

# Research on Intelligent Advertising Precision Placement in the New Media Era

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## Abstract:

In the era of new media, advertising placement has undergone a revolutionary change from the traditional mass push to personalized intelligent advertisement precise placement. The intelligent advertising precision placement strategy, based on the 4I theory, has significant advantages in the new media era. By incorporating the principles of amusement and interactivity, immediacy strategy, and personalization strategy, brands can enhance user engagement, improve the communication effect of advertisements, and achieve higher conversion rates and return on investment (ROI). The findings of this study hold great importance for brands' advertising strategies in the new media era.

**Keywords:** Advertising Precision Placement; New Media; 4I Theory

## 1. Introduction

With the widespread use of the internet and mobile devices, people's information acquisition and consumption behaviors have undergone dramatic changes. In the past, advertising information was primarily received through traditional media such as television, radio, and print media. However, with the internet's popularity and the emergence of social media, digital media has become the primary source for information and communication. This shift presents both unprecedented opportunities and challenges for advertising. Traditional mass advertising push is no longer sufficient to meet the advertisers' and marketers' needs for precise and efficient ad delivery. Large-scale ad push struggles to accurately target and reach the desired audience, resulting in ineffective ad delivery. Furthermore, people have become more immune to ads, resulting in low exposure and click rates. As a result, advertisers and marketers must adopt more accurate and personalized ad delivery strategies to improve the conversion rate and return on investment (ROI) of their ads.

Intelligent advertising precision delivery strategy, based on the 4I theory, has become a focal point for many companies. This theory emphasizes the principles of Interesting, Interests, Interaction, and Individuality. Its goal is to enhance the effectiveness of ads and improve user experience by precisely identifying the target audience, providing valuable interactive experiences, dynamically adjusting ad content, and personalizing recommendation services. The core essence of this strategy lies in leveraging advanced technologies and algorithms, such as big data analytics, artificial intelligence, and machine learn-

ing. These tools enable in-depth mining and analysis of user data, which helps to understand users' interests, preferences, and behaviors, thereby facilitating more accurate delivery of advertisements. By employing personalized ad content and customized ad formats, it is possible to increase the click rate and conversion rate, leading to better advertising results and return on investment. In the era of new media, intelligent advertising precision placement strategy, based on the 4I theory, has gained recognition and adoption by advertisers and marketers. By accurately targeting the desired audience and providing personalized ad content and experiences, this strategy effectively improves the conversion rate of ads and increases brand exposure and influence. Consequently, the intelligent advertising precision placement strategy has become a vital tool for enterprises to achieve their marketing objectives in the new media era.

By adopting the intelligent advertising precision placement strategy based on the 4I theory, brands can enhance their brand image and exposure. Traditional advertising methods often lack personalization and fail to resonate with the target audience, resulting in a lower brand impact. However, by leveraging the principles of Interesting, Interests, Interaction, and Individuality, intelligent advertising can deliver tailored and engaging ads to specific individuals or user segments. This personalized approach not only increases the likelihood of users paying attention to the ads but also helps create a positive brand image and improves overall exposure. Through the intelligent advertising precision placement strategy, advertisers can more precisely target their desired audience and effectively convey a personalized brand image and value proposition. By

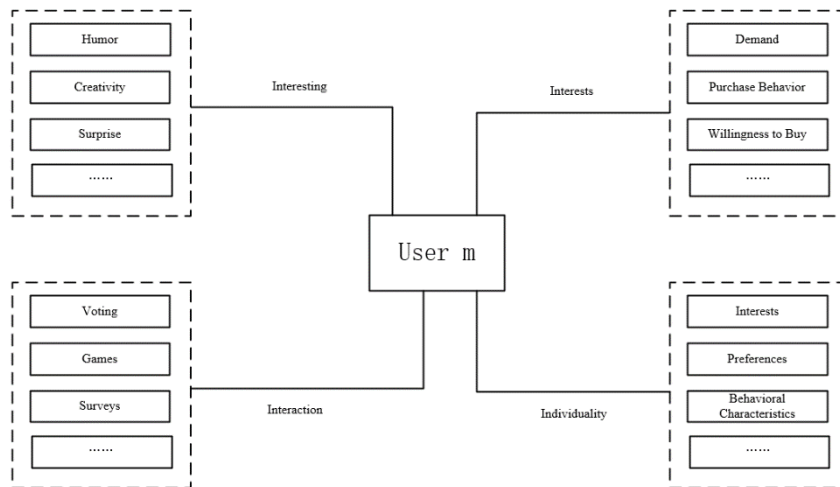
utilizing precise placement and personalized recommendations, brands can establish stronger connections with their target audiences, resulting in increased brand exposure and influence. Furthermore, this strategy allows for the optimization of advertising campaigns and resource allocation. The intelligent advertising precision placement strategy is built upon the 4I theory, which relies on data analysis and intelligent algorithms to monitor and adjust the effectiveness of ad placement in real time. Through data analysis and optimization, advertisers are empowered to make more informed decisions and effectively manage ad placement, as well as allocate resources in a more rational manner, ultimately improving the overall efficiency and effectiveness of their advertising efforts. The significance of this study lies in its ability to provide advertisers and marketers with practical guidance and hands-on experience in implementing the intelligent advertising precision placement strategy based on the 4I theory. By thoroughly examining the principles, methods, and case studies associated with this strategy, advertisers and marketers can better target their desired audience, enhance the conversion rate and return on investment of their advertisements, and achieve sustainable progress towards their

marketing objectives.

The rest of the paper is organized as follows. Section 2 presents review of relevant literature and research, including cases of application of the principles of Interesting, Interests, Interaction, and Individuality in advertising placement and evaluation of their effectiveness. Section 3 examines specific ad delivery platforms and tools, such as big data analytics, interactive ad formats, real-time data analytics, and personalized recommendation services, to demonstrate the effectiveness and benefits of these strategies in real-world applications. And section 4 contains case studies. Section 5 concludes and anticipates the future trends.

## 2. The Influence of Western Music on Chinese Zither Music

The 4I theory is a theory about integrated marketing, originally proposed by Don Schultz. In the era of big data, consumers play an increasingly important role in the communication system. The 4I theory consists of four core elements: interesting, interests, interaction, and personality [1]. As shown in Figure 1.



**Figure 1. 4I characteristics of individual users**

Interesting focuses on the creation of captivating and interesting content that captures consumers' attention. In advertising, the principle of interesting involves using entertaining and engaging content to grab the user's attention. By incorporating techniques such as humor, creativity, and surprise, advertisements can be designed to be intriguing and arouse the curiosity and interest of users. This can lead to increased user interaction and engagement with the ads, making them more memorable and appealing [2]. Additionally, interesting ad content helps to establish a positive brand image. Businesses must be mindful of con-

sumers' interest and curiosity in order to offer products or services that genuinely captivate and engage them [3]. Interests highlight the importance of companies satisfying the interests and needs of consumers. Understanding the needs of consumers and providing personalized solutions is key to winning their favor. The principle of interests emphasizes tailoring advertising content to the specific interests and needs of users [4]. By gaining a deeper understanding of the preferences, needs, and purchasing behaviors of the target audience, advertisements can present users with products or services that genuinely interests or

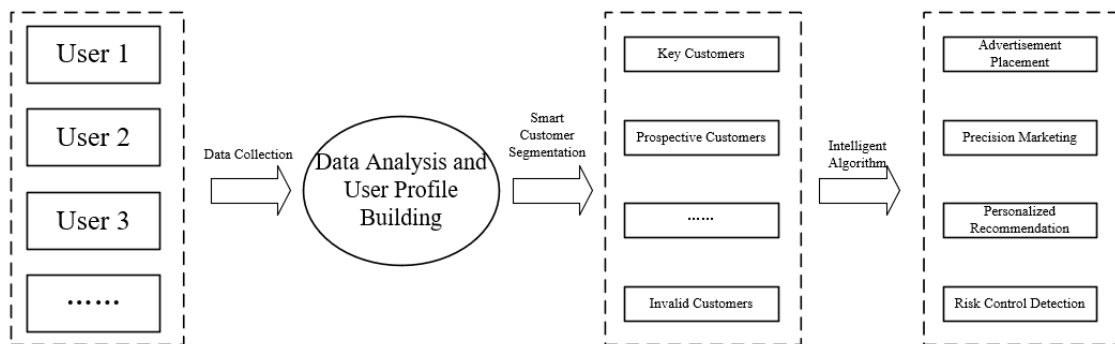
benefit them. By leveraging technologies like big data analytics and personalized recommendation algorithms, ads can deliver information that is relevant to users <sup>[5]</sup>. This personalized and customized ad content can enhance the relevance and conversion rate of the ad, thereby increasing the user’s willingness to engage and make a purchase. Interaction focuses on the reciprocal communication between businesses and consumers. Through engaging with consumers, companies can gain a better understanding of their needs and foster long-term relationships <sup>[6]</sup>. The concept of interaction holds significant importance in advertising as it enhances user engagement. Advertisements can be designed to encourage active user participation through interactive features such as polls, games, and surveys. These interactive elements heighten user interaction and involvement with the advertisement, leading to improved retention and spread of the advertising message. Interactive advertising may also amplify word-of-mouth effects, brand exposure, and influence <sup>[7]</sup>. Individuality underscores the significance of personalized marketing. Companies must tailor their marketing strategies to the unique characteristics and preferences of consumers, ensuring they feel valued and cared for. The principle of personalization emphasizes customizing advertising content according to individual users’ needs and behaviors <sup>[8]</sup>. By gaining a deeper understanding of users’ interests, preferences, and behavioral patterns, and employing personalized recommendation algorithms, advertisements can deliver tailored messages to users. Personalized and customized advertisements can boost click rates, conversion rates, and user awareness, leading to increased brand loyalty <sup>[9]</sup>. The 4I theory emphasizes the central role consumers play in the communication system, requiring marketers to shift from the traditional “hunting” approach to a more targeted “fishing” approach. In the traditional hunting approach, marketers actively push advertisements to consumers,

whereas the fishing approach focuses on understanding consumers’ interest, needs, and behaviors in order to attract potential customers through personalized interactions and precise communication. The 4I theory is crucial in achieving precise marketing communication. By grasping consumers’ interest and needs and providing engaging content and tailored solutions, marketers can more accurately target their audience, minimize advertising waste, and increase the return on advertising investment (ROI). Therefore, by implementing the 4I theory, marketers can effectively engage with consumers, address their needs, and deliver personalized services, ultimately leading to greater ROI in precision marketing communications.

### 3. Application of Precise Advertising Strategy

#### 3.1 Big Data Analysis and User Profile Building

Through the collection and analysis of extensive user data, advertisers can gain a comprehensive understanding of the target audience’s interest, preferences, and purchasing behaviors. Simultaneously, they can create detailed user profiles. These profiles enable precise targeting of the audience, ensuring the provision of relevant advertising information based on their specific preferences and needs. As shown in Figure 2. By collecting, integrating, and analyzing data, alongside utilizing model building and algorithms, advertisers can thoroughly comprehend various aspects of their target audience. This allows for the segmentation of the audience into distinct groups and the customization of personalized ad content. By continuously updating and optimizing user profiles in real-time, advertisers can consistently deliver the most accurate and effective advertising information. This approach enhances the appropriateness and appeal of advertisements, ultimately increasing user engagement and purchase intent.



**Figure 2. Application of big data analysis and user profile establishment with precise advertisement placement strategy**

### 3.2 Innovation of Interactive Advertising Forms

To enhance user engagement, advertisers can employ innovative and interactive forms of advertising, such as voting, games, or lucky draws. These interactive elements encourage users to actively participate in the content of the ads, fostering greater interaction and engagement<sup>[10]</sup>. Additionally, incorporating the principles of entertainment, advertisers can create intriguing and captivating content to pique users' curiosity and generate interest. This approach entices users to actively engage with the ads, boosting their attention and retention, thereby improving the overall effectiveness of the advertising campaign. By embracing interactive formats and designing compelling content, advertisers can effectively captivate users' attention, encourage participation, and amplify the impact of their interactive advertising efforts.

### 3.3 Real-Time Data Analysis and Intelligent Algorithm Application

By leveraging real-time data analysis and intelligent algorithms, advertisers can effectively segment their target audience into distinct groups, each with similar interest and behavioral traits. This precise audience segmentation enables advertisers to gain a deeper understanding of the needs and preferences of different groups, enabling them to deliver more personalized advertising messages. Moreover, by accurately targeting and placing ads based on these audience segments, advertisers ensure that their content remains highly relevant and captivating, driving increased engagement and purchase intent. Audience segmentation also facilitates a better understanding of the behavioral patterns exhibited by different groups, enabling advertisers to craft more targeted advertising strategies. Ultimately, through this meticulous targeting, advertisers can enhance the effectiveness and conversion rate of their advertisements, while simultaneously maximizing satisfaction among diverse target audiences.

### 3.4 Realization of personalized recommendation service

Personalized recommendation services are achieved by leveraging the principle of individuality to tailor advertising content to the specific needs and behaviors of users. This can be accomplished through user profiling, big data analysis, and personalized recommendation algorithms<sup>[11]</sup>. Firstly, user data on interest, preferences, and behaviors is collected and analyzed to create a user profile. Then, utilizing big data analytics and machine learning algorithms, the user data is processed and explored to identify

personalized needs and behavioral patterns. Based on these analyses, relevant and suitable advertising content is recommended to users. Through this personalized recommendation service, the relevance and conversion rate of advertisements can be boosted, as the content aligns closely with users' needs and interest. Additionally, personalized recommendation can foster user awareness and loyalty to the brand, as users feel a sense of personalized attention and care from the brand. Implementing personalized recommendation services enables advertisers to enhance the effectiveness and efficiency of their ads while improving user experience and satisfaction<sup>[12]</sup>.

## 4. Case Study of Intelligent Advertising Precision Delivery

### 4.1 Case Statement

As a short-video social application, the Douyin platform has a large user base and advertising advantages. This paper selects typical advertising cases of Douyin advertising placements for analysis. In 2019, Wanglaoji's "Open a Beautiful and Auspicious Year" challenge campaign on Douyin is a very representative case. Through this campaign, Wanglaoji successfully utilized the advertising and user interaction functions of the Douyin platform to attract a high level of attention and achieve effective brand dissemination.

During the campaign, Wanglaoji made a strong appearance on users' mobile screens through Topview ads, which caught users' attention. The Topview ad played a 3-second video with sound and pictures, featuring @DaiGuLaK's dynamic dance moves accompanied by the soundtrack "Lucky Luck," along with the brand's dynamic stickers. The engaging content of this full-screen video captured users' attention, leading them to Wanglaoji's video homepage.

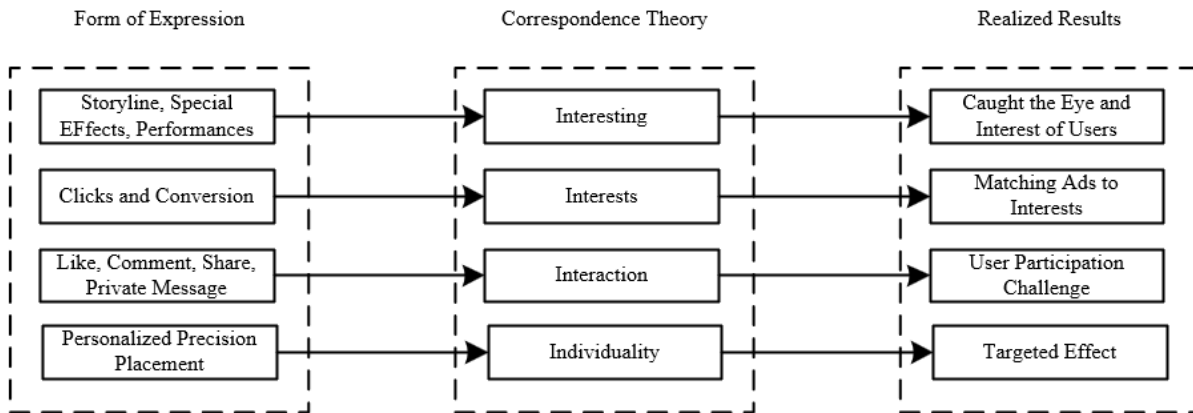
On Wanglaoji's video homepage, users had the opportunity to participate in the Shake Shack vertical screen co-creation contest and interact with Zhou Dongyu's advertisement. Users could use the designated music, "Lucky Luck Dangtou" and branded stickers to participate in the challenge. They were required to post a video with the topic "Kick off a Wonderful Auspicious Year" and the deadline for the challenge was January 16th at 23:59. Users who met the campaign requirements and ranked in the top 10 in terms of the number of likes could receive a New Year's gift package from Wanglaoji valued at 1,000 RMB.



### 4.2 Case study based on 4I theory

In this typical case, Douyin has successfully captured the attention of the brand and user participation through various strategies. As shown in Figure 3, first and foremost, Douyin focuses on captivating advertising content. By utilizing compelling storylines, innovative special effects, and engaging performances, Douyin attracts the attention and interest of users. For instance, in the case of Wanglaoji, dynamic dance moves and soundtracks were utilized to create captivating videos. These entertaining advertisements are more likely to resonate with users, fostering brand visibility and influence. Secondly, Douyin achieves ad-user interest alignment through personalized recommendation algorithms. By analyzing user behaviors and interactions, Douyin understands users' areas of interest and delivers the most relevant and appealing ads. This personalized placement strategy not only boosts click rates and conversions but also enhances user satisfaction.

Thirdly, Douyin encourages interaction between users and ads, offering a wide range of interactive features. Users can engage through actions such as liking, commenting, sharing, and private messaging, which increases their interaction and involvement with the ads. The challenge mechanism, in particular, has proven to be successful in actively engaging users in brand interactions through their participation in challenges, further bolstering the effectiveness of brand communication. Finally, Douyin recognizes the individuality of each user and is committed to personalized ad placement. Through data analysis and user profiling, ads are strategically placed based on the characteristics and preferences of different users, making the content more targeted and effective. This personalized placement approach allows users to be presented with ads that align with their needs, enhancing their recognition and acceptance of the advertisements.



**Figure 3. Douyin Ads Precision Placement Strategy Map**

The strategic placement of Douyin advertising offers clear advantages over traditional advertising in the new media era. Firstly, Douyin ads can incorporate elements of interesting and interactivity, creating engaging and interactive content that grabs users' attention and encourages their involvement. This, in turn, enhances the effectiveness of the advertisements. In comparison to traditional ads, Douyin ads are better equipped to capture users' attention by leveraging popular and interesting elements and formats on the platform. Secondly, Douyin advertising embraces the principles of individuality and interest, utilizing users' behavioral data and preferences to achieve precise targeting and deliver advertisements to users who have a potential interest. By leveraging users' browsing history, liking behavior, and other information, Douyin can more accurately match advertisements with target audiences, providing a more relevant and personalized advertising

experience. In contrast to the broad reach of traditional ads, Douyin ads can effectively reach specific user groups, subsequently improving the conversion rate and return on investment (ROI) of the advertisements. In summary, the precise placement of Douyin ads based on the 4I theory allows for the utilization of these principles to enhance user engagement, improve the effectiveness of advertisements, and achieve more accurate targeting of the desired audience. In the new media era, Douyin advertising can yield more favorable advertising outcomes.

### 4.3 Intelligent Advertising Precise Placement Defects

With the assistance of powerful engines and robust data network systems, smart advertisements preserve the essence of computational advertising, enabling the monetization of both traffic and data. However, despite being

labeled as “accurate”, smart ads do have some deficiencies in terms of frequency, layout, content, and delivery format. These issues can be attributed, in part, to the rapid advancement of technology, certain areas of immaturity, and the limited utilization of data thinking by marketers and advertisers in addressing these challenges.

Against this backdrop, the utilization of modern technologies like artificial intelligence has become increasingly important. It is crucial to imbue advertisements with greater “intelligence” and enhance the delivery process. To achieve this, continuous reinforcement of technological elements is necessary, alongside the optimization of precise placement strategies and a thorough understanding of appropriate timing and frequencies. By leveraging artificial intelligence technology, advertising can bring added value to the audience in terms of information delivery precision, accuracy, entertainment, and sociability. Such intelligent advertising will also conform to the evolving demands of social civilization.

Through smarter advertising, consumers can access information that aligns, needs, and desires, thereby enhancing their overall experience and engagement. Advertisers can also benefit from this by efficiently engaging their target audience and improving conversion rates and the effectiveness of advertisements through precise placement and personalized content. However, there are several challenges that must be addressed to fully realize the widespread popularity and mature development of smart advertising. These challenges include safeguarding data privacy, ensuring algorithmic fairness and transparency, and optimizing user experience. Only when these issues are adequately resolved can smart advertising truly unlock its potential and be more widely employed.

## 5. Conclusion and Prospect

The intelligent advertising precision placement strategy based on the 4I theory offers significant advantages in the new media era. It incorporates the principles of fun and interactivity, which can boost user participation and the effectiveness of advertisement dissemination. By incorporating interesting elements and interactive functions into advertisements, it captivates users’ attention and fosters interaction. This, in turn, enhances the communication effect of advertisements. The immediacy strategy ensures the real-time and accurate delivery of advertising information. One characteristic of new media platforms is the instantaneous transmission of information, and the Douyin platform is capable of adjusting and optimizing advertisements based on users’ real-time behavior and data. This feature guarantees that advertising messages are presented accurately and promptly, thereby maximizing advertising

effectiveness.

A personalized strategy can provide a more relevant and engaging advertising experience, resulting in increased conversions and return on investment (ROI). The Douyin platform employs personalized recommendation algorithms and user profiling to match ads with users’ preferences. This personalization strategy enhances the relevance of ads, making users more receptive to and engaged with the advertisements. It ultimately improves the conversion rate and ROI of the ads. Consequently, the intelligent advertising precision placement strategy based on the 4I theory offers substantial advantages in the new media era. By incorporating the principles of fun and interactivity, the immediacy strategy, and the personalization strategy, brands can enrich user engagement, enhance the communication effect of advertisements, and achieve higher conversion rates and ROI. The findings of this study have significant implications for brands’ advertising strategies in the new media era.

Although current artificial intelligence has some deficiencies and its effect on ad placement is somewhat limited, its potential is immeasurable with the deep development of intelligence. In today’s digital era, consumers exhibit more personalized and proactive characteristics. They are no longer passive recipients of media indoctrination, but individuals with the ability to think and make judgments. Consumers now seek higher value acquisition. To achieve precise ad placement, it is crucial to leverage network technology, enhance the intelligence of ads, optimize the process of precise placement, and gain a deeper understanding of consumers’ psychological level. By establishing a more effective model for intelligent advertising precision placement, we can create a superior consumer experience. Therefore, in future development, further research and investigation combining advanced technology, data analysis, and thorough examination of user psychology will be necessary to continuously enhance the precision and personalization of smart ads. By meeting the growing demands of consumers and delivering more appealing and valuable advertising messages, we can drive innovation and progress in the advertising industry.

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Shake Yin Jitterbug and Jitterbit can all mean “Douyin”. I have harmonized them in the text.

Topview is a term commonly used to describe the act of viewing an object or scene from a top perspective or an overhead vantage point. This term is often associated with drawings or photographs that depict an object from directly above, offering a comprehensive view of its top

side. Additionally, in certain cases, Topview can also refer to specialized software or tools that enable the generation or rendering of images or models from a top perspective. These tools are frequently employed in industries such as architectural design, urban planning, and automotive design, as they enhance the understanding of an object or scene’s overall layout and spatial relationships. It is worth noting that the precise meaning of “Topview” can vary depending on the context. Consequently, its definition and usage may differ in specific applications or domains. Therefore, in your particular context, “Topview” may possess a distinct meaning and purpose.

**Interesting:** Interest usually relates to the degree to which an individual is interested in a particular subject, field or activity. It reflects a person’s curiosity, level of involvement and commitment to something specific. Interest can be intrinsic to the individual or can be caused by external factors. Interests can develop and change over a given period of time.

**Individuality:** Individuality refers to a person’s unique traits and personal characteristics in thinking, behavior, and emotions. It reflects a person’s uniqueness, personal style and behavior. Personality is closely related to an individual’s personality, values, cognitive style, etc., and is a relatively stable and lasting characteristic.

Although “Interest” and “Individuality” can be related to each other, they are conceptually different. Interest” emphasizes people’s interest in and commitment to a particular thing, while “Individuality” emphasizes the uniqueness and personal characteristics of an individual.

For specific applications in advertising, please refer to section 2.

I have added content to the meanings represented in Figure 3 respectively.