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Utilize the Relationship Between Artificial Intelligence (AI) on Short Video Platforms and User's Self-conception to Guide Marketing Strategies

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Abstract: Artificial intelligence is widely used in social media. When users use social media, AI has a positive or negative impact on users' self-perceptions. 2022 Jeff Hancock's crystal framework theory of algorithms indicates that short video platforms influence users' self-perceptions: know me well, real self, and community. The primary purpose of this study is to establish the relationship between artificial intelligence on social media and users' self-perceptions by drawing on Jeff Hancock's self-concept theory. The relationship between the two can be used to optimize the existing marketing strategy of advertising products on social media and to optimize the experience of social media users while effectively promoting the marketing products positively.

Keywords: Chinese, social media, AI, marketing strategy, self-conceptual

1. Introduction

The impact and use of social media are proliferating. According to "Social Media - Statistics and Facts," released on June 21, 2022, there will be 4.6 billion active social media users worldwide, with a global media penetration rate of 58.4% by 2022 [1]. since 2000, people have shifted their primary means of accessing information and entertainment to the Internet, and more and more consumer behavior is occurring on the Internet. For this reason, advertisers have gradually increased their efforts to advertise on the Internet. However, most Internet users have a negative attitude when they hear about "advertising." The constant pop-up ads, long ad wait times, and misplaced ad push seriously affect the experience of using social media applications. Social media users perceive ads as an endless sales pitch for their interests. However, do social media users dislike ads? Through secondary research, studies have found that cumulative usage of social networking sites positively correlates with shopping activity [2]. Social media facilitates online shopping while bringing convenience to platform users' shopping. Through interviews, the analysis found that social media users are eager to see products/items that match their interests and daily needs and allow them to make their own choices. When purchasing products, media users are more interested in real scenarios and honest reviews from other users than product information and are eager to communicate and share their experiences.

The world's largest social media market is in China, but traditional forms of advertising are not positively affecting social media in China. Research has shown that online users with higher income

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and education have more negative attitudes toward online advertising behavior. This is because these online users believe that advertisements' content is incompatible with belief values [3]. How do people subtly accept advertisements and make purchases on social media? This is the central question of this paper. Jeff-Hancock proposed a concept to study how social media shape users' self-concept [4]. Since the Chinese version of TikTok is prevalent in China and already has over 600 million daily users, this study attempts to combine the two and examine whether Hancock's concept can be applied in the Chinese context. Through in-depth interviews, it was found that AI technology in short video platforms influences users' self-perception through three steps. 1) "know me well," which accurately predicts users' interests. 2) "real self" allows users to select and discard video content. 3) "community" creates a space for users to interact with others. This paper has two core questions 1) How does AI on short video platforms affect users' self-conceptual? 2) How do the relationship between AI on short video platforms and users' self-concept help improve marketing strategies

2. Literature Review

The secondary research focuses on 1) the application of artificial intelligence in social media (short video platforms), the self-perception of users in social media, and the connection between the two. 2) an attempt to use the relationship between the two to create a set of advertising strategies that can be embedded in short video platforms. 3) the design of a research plan applicable to this paper.

2.1. Applications of AI in Social Media

The development of artificial intelligence has gone through five stages. The latest stage of AI is deep learning, which is a process of continuous optimization and iterative enhancement. This process is consistent with human behavior patterns, where people acquire knowledge of the external world through their senses, make decisions, and optimize them with feedback from the external world [5]. Artificial intelligence is the same, based on a large amount of data, and the machine can learn profoundly and autonomously to make optimal decisions. How will artificial intelligence be applied to social media? Artificial intelligence comes in many forms, but the essence of artificial intelligence in social media is algorithms. The entire process of AI in social media is based on algorithms that allow machines to learn and make decisions automatically. The most significant difference compared to traditional media is that content is organized and presented based on relevance and interest. What users see, first and later, is determined by the algorithms of the platform's algorithms. This type of learning AI is often embedded and invisible, relying on data collected from users' interactions on the platform to analyze and evaluate data about them. For example, the TikTok short video app was launched in September 2016. The platform records user behavior data such as viewing, sharing, liking, tagging, clicking, and retweeting on the social media platform, accumulating and updating it over time. The TikTok platform algorithm filters and pushes content that matches the user's interests based on the user's data, forming personalized recommendations for that user.

In addition to personalized recommendations for the platform's target users, the use of AI in the platform can effectively help advertising and public relations departments deliver ads accurately and collect feedback on advertisers' behaviors to improve the effectiveness of advertising campaigns. However, the positive attitude of potential target users toward the advertised product/program cannot be obtained from the ad content, thus promoting the target users' desire to purchase the product. Relying on the existing artificial intelligence technology in social media, creating a set of advertising strategies embedded in social platforms to achieve effective marketing is the focus of this study.

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2.2. Jeff Hancock's Theory of Self-conceptual

Jeff Hancock's paper on how user self-perceptions is shaped by social media focuses on the relationship between user self-perceptions and algorithms (personalized recommendations) on the TikTok platform [4]. The study proposes a new conceptual model, the "crystal framework of algorithms." Algorithms play an influential role in many aspects of people's daily experiences. Folk theories can be thought of as a collection of perceptions of algorithms that influence people's behavior when interacting with these systems.

The "crystal framework of algorithms" consists of three main elements.

1) **Know me well**. TikTok users generally perceive themselves as multifaceted, dynamic individuals whose interests and identities are not static but expand and change over time.

2) **Real self**. TikTok's algorithms push content to users based on data about their interactions with the platform, which is of genuine interest to them.

3) **Community**. The other users that users view on the TikTok platform through personalized recommendations relate to the users themselves because they recognize that part of themselves reflected in other users and experience a fleeting relationship with similar group connections. For example, they follow the same bloggers or comment on the exact words.

However, there are some limitations to this theory. 1) Location limitations. The location of users in the study was a factor in personalized content recommendations, so understanding how participants experienced TikTok in different geographic regions, especially internationally, is an important area for future work. 2) Limitations of survey participants. When recruiting participants, no prerequisites were added for how they used TikTok, only that they had to be active users. In addition to content consumption, participants included a small number of content creators who receive more sources of feedback (e.g., comments or likes on videos) than those who primarily consume content, potentially exacerbating the impact of self-perception. In this study, TikTok users were used as the target users for this study. According to L. Ceci's "TikTok-Statistics and Facts," published on April 8, 2022, 25% of TikTok users are women aged 18 to 35 years old as of January 2022 [6]. To control for variables and reduce the influence of environmental factors and geography on the study results, the study participants were from China.

2.3. Conclusion

Through secondary research, this study defines the application of AI on social media as algorithmic (personalized recommendation). Although AI is widely deployed in social media, most applications are functional enhancements aimed at personalizing the service and optimizing the user experience for social media users. However, Sadiku's article, "Artificial Intelligence in Social Media," says that public relations departments and advertisers are making greater use of artificial intelligence in social media, such as accurate ad posting, user feedback collection, and analysis [7]. There needs to be mention of how AI can improve ad content and promote product marketing by stimulating positive emotions about ads from possible target users. Jeff-Hancock (2022) presents a concept that examines how social media affects users' self-perceptions [4]. Because short video platforms like Tik Tok have recently become popular in China, the researcher wanted to know if jeff-Hancock's concept could be implemented in a Chinese context. This study aims to improve marketing methods to make advertising on short video platforms more effective by leveraging the connection between artificial intelligence technology and how people perceive themselves. The plan addresses the problem that traditional marketing strategies are ineffective and annoying. Create an effective social media marketing strategy to generate interest in the product from users/potential users. The solution suits public relations, advertisers, and social media users.

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3. Study

According to Jeff Hancock's literature on the influence of social media on users' self-conceptual, the questions of In-depth interviews are set. Twelve TikTok users were selected as study participants for interviews. Expanding the In-depth interviews has two purposes 1) to ask the participants to gather the user's life experience, to identify the three ways in which content on social media can affect the user's self-perception 2) to finally try to test Jeff-Hancock's theory in practice. Due to geographical constraints, the interviews were conducted online.

3.1. Method

The grounded theory was developed by sociologists Glaser and Strauss [8]. The theory emphasizes using systematic data collection and constructing a theory about a phenomenon through an analytical process that operates interchangeably with induction and deduction. The main procedures in the coding phase of grounded theory include open coding, axial coding, selective coding, and other micro-analyses that iterate the data and develop a theory. The concept of constant comparative analysis, where data is collected and analyzed simultaneously, is the most critical feature of the grounded theory technique. Elements of each data set are compared with other data items based on the original data obtained. The researcher compares them to stimulate reflection and, thus, a comprehensive and concise understanding of the main qualities of the phenomenon under study.

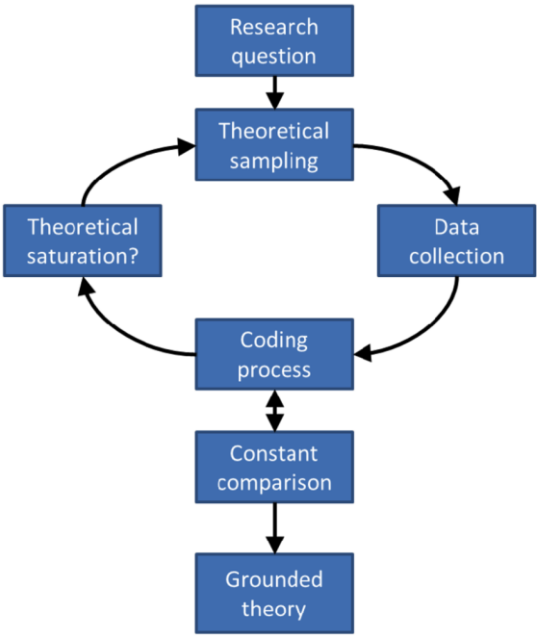

Figure 1: Analytical steps in ground theory.

Open coding is the process of breaking down information, examining, comparing, conceptualizing, and categorizing it without preconceived ideas. Firstly, the information is transformed into an overview, and secondly, related concepts are clustered into categories. Axial coding is the process of identifying causal relationships between categories in order to establish a theoretical framework. In the axial coding phase, Stauss and Cobin suggest using a conceptual analysis tool - paradigm - to organize the information and unify the structure and history, as shown in the Paradigm structure (figure 2).

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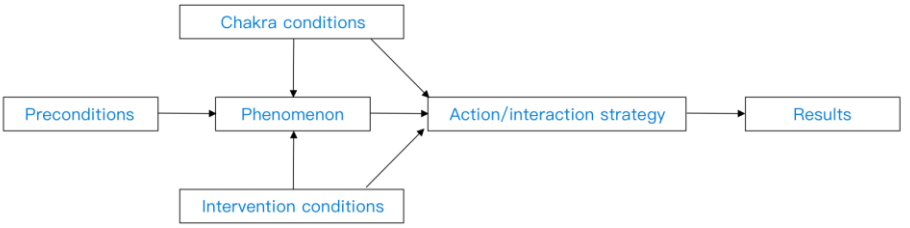

Figure 2: Paradigm structure.

3.2. Sample

Eleven Chinese Tiktok users were invited to engage in in-depth interviews. The eleven participants ranged from 18 to 35 years old, with six men and four women holding a bachelor's degree or higher. The interviews were all conducted online and lasted approximately 30 minutes.

3.3. Procedure

The questions for the in-depth interviews were set based on Jeff Hancock's theory. The interviews were designed to collect users' actual experiences of Jeff Hancock's "know me well," "real self," and "community" theories and to assess the effectiveness of Jeff Hancock's theory in practice. In addition, participants' opinions on TikTok ads and content modules of interest to them were summarized based on the interview transcripts to provide data to support the follow-up study.

In-depth interview questions.

(1) Are you a Tiktok user? What content do you read regularly? Is this content of interest to you?

(2) When you encounter content, you don't like, do you click on it to disinterest or cross it out?

(3) Do you think Tiktok understands your preferences?

(4) Do you find that similar content is often pushed to you? Do you find it boring?

(5) Would you like to see some new content instead of the content you often swipe to?

(6) When your interests change, does Tiktok update your preferences and push adapted content along with them?

(7) Do you ever feel that the content on Tiktok sometimes differs from what you want to see?

(8) If Tiktok always recommended similar content, would you be interested in the topic?

These questions will be adapted based on users' reactions and answers in the interviews.

3.4. Data Analysis

I examined and summarized the interview data of eleven participants using ground theory data analysis techniques. Draw a connection between TikTok's AI technology and user self-conceptual (know me well, real self, community).The interviews of the eleven participants were divided into three portions based on Jeff Hancock's conceptual theory.

1) Know me well: Nine participants said Tiktok-recommended content was on boards they were interested in. Five participants said their interests have expanded after using Tiktok. TikTok's material, according to nine participants, not only entertained and relaxed them, but also taught them something. According to one participant, the recommended content was not based on the participants' interests, as participants regularly shared things that their girlfriends liked. 2 participants said that they were only interested in the topic they were searching for at the time, and that their interest would be temporary because they used Tiktok as a search engine regularly.

2) Real self: More than half of the participants said that the content pushed by Tiktok is highly repetitive and tends to make people feel tired. Seven participants said they feel emptiness after using

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Tiktok because the content is too fragmented and difficult to form memories. Five participants said their moods changed quickly due to the influence of the background music. Nine participants said that there was a lack of choice of content, and they were always in a passive state of acceptance.

3) Community: The vast majority of interviewees said that they rarely use Shake to share links and connect with others, the timeliness of messages is not guaranteed and there is less of a sense of joy to share.90% of those interviewed would favorite, like and follow bloggers recommended by Jitterbug, but only a few would comment as well as generate more communication, this is because the atmosphere in the message section is not very good, and there is no good social environment, hoping to find more like-minded people.

Why are users' self-perceptions shaped by social media (short video platforms)? Through in-depth interviews with 11 participants. Using the Paradigm framework to analyse the key categories, I found that the emergence of social media was a precondition for the phenomenon of users' self-perceptions being shaped by social media, the application of AI technology was the intervening condition for the phenomenon, the fact that users can browse content that matches their interests on social social media, the fact that users can feel relaxed while using social media, the fact that social media satisfies users' curiosity (exposure to new things), and the fact that users build their social circles on social media are all Chakra conditions for the phenomenon. After the media have shaped the user's self-perception, content that matches the user's interests or value beliefs will achieve positive results. The result is that content that does not match the user's interests or value beliefs will achieve negative results. According to walkthrough [9] TikTok’s findings AI applications on short video screen platforms refer to personalized recommendations, VR beauty/filters, keyword blocking, chatbot. Among them, VR beauty/filters meet the leisure and entertainment purpose of short video platform users, keyword blocking and chatbot are both optimized for short video users' experience, but neither of them belongs to the core category. Personalized recommendation is the core category of this study, relying on algorithmic technology personalized recommendation can be accurately pushed to short video users, pushing content including video screen content and blogger users.

Personalized recommendations are an effective way to solve information overload. Due to the diversity of social media and users, personalized recommendation algorithm models have been continuously researched and improved. The short video platform needs to be divided into three stages to achieve personalized user recommendations. Each period has its specificity, as explained below: Stage 1: freely share and communicate. According to the actual feedback from participation in the interviews, stage 1 is based on personalized algorithmic recommendations that can accurately select potential target users; in stage 2, TIKtok's immersive interaction method forces users to choose to complete the first few seconds of viewing the video screen; stage Tiktok provides a temporary community with a discordant communication atmosphere.

3.5. Result

Examine the relationship between AI on social media and users' self-conception.

1. Know me well: —Positive
2. Real self: —Negative
3. Community: —Negative

Consistent with the findings above on the relationship between AI technology applications and platform users' self-conceptual in a short video. An excellent social media advertising strategy must avoid aimless random placement and quickly target potential users (know me well). Suppose the advertisement's content succeeds in arousing the interest of the potential target user. In that case, the basic parameters of the advertised product, the usage scenario, and the feedback from the purchaser become particularly important. Providing a dedicated space for the potential user to communicate and obtain information is more advantageous than allowing the user to search for relevant advice

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themselves (Real self, community). Combining these points, this study suggests more effective social media advertising strategies.

1) First, AI helps to anticipate and target potential customers.
2) Second, AI allows potential customers to access their exciting content.
3) Third, AI builds spaces for customers to share their user experiences and discuss them with others.

4. Conclusion

This project uses a qualitative approach to investigate these two research questions. First, to investigate the impact of AI technology on users' self-perceptions on short video platforms, the researcher conducted in-depth interviews with 11 participants to discover the relationship between the construction of AI technology on short video platforms and users' self-perceptions. The relationships were as follows.

1) know me well: -positive; 2) real self: -negative 3) community: -negative

Second, the researcher proposes to apply the relationship between AI technology and users' self-perceptions on short video platforms to a set of guidelines for improving marketing strategies. The marketing strategies are as follows.

1) First, AI helps to predict and target potential customers.
2) Second, AI allows potential customers to access the content that interests them.
3) Third, AI creates spaces for customers to share their user experience and discuss it with others.

This study has several limitations. 1) Geographical limitations: TikTok is not as popular in the West as it is in China, so the findings of the article may not necessarily apply to countries with a Western background. 2) This study directly selects Jeff-Hancock theory as the entry point of the study, trying to establish the connection between AI technology and user self-concept on short video platforms. There are many other theories about users' self-concept, such as Williams' theory of "how self-presentation and time burden affect self-concept on social media".

What improvements can be made in the future? 1) The sample of participants can be expanded to make the data more authoritative. 2) Due to covid-19 and geographic location, all interviews were conducted online, lacking observation of user responses, and recording of behavioral data. In the future researchers could use this strategy to go to North America or the UK and find more participants/interviewees.

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