in image and video is the foundation of intellectualized design. Based on the information such as pictures, characters and videos input by the user, it could automatically analyze the commodity content, plan the script, render and calculate, and generate commercial film that meets the needs of the user and professional standards.

In the process of content analysis, the emotion and style of the material content can be analyzed, which includes face recognition, still life recognition, composition recognition, scene recognition and video shot recognition. Through this process, representative pictures, high-quality shot video clips and key point copy content from the materials can be extracted, and the original material library can be build.

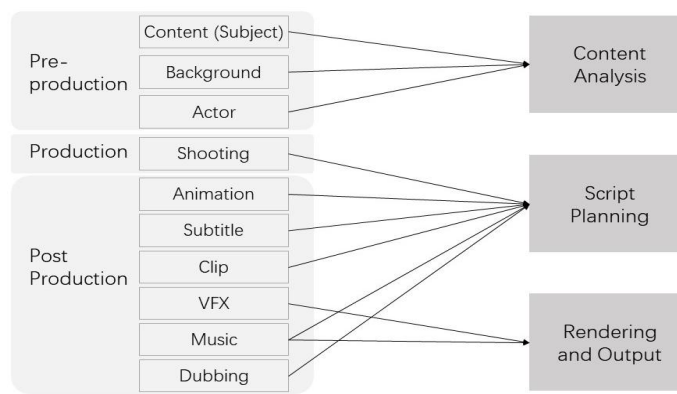
During script planning, Alibaba Wood combines the materials provided in the original material library into narrative shots, like the overall effect segment of the product, the detail segment of the product and the fast browsing segment of various styles. For some more abstract information, information visualization can be enhanced. Moreover, it is able to conduct commodity style analysis, such as fashion, youth and classicality, and provide users with 10 prefabricated styles. Through the understanding of the characteristics, it is able to analyze the music style and recommend the appropriate one, presenting a unified audio-visual experience.

In the stage of rendering and output, Alibaba Wood is able to determine the music transition position based on the combination of narrative shots, and simulate the movement of the shots to match the special effects. Finally, commercial films with various scenes, styles, sizes and durations of commercial film are generated. Its working principle is shown in [Fig. 3].

The production process of traditional commercial film mainly includes three stages: pre-production, production and post production. As shown in [Fig. 4], Alibaba Wood covers all elements of commercial film production.



[Fig. 3] Alibaba Wood Working Principle



[Fig. 4] Production Elements Mapping

### 3.4 Characteristics of AI Commercial Film Production

Alibaba Wood has three core characteristics including convenience, flexibility and intelligence. Compared with the traditional commercial film production, the application of AI has the main characteristics of simplicity, high efficiency and low cost.

Firstly, it is difficult for advertisers to deliver demanding information clearly and accurately. During communication, there will be some loss of information inevitably. The production requires professional shooting equipment and software. And professional production team including designers and engineers is also needed. The cultivation of skills needs professional courses and a long time. Advertisers need to learn and practice a lot of professional skills if they want to finish by themselves. Therefore, it is

difficult to achieve. However, AI has lowered the production complexity for commercial film. Only related materials were needed to generate advertisements automatically.

Secondly, traditional commercial film requires a long communication procedure between demanders and advertisers and a long period of material collection, shooting, editing and post-processing. However, AI extracts material information from the display page and completes the subsequent process automatically. The whole process can be completed in 1 minute. Therefore, AI greatly improves the production efficiency of commercial film.

Due to the high professional level and long production period, the traditional commercial film production cost will inevitably increase. However, AI can adapt to large and frequent updates of new products. Demanders do not need to bear the high cost in the traditional production process, only need to obtain the use qualification of AI tools, and can produce within a specific time period without being limited by the number of advertisements. The Semir's trial of Alibaba Wood shows that the cost of video production has been reduced by 90%, increasing the revenue by nearly one million yuan per month.

#### **4. Conclusion**

The prosperous development of the Internet has produced a large amount of data. The sum of data from all the past human times cannot compare with the volume of data generated in the Internet era. The explosively growing information has given birth various fields, such as big data and AI. Big data is to maximize the benefits of user information. Intelligent analysis of big data can realize effective prediction of user behavior, while AI can help to form a human-centered intelligent commercial film production and dissemination mode.

In the future digital media environment where IoT and AI is available, the production of commercial film would become more intelligent. AI can not only simplify the production process of commercial film, but also deeply explore the relationship between audience emotions and materials to create image content with emotional characteristics. AI video editing tools are regarded as an integral part of video marketing, which make the content more closely related to users. When producing videos, AI can be used to make data-driven decisions, and obtain more information content. These tools and the associated algorithms provide companies with stronger data access capabilities. However, the result of AI advertisement is relatively simple, and there are no complicated special effects and symbolic artistic expression methods at present.

At the first beginning, commercial films could only be produced by professional companies. However, with the development of software and hardware, a binary production mode of cooperation combining designers and engineers has gradually taken shape. Nowadays, video advertising can be performed by AI, designers and engineers. The professionalism of production is disappearing, and popular production is developing. AI has added strength to ordinary users, producing a variety of commercial film without professional skill straining. Therefore, the creation of commercial film can be more diversified.

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