

# Research on the Management Ecosystem Reconstruction of Internet Advertising Companies Empowered by Artificial Intelligence—Taking ChatGPT-like Products as an Example

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**Abstract:** *In the era of artificial intelligence-driven, the process of enterprise development and innovation is bound to be affected by emerging technologies. This paper takes the Internet advertising enterprises closely related to the development of technology as the research object, specifically studies and analyses the results of artificial intelligence (ChatGPT-like products), explores the risks and impacts of intelligence on the management ecology of enterprises, and tries to further provide ideas on the solution path and development opportunities. Through the discussion on the reconstruction of management ecology in the context of artificial intelligence, we hope to establish a sense of risk and social responsibility for enterprises, establish a multi-dimensional and flexible management system, so as to achieve long-term development in the changing times.*

**Keywords:** *Artificial Intelligence; Internet Advertising Enterprises; Management Ecology; Innovation and Change*

## 1. Introduction

In recent years, there has been a growing discussion on the combination of "AI+" and enterprise management updates. However, the current situation indicates that the pace of enterprise management and intelligent development is not consistent. Therefore, to promote the stable development of internet advertising companies in the face of technological changes, innovation is needed on the existing management basis. A comprehensive understanding of the challenges and opportunities brought by artificial intelligence can help companies effectively improve their management decision-making, enhance market competitiveness, and strengthen their ability to withstand risks. Based on this, this article discusses the dilemmas, opportunities, and management insights triggered by intelligence, in order to provide a theoretical foundation for the reconstruction and updating of the relevant enterprise management ecology.

## 2. Analysis of the current situation of the ecological development of Internet advertising enterprises in the era of artificial intelligence

### 2.1. Policy environment for Internet advertising industry releases favourable signals

The advertising industry is an important component of the national economy, characterized by a diverse market, a large number of small and medium-sized enterprises, and a large workforce, and it is closely related to the social environment. Therefore, fully unleashing the dividends brought by policies is an important means to ensure the stable, rapid, and high-quality development of the advertising industry.

Starting from the "Tenth Five-Year Plan," the development of online marketing and e-commerce was incorporated into the development plan of the advertising industry. And from the "Eleventh Five-Year Plan" to the "Fourteenth Five-Year Plan", further promoted the improvement of service supply and service quality in the advertising industry, security issues like information security and market supervision gradually emerged. From the tax support policies introduced in 2020 to the "Code of Conduct for Startup Screen Advertising in Mobile Internet Applications" issued in 2021, and the "Management Regulations for Internet Pop-up Information Push Services" formulated in 2022, the country's policies for the development of internet advertising involve both support and regulation,

closely following the pulse of economic and technological development.

The development focus in the coming years will mainly revolve around policy guidance, innovation-driven development, talent development, industry integration and upgrading. It is evident that innovation and healthy development are core topics that advertising companies need to focus on.

## ***2.2. The regulatory environment of Internet advertising companies***

### ***2.2.1. Reconstruction of industry chain and business model***

From Michael Porter's theory of the value chain, the development of advertising is dynamic, and the media, as the communication carrier, is closely related to technological updates and diversification of methods. This also indicates that the progress of digitization and intelligence will have an impact on traditional forms of advertising, and the roles in the industry chain will also change.

For advertisers, the focus of advertising purchases is gradually shifting from media to audiences. How to "touch" the audience's psychology more closely and communicate more efficiently has become a decisive factor in gaining a competitive advantage. For advertising media, the role of intermediaries is also shifting towards "platformization"<sup>[2]</sup>. The mobile Internet highlighting the need for automated resource allocation and consumption of surplus inventory. For advertising agencies, the challenge lies not only in the role of creative agents but also in the need for the drive of new technologies, given the resources and platform advantages of internet media.

According to Erwin (2011), the concept of a business model describes the value logic of an organizational value creation process. The core idea is to clarify the customer and the value to be provided to the customer<sup>[11]</sup>.

For internet advertising companies, their business models rely heavily on network technology and platforms for value creation and display. Li Qing (2019) believes that internet technology fundamentally changes the relationship between brands and consumers and also changes the relationship between enterprises and advertising agencies<sup>[7]</sup>. The traditional business model that was mainly led by advertising creativity and media placement has been shaken. Internet advertising provides tailored services to customers in a fast-food consumption environment.

### ***2.2.2. Thrust from HRM and organisational performance***

Unlike other industries that require a large amount of cheap and repetitive labor, the advertising industry is fundamentally based on the management and operation of specialized talents. Therefore, it is necessary to establish a systematic, scientific, and standardized human resources management system.

There are several issues with the current human resources management in Chinese advertising companies. Firstly, there is an emphasis on specialization while neglecting management. Human resources departments often have limited influence and are often parallel to business and creative departments. Secondly, the levels of practitioners vary, but the mechanisms for talent cultivation are somewhat outdated. Companies often prioritize the recruitment of outstanding talents, overlooking long-term training and development, resulting in short technical lifespans and high employee turnover. Over time, the overall talent structure and management system become unstable and imbalanced, resulting in talent gaps where positions are constantly vacant. Also, it is evident that human resources management is often linked to organizational performance, and a strong human capital can contribute to performance growth. For talent-centric advertising companies, human resources activities as a whole can enhance organizational performance (Lu, 2012)<sup>[8]</sup>.

## ***2.3. The business environment for Internet advertising companies***

### ***2.3.1. Innovation in marketing and operational strategies***

With the advent of the internet, marketing have become increasingly reliant on a data-driven mindset, as internet advertising must predict market demands and consumer preferences in order to reduce costs or risks, and adjust strategies through post-evaluation. Therefore, precise marketing and consumption are the core of business operations in the era of internet advertising.

At the same time, the advantages brought by the "Internet+" to advertising and marketing are irreplaceable. Firstly, internet has led to significant improvements in the speed of communication, expanding the scope of the audience, and increasing the level of engagement and interactivity. In other words, the internet has strengthened the interaction between different users and different pieces of

information, making the fundamental goal of advertising and marketing to connect the audience's attention with the product and deliver it with precision. Lastly, the convenience of information processing has made customer feedback more timely, accurate, and rich.

The operational strategies of internet advertising are essentially based on the elements encompassed in the aforementioned marketing principles. Firstly, focus on efficiently obtaining representative data during the initial research phase. Secondly, the process and objectives of advertising delivery are undergoing transformation. Subjectivity is greatly reduced in strategic planning, and the effective utilization of diverse channels and media based on internet resources and information becomes crucial. Thirdly, comprehensive evaluation of the entire advertising process is essential. Due to the complexity of the internet, a comprehensive evaluation system should be multidimensional and constructed in multiple indicators and perspectives.

However, the development of internet advertising currently lags behind the development of data intelligence. There are existing flaws in operational strategies, including outdated technology, underutilization of resources during delivery, incomplete comprehensive evaluation, and inadequate cost control. This calls for further innovation, technological integration, and transformative measures.

### ***2.3.2. The clustering effect of corporate culture and branding***

The development of advertising companies, both in terms of management and market, relies on the emphasis and promotion of corporate culture.

Firstly, the cultivation of corporate culture or the strategy of self-image promotion should align with the overall development strategy. Moreover, emphasizing corporate culture is also a reflection of management qualities and one of the paths to motivate employees. Secondly, for internet advertising companies, corporate culture serves as a solid foundation for brand promotion, directly influencing the attractiveness and profitability of products. Thus, creating a high-quality cultural brand is the most powerful advertisement that an advertising company can plan for itself.

However, at present, brand management are still in the exploratory stage. Some companies have a relatively weak consciousness of brand management, with more emphasis placed on product development and revenue. Furthermore, there are some misconceptions in terms of operation and practice. For example, focusing on short-term gains instead of long-term vision. In the ever-changing and complex landscape, advertising companies need to make significant efforts to depict a unique, dynamic, and influential brand image.

## **3. The Dilemma of Internet Advertising Companies in the Context of Artificial Intelligence**

### ***3.1. Squeeze on old business models and derived benefits***

Among all the industries that could be impacted by ChatGPT-like products, the advertising industry is undoubtedly at the forefront.

Essentially, ChatGPT is a new type of language model, and its pre-training and "contextual" learning characteristics have a significant impact on Internet advertising, especially search advertising. Fundamentally, users' purpose is to obtain answers rather than continuously searching through numerous web pages. ChatGPT-like products can provide question-and-answer services more quickly and efficiently, this also means that the number and scale of advertising spaces will be significantly reduced.

In the era of ChatGPT, another aspect of Internet advertising that is being challenged is e-commerce. The language system of ChatGPT can support customers in establishing conversational interactions with the platform in a more lifelike, humane, and descriptive manner, making the process of obtaining desired product results efficient and rapid. Similar to search advertising, this will reduce the opportunities and scale of advertising placement. From another perspective, if the communication capabilities of ChatGPT are leveraged, using digital technology and speed to provide intelligent "human-like" service becomes a reality, it will certainly replace some of the existing human customer service.

### ***3.2. Impact on the traditional development model and management tools of enterprises***

#### ***3.2.1. Substitution effects in the production and servicing of advertising***

ChatGPT-like products enable more effective human-machine interaction, which will inevitably impact the generation of original advertising ideas and marketing methods.

From a corporate perspective, the content production and management capabilities of ChatGPT can blur the existence of certain service providers. When ChatGPT-like products can perform basic tasks like image and video editing, creative concept generation, and promotional effectiveness testing, companies providing these specific services lose some competitive advantage.

From an individual perspective, media practitioners have conducted experiments related to advertising generation through question-and-answer sessions on platforms like Zhihu and Baidu, and the results have shown that ChatGPT can offer creative ideas or improvement paths. Furthermore, ChatGPT can assist in advertising editing and technical processing. It means that repetitive and simpler tasks will be replaced. In the long run, it will certainly lead to certain adjustments in the industry structure, making "structural unemployment" inevitable.

### 3.2.2. Artificial intelligence upgrades make human capital management more difficult

Human resource management is closely related to technological revolution, the emergence of ChatGPT-like products will increase the difficulty of managing human capital in enterprises.

Under the background of artificial intelligence, the psychological exhaustion caused by "machine anxiety" is likely to manifest in employees' daily work attitudes, efficiency, and work atmosphere. Existing academic research has shown positive correlations between employees' work engagement (Ge et al., 2021)<sup>[4]</sup>, performance (Feng et al., 2008)<sup>[3]</sup>, innovation performance (Zhang et al., 2022)<sup>[13]</sup>, and psychological capital in the AI era. For advertising companies, if employees are constantly immersed in a negative and anxious atmosphere, their sense of professional and collective responsibility will weaken, which will have an adverse impact on the organization's continuous innovation, development, and technological exploration<sup>[1]</sup>. Employee mood instability or lack of trust in their own careers will ultimately result in employee attrition.

## 4. Opportunities and condescending paths for AI-based internet advertising companies

The management challenges faced by Internet advertising enterprises in the era of artificial intelligence mainly focus on two aspects, namely, business model and management development(as shown in the figure).

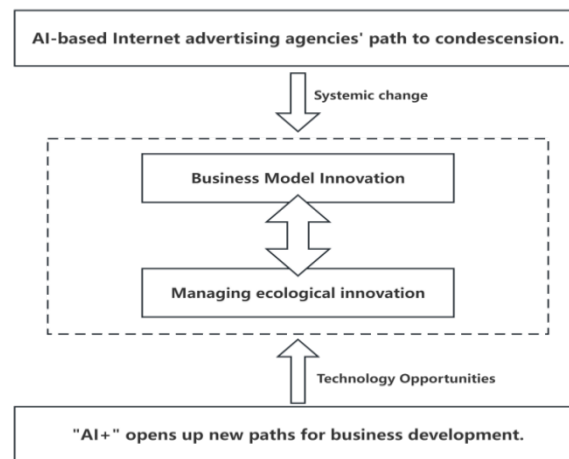


Figure 1: Research on Internet advertising enterprise opportunity condescending path of artificial intelligence

### 4.1. Innovation in business models

The "disruptive" logic of ChatGPT-like products comes from the deeper development of human-machine interaction. Innovation is a must for companies to cope with this impact, by adjusting and transforming the overall strategic layout, integrating new technologies and perspectives<sup>[9]</sup>, the short-term impact can be smoothly transitioned.

Take search advertising as an example. The pressure brought by ChatGPT comes from its model, which has the ability to organize and summarize information, not just collect and aggregate. It can replace the process of users "jumping" through web pages, which is fundamental to the

commercialisation of search services. Simplifying it means reducing the corresponding monetization benefits. Therefore, internet companies can reconstruct a more fitting commercialization method to minimize losses in the current state of the jumping function being disrupted.

The total revenue and growth rate of internet advertising has been declining since 2012. This indicates that their business strategies were already showing signs of ineffectiveness before the advent of ChatGPT. This is due to the impact of the global economic environment and the rapid expansion in the early stages was unsustainable. From this perspective, the arrival of ChatGPT is an opportunity to eliminate old problems and explore innovations. This is why existing major internet companies are all engaged in the competition of artificial intelligence.

## ***4.2. Innovations in management ecology***

### ***4.2.1. Adjustment of management system structure***

Internet advertising companies need to update their internal management systems to adapt to technological changes, primarily through "flexibility", which involves adaptive development and flexible utilization.

In simple terms, the focus should be on purpose over process. For example, advertising proposals are no longer solely based on creativity but emphasize the completion of the ultimate task—the advertiser's business objectives<sup>[5]</sup>. Therefore, problem-solving methods may revolve around creativity, technology, media, or marketing. To some extent, specific tasks may not necessarily be carried out by designated departments, but rather a variety of approaches may be explored by bypassing rigid processes. Additionally, it is worth mentioning that the introduction of intelligence technology brings changes in budgeting, pricing, training costs, etc., which require companies to construct new financial management models. For example, they can make short-term concessions to accumulate a large customer base or explore new approaches to enhance product value, thus creating room for price increases.

In conclusion, the management systems need to keep pace with technological developments and seek more suitable and flexible approaches.

### ***4.2.2. Strategic management of human capital***

Innovation and incentives are mutually reinforcing interactive relationships, in method design, managers should pay attention to ensuring the amplification of the value of human capital in both concept and system. Yao Xi (2009) empirically verified that the stronger the incentives, the greater the effectiveness of human capital can be realized<sup>[12]</sup>. Incentive mechanisms within organizations generally exhibit the characteristic of diminishing marginal utility. This means that continuous improvement and upgrading are necessary to continuously empower human capital. So, internal incentives should be established and continuously consolidated within the organization, avoiding simplistic understanding and treatment.

In Liu et al.'s study (2022) on manufacturing companies, it was found that the perceived sense of supervisor support among employees helps to alleviate AI anxiety by increasing their psychological resilience<sup>[10]</sup>. The incentive atmosphere created by managers and a positive corporate culture can help employees develop more interest in learning, thereby reducing AI anxiety related to job replacement. The effects of incentives make employees feel more responsible and committed, leading to a sense of self-efficacy. This feeling can serve as a positive influencing factor, affecting employees' job security and well-being (Feng et al., 2008)<sup>[3]</sup>.

Certainly, the incentivization and stabilization of human capital will promote the construction of a trust mechanism for AI technology from the perspective of the enterprise.

## ***4.3. "AI+" opens up new paths for enterprise innovation and development***

### ***4.3.1. Dual innovation perspectives on production and management***

In terms of advertising production, artificial intelligence offers a new perspective by encoding massive amounts of information and employing divergent thinking, enabling the use of programmatic creativity for automated, scalable production. More processes can be supervised and controlled by intelligent systems, allowing managers to shift their focus from detailed supervision to overall data and results.

Regarding consumer insights, the integration of intelligence with production and operations enables

automatic analysis of product demand and completion of production plans. It may not only meet the diverse needs of target customers but also stimulate or uncover new customer demands, enabling expansion of advertising reach. The deepening of human-machine interaction increases the feasibility of providing personalized services.

In the decision-making process, advanced information and data processing can help managers discover more connections and enabling transformations in various aspects such as customer demands, product ideas, and product tracking. This applies not only to changing decision content but also influencing decision-making methods. For example, utilizing network technology to integrate multiple systems to build cloud-based enterprise service systems.

In conclusion, managers need to be sensitive to industry trends. They must be willing to reform and experiment, integrating new technologies into production or operational processes<sup>[6]</sup>. They should also have a long-term vision, using innovative thinking to create an intelligent and contextualized overall customer experience, rather than being limited to independent changes in different parts.

#### **4.3.2. Management decision-making requires a balance of boldness and caution**

At the recently concluded Interactive Advertising Bureau (IAB) Annual Leadership Meeting and AdExchanger conferences in 2023, one of the key focuses highlighted was the future development of digital advertising should pay attention to industry responsibilities, ethics, and safety concerns.

Internet advertising companies should incorporate social responsibility into their strategic planning. In terms of economics and law, the basic principle is to comply with regulations and market order. Due to the nature of the internet, advertising companies should refrain from engaging in monopolistic or illegal profit-seeking behaviors. Ethically, internet advertising should first and foremost respect and protect users' privacy rights and choices, respect local culture in advertising creation and delivery, and be sensitive to social issues. Regarding discretionary responsibility, in addition to voluntary charitable actions or assuming responsibilities, managers should pay special attention to employees' well-being, such as training, welfare, or career development plans.

In the era of artificial intelligence, whether it is an internet advertising company or any other enterprise, while wielding authority over technology, they must also assume the correct role in social responsibility.

## **5. Conclusion**

In conclusion, the continuous development of artificial intelligence brings challenges for management, new market structures and development paths for businesses, not only in the advertising industry. Managers should approach the role of technological advancements in corporate transformation with caution and openness. They should embrace innovative management philosophies to incorporate intelligence into the processes of production and management. Exploring the impact and opportunities brought by the development of artificial intelligence on the corporate ecosystem is essentially seeking insights similar to those revealed by technological advancements for business management. After all, both disruptions and opportunities are transient, and drawing strength from change is the unshakable truth for sustainable business development.

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