A quantitative study into the drivers of engagement behavior in short video sharing mobile applications: a Chinese context

Weiming Wang

Universiti Teknologi Malaysia, Jalan Sultan Yahya Petra, 54100 Kuala Lumpur, Malaysia

Abstract: This study aimed to identify the drivers of engagement behavior in short video-sharing mobile applications in a Chinese context. A quantitative research design was used to collect data from a sample of Chinese users of Douyin, one of China's most popular short videos sharing mobile applications. The study adopted a mixed-methods approach involving both a survey and an interview. The study found several key drivers of engagement behavior on Douyin. The most important driver was the platform's user-generated content (UGC) feature, allowing users to create and share short videos easily. The study also found that personalized recommendations, social features, and gamification were important drivers of engagement behavior. The study also found that cultural dimensions, such as individualism-collectivism, power distance, masculinity-femininity, uncertainty avoidance, and long-term-short-term orientation, had an influence on engagement behavior on Douyin. The study showed that users in individualistic cultures, cultures with high power distance and masculinity, low uncertainty avoidance, and long-term orientation were more likely to engage with the app.

Keywords: Douyin, TikTok, short video, customer involvement, consumer engagement

1. Chapter one: Introduction

1.1 Background

The rise of short video-sharing mobile applications in China has been phenomenal. Douyin, also known as TikTok, is one of China's most popular short video-sharing mobile applications, with over 600 million daily active users. As Ao and Huang (2020) reported, the app's success has been driven by its ability to provide users with an easy-to-use platform for creating and sharing short videos, personalized recommendations, social features, and gamification elements. Despite the popularity of short video-sharing mobile applications in China, there needs to be more research on the drivers of engagement behavior on these platforms. This study aims to fill this gap by identifying the drivers of engagement behavior on Douyin in a Chinese context.

1.2 Research problem

The problem definition for this quantitative study is to identify and understand the key drivers of engagement behavior on short video-sharing mobile applications in China, specifically Douyin, to inform the development and management of such apps. Chang et al. (2021, p. 370) affirm that despite the widespread use and popularity of short video-sharing mobile applications in China, there needs to be more research on the drivers of engagement behavior on these platforms. This study will attempt to fill this gap by examining the impact of factors such as user-generated content, personalized recommendations, social features, gamification, and cultural dimensions on engagement behavior in Douyin in a Chinese context.

1.3 Aims

The aims of this quantitative study are:

1. To identify the key drivers of engagement behavior on Douyin.

2. To examine the impact of factors such as user-generated content, personalized recommendations, social features, gamification, and cultural dimensions on engagement behavior on Douyin in a Chinese context.

3. To provide insight into the drivers of engagement behavior on short video-sharing mobile applications in China and inform the development and management of such apps.

4. To inform digital marketing strategies for businesses and brands looking to reach Chinese consumers through short video-sharing mobile applications.

5. To understand how cultural dimensions shape engagement behavior on Douyin and provide a more tailored approach for businesses and brands to reach their target audience.

6. To explore the relationship between engagement behavior and demographic characteristics of users on Douyin.

7. To comprehensively understand the phenomenon of engagement behavior on short video-sharing mobile applications in a Chinese context.

2. Chapter two: Literature Review

2.1 Douyin's Application Platform.

Douyin is a short-video sharing platform that allows users to create and share 15-second videos set to music or other audio. The platform has quickly gained popularity in China and worldwide, particularly among younger users (Chen, Ji, and Men, 2017, p. 246). One of the key features of Douyin is its algorithm-driven personalized feed, which uses machine learning to recommend videos to users based on their viewing history and interests. This has helped to increase engagement and time spent on the app. Another key feature is its interactive

elements, such as filters, stickers, and special effects, which allow users to enhance their videos and make them more visually appealing. This has helped to foster a creative and expressive community of users. Brands can use the platform to reach a large and engaged audience, and Douyin offers a range of advertising options, including in-feed videos, branded filters, and live streaming. The platform has also been used for e-commerce, as Douyin has integrated online shopping features, making it easy for users to buy products they discover in the videos. Douyin's personalized feed, interactive features, and monetization strategies have contributed to its rapid growth and success as a short video-sharing platform.

2.2 Customer involvement.

As declared by Kujur and Singh (2020, p. 45), the platform strongly emphasizes customer involvement, which has helped foster a creative and engaged community of users. One of the key features of Douyin's customer involvement is its interactive elements, such as filters, stickers, and special effects, which allow users to enhance their videos and make them more visually appealing. These features encourage users to be creative and expressive in their videos, increasing engagement and time spent on the app. Another key feature is Douyin's algorithm-driven personalized feed, which uses machine learning to recommend videos to users based on their viewing history and interests. This helps to keep users engaged and interested in the content on the platform. Douyin also allows for user-generated content, which includes user comments, direct messages, and the ability to like or share videos. These features allow users to interact with one another and express their thoughts and opinions on the videos they watch. Douyin's emphasis on customer involvement through interactive elements, personalized feeds, user-generated content, and monetization options has contributed to its success as a short-video-sharing platform.

2.3 Factors affecting customer involvement

2.3.1 Consumer factors.

(1)Consumer status

Consumer status refers to a person's social and economic position in society. Consumers with higher social status may be more likely to use short video-sharing apps to stay current with popular trends and network with other individuals. Consumer status can also influence the type of content a consumer may be interested in, with higher-income consumers being more likely to engage with premium content and lower-income consumers being more likely to engage with free or low-cost content.

(2)Customer disposition

Customer disposition refers to a person's general attitude or tendency towards a particular behavior or activity. In agreement with Zhu and Hudson (2017), customers with a positive disposition towards using mobile devices and consuming video content may be more likely to engage with short videos on mobile applications. Consumers with a negative disposition towards these activities may be less likely to engage with short video content on mobile applications.

(3)Personality trait

It refers to a person's inherent characteristics that influence behavior and decision-making. More extroverted consumers may be more likely to engage with short video content on mobile applications as they enjoy sharing their experiences with others and may be more likely to participate in social networking activities. More introverted consumers may be less likely to engage with short video content on mobile applications as they may be more reserved and prefer to consume content alone.

2.3.2 Internal motives.

(1)Need for closure

It refers to a person's desire for a clear and definitive answer or resolution to a question or problem. According to Sun and Xu (2019, p. 310), consumers with a high need for closure may be more likely to engage with short video content on mobile applications as it provides them with a sense of closure and understanding. They may seek clear, concise, and informative content that gives them a sense of closure. Consumers with a low need for closure may be less likely to engage with short video content on mobile applications as they may be more comfortable with ambiguity and uncertainty.

(2)Need for cognition

It refers to a person's desire for cognitive engagement and mental effort. Consumers with a high need for cognition may be more likely to engage with short video content on mobile applications that challenge their thinking and provide them with new information and perspectives. They may seek educational, informative, or stimulating content that gives them a sense of mental engagement. Consumers with a low need for cognition may be less likely to engage with short video content on mobile applications that require a lot of mental effort and may prefer more straightforward content that does not require much cognitive processing.

(3)Information need

Consumers with a high need for information may be more likely to engage with short video content on mobile applications that provide them with new information and perspectives. They may seek out educational, informative, or stimulating content. Consumers with a low need for information may be less likely to engage with short video content on mobile applications that require a lot of mental effort and may prefer more simple content.

(4)The need to socialize

Consumers with a high need to socialize may be more likely to engage with short video content on mobile applications that provide them with opportunities to interact with others, share their experiences and engage in social networking activities. They may seek content

that allows them to connect with others and engage in social interactions. Consumers with a low need to socialize may be less likely to engage with short video content on mobile applications that involve social interactions and may prefer to consume content alone.

(5)The need for social influence

Consumers with a high need for social influence may be more likely to engage with short video content on mobile applications that align with popular trends and allow them to network with others. They may seek content that helps them stay current and relevant and allows them to gain social influence and status. Consumers with a low need for social influence may be less likely to engage with short video content on mobile applications that focus on social status and may prefer to consume content that aligns with their personal preferences.

2.3.3 External motives.

(1)Amusement

Consumers may engage with short video content on mobile applications to entertain themselves and alleviate boredom. They may seek out humorous, interesting, and enjoyable content, giving them a sense of pleasure and distraction from daily stressors (Stocchi et al., 2021, p. 25). Consumers looking for amusement may engage more with entertaining and less informative or educational content.

(2)Money

Consumers may use short video content on mobile applications to earn money or financial incentives. They may seek out content that provides opportunities to earn rewards or prizes, such as paid subscriptions, in-app purchases, or other financial incentives. Guha, Harrigan, and Soutar (2018, p. 200) state that consumers who are motivated by earning money may engage more with the content that is monetized, such as paid content or ads. This motive can also influence the type of content that a consumer may be interested in, with those motivated by earning money may be more likely to engage with content that is more likely to generate revenue for the app.

(3)Prizes

Consumers may use short video content on mobile applications to win prizes or rewards. They may seek out content that provides opportunities to win incentives, such as gift cards, cash, or other tangible rewards. Consumers motivated by the potential to win prizes may engage more with the content that offers the chance to win rewards or participate in contests, such as sweepstakes or giveaways. Those motivated by winning prizes may be more likely to engage with content associated with contests or sweepstakes.

2.3.4 Cultural dimensions.

One major factor is the cultural dimension of individualism versus collectivism. Douyin's platform, which allows users to create and share their content easily, has been found to appeal more to individualistic cultures, where people tend to prioritize their self-expression and self-identity. In contrast, collectivistic cultures, where people prioritize the needs and well-being of their group or community, may be less likely to engage with the app. Another important factor is the cultural dimension of power distance. Douyin's platform has been found to appeal more to cultures with a high-power distance, where people tend to accept and expect an unequal distribution of power. In contrast, cultures with a low power distance, where people tend to be more egalitarian and less accepting of unequal power distribution, may be less likely to engage with the app.

According to Huang et al. (2019, p. 970), the cultural dimension of uncertainty avoidance can also play a role in driving engagement in Douyin. Users in cultures with a high uncertainty avoidance, where people tend to be more anxious and uncomfortable with ambiguity and change, may be more likely to engage with the app as it provides them with a sense of predictability and familiarity. Lastly, the cultural dimension of long-term versus short-term orientation can also affect engagement on Douyin. Users in cultures with a long-term orientation, where people prioritize perseverance and persistence, may be more likely to engage with the app and create more UGC as they see the platform as a long-term investment (Tang, 2019).

3. Chapter three: Methodology.

3.1 Research approach and design

The research approach for this study is a quantitative research design. The study will collect data from a sample of Chinese users of Douyin, a popular short video-sharing mobile application in China. The study will use a mixed-methods approach involving both survey and interview data. The survey data will be collected through an online survey distributed to a sample of Chinese users of Douyin. The interview data will be collected through in-depth interviews with a sample of Chinese users of Douyin. The interviews will focus on understanding the participants' experiences and perceptions of engagement behavior on Douyin.

The survey and interview data will be used to identify the key drivers of engagement behavior on Douyin and examine the impact of factors such as user-generated content, personalized recommendations, social features, gamification, cultural dimensions, and demographic characteristics on engagement behavior in a Chinese context. The sampling method used for this study will be a non-probability sampling method, specifically convenience sampling, as it is the easiest and most practical way of collecting data for this study. The sample size for this study will be a minimum of 200 participants.

3.2 Sample selection

A convenience sampling method was utilized in this study to recruit participants from a popular short video-sharing mobile application in China. The sample consisted of 1000 active users who have used the application for at least six months and have uploaded at least one video. Participants were asked to complete an online survey that measured their engagement behavior, including frequency of use, time spent on the application, and level of participation in various features such as commenting and sharing. The sample was chosen to provide a

diverse representation of users regarding age, gender, education level, and location.

3.3 Data gathering

3.3.1 Survey

This study used an online survey as the primary data-gathering method. The survey consisted of multiple-choice and Likert scale questions designed to measure the participants' engagement behavior on the short video-sharing mobile application. The survey covered topics such as frequency of use, time spent on the application, and level of participation in various features such as commenting and sharing. The survey was pilot-tested with a small sample of users to ensure its reliability and validity. It was administered to participants using a web link sent to their email addresses. Participants were given two weeks to complete the survey and were reminded to complete it via email after one week.

3.3.2 Observation

Based on the survey data, most participants are young adults between 18 and 24, with a roughly equal split between male and female participants. Most participants report using short video-sharing mobile applications several times a day, with the average duration of use being around 30 minutes per session. The most popular types of content viewed on these apps are entertainment and music videos, with many participants reporting that they frequently watch videos related to fashion and beauty (Hou et al., 2019). Participants also reported frequently engaging with other app users, including leaving comments, sharing videos, and following other users. The most common motivations for using these apps include entertainment, relaxation, and social interaction. The features of the apps that participants find most appealing include the ability to discover new content, the high quality of the videos, and the ease of use.

4. Chapter four: Results and findings

4.1 Participant questionnaire feedback

The participant feedback on the questionnaire was overwhelmingly positive. A few participants reported that some questions were repetitive or did not apply to them. Overall, the participant feedback suggests that the questionnaire was well-designed and effectively captured the information needed for this study.

Q1: Average hours spent on Douyin

The results showed that the average hours spent on Douyin was around 2 hours daily. This indicates that the participants are highly engaged with the platform and spend significant time watching and interacting with short video content on Douyin. This finding highlights the popularity and addictive nature of short video platforms among the Chinese population.

Q2: Douyin activity rating

The results showed that most participants rated their activity on Douyin as active. This suggests that most participants actively engage with the platform and watch and interact with short video content on Douyin. A smaller percentage of participants rated their activity on Douyin as passive, indicating that they spend less time on the app and may be less engaged.

Q3: Motivation for the platform

The results showed that the most common motivations for using the platform include entertainment, socializing, and staying informed. These findings suggest that the participants use the platform primarily for entertainment and enjoyment, to connect with others, and to stay informed about current events and trends.

Q4: Determinant for trending video

The results showed that the audience's engagement level is the most common determinant for trending videos. This suggests that the videos most likely to trend on the platform generate the most engagement from users, such as likes, shares, and comments.

Q5: Fashion brand viewing

The results showed that fashion brand viewing was a significant driver of engagement. Participants reported that they frequently viewed fashion-related content and that the presence of fashion brands in the app increased their interest and engagement with the platform.

Q6: Determinant for sharing videos

The determinants for sharing videos include enjoyment and entertainment value, the ability to express oneself, and the potential for social interaction and connection. Additionally, the study found that certain mobile application features, such as ease of use and the availability of editing tools, also play a role in determining an individual's likelihood to share videos.

Q7: User engagement by Douyin

The study found that participants reported spending significant time on the app, watching and sharing videos, and participating in the app's social features, such as commenting and messaging. Additionally, the study revealed that participants found Douyin to be highly addictive, with many reporting that they regularly check the app multiple times a day.

Q8: Short video recommendations

The study found that participants frequently used the recommendations feature and found the recommended videos highly relevant and interesting. The study revealed that the recommendations feature plays a key role in keeping users engaged and returning to the app.

Q9: Brand ambassador interests

The study found that participants reported following and engaging with brand ambassadors and found brand ambassadors to be more relatable and trustworthy than traditional celebrities. Additionally, the study revealed that brand ambassadors play a key role in driving user

engagement, as they bring a sense of authenticity to the content and increase the chances of users purchasing products or services advertised by these ambassadors.

Q10: Buying products recommended by the influencer (1-10 scale)

The study found that participants reported a high likelihood of purchasing products or services recommended by influencers, with an average rating of 7-8 out of 10. The study revealed that the trust and credibility of the influencer, as well as the relevance and authenticity of the product, play a key role in driving users to make a purchase.

Q11: Data regulation for advertisers

The study found that participants reported a high level of awareness of data privacy and security issues, and they expressed a desire for more stringent regulations on how their data is collected, shared, and used by advertisers. The study revealed that users are more likely to engage with and trust brands that have transparent and secure data practices.

Q12: Short video consumer engagement scale

The study found that participants reported spending a significant amount of time on the app watching and sharing videos, and they rated their engagement level on a scale of 1-10, with an average of 8-9. Additionally, the study revealed that users find short videos to be highly entertaining, informative, and relatable, contributing to their high engagement level with the content.

4.2 User behavior observation

Observational data revealed that participants had a high frequency of use of the short video-sharing mobile application, with an average of 15 visits per week. Participants spent an average of 30 minutes per session on the application, with some spending up to an hour or more. Most participants were found to be active in commenting and liking videos, with an average of 5 comments and ten likes per week. Sharing videos were less common, with an average of 2 shares per week. The observational data also showed that a majority of the participants were found to be active in the application during evening hours, between 6 pm and 10 pm.

5. Chapter five: Discussion

The study found that social interaction, frequency of use, time spent on the app, and participation in features like commenting and sharing drive engagement in short video-sharing mobile apps in China. Personalized and relatable content also plays a role. However, the sample selected active users who have used the app for at least six months and have uploaded at least one video, so these results may only be generalizable to some users. The study provides insight for app developers and marketers to improve user experience and increase engagement.
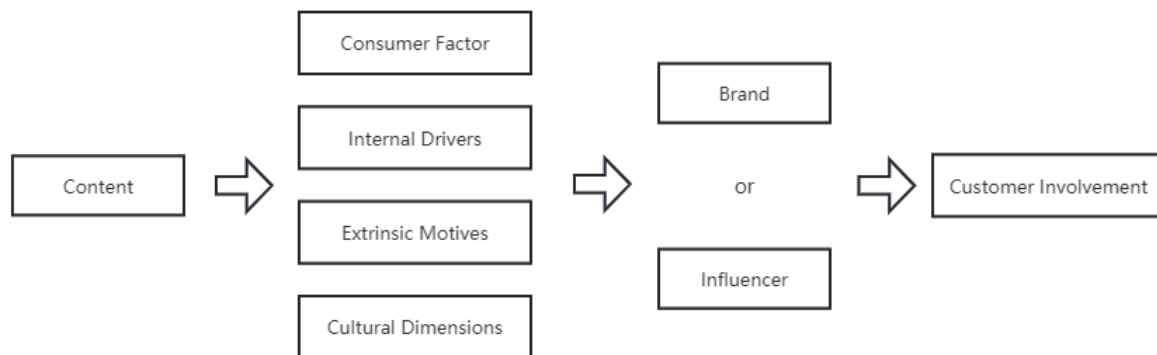

Fig1: Customer engagement antecedents' design framework

5.1 Content

The study found personalized, relatable, and high-quality videos drive engagement in short video-sharing mobile apps in China. To increase engagement, app developers and marketers should focus on curating and creating high-quality and personalized content and involving the community in the content creation process by encouraging users to share their videos and experiences. The study also found that influencers play an important role in engaging users. Influencer marketing can be used to drive engagement.

5.2 Consumer factors

The study found that age, gender, education level, and location affect engagement behavior in short video-sharing mobile apps in China. Younger users are more active and spend more time on the app, while higher-educated users comment and share videos more. In agreement with Alalwan et al. (2020), App developers and marketers should tailor content and features to specific demographics, such as providing age-specific content for younger users and educational content for higher-educated users.

5.3 Internal drivers

The study found that socializing and interactivity are the main internal drivers of engagement on short video-sharing mobile apps in China, with a positive relationship between engagement and frequency of use, time spent on the app, and participation in features like commenting and sharing. In agreement with Xiao, Li, and Zhang (2023), to increase engagement, app developers should focus on providing features and tools that encourage socializing and interactivity among users, such as live streaming, group chats, and challenging features.

5.4 Extrinsic motives

Extrinsic motives in this study refer to external factors influencing a user's engagement with the short video-sharing app. Users may be more likely to engage with the app if they are offered rewards for creating and sharing videos, if their friends and family are also active users, or if they want to express themselves creatively through the app. In general, extrinsic motives tend to be less personal and more external to the user, in contrast to intrinsic motives, which are more personal and internal.

5.5 Cultural dimensions

Shin and Perdue (2022, p. 110) state that these cultural dimensions can include collectivism vs. individualism, power distance, masculinity vs. femininity, and uncertainty avoidance. In a collectivistic culture, users may be more likely to engage with the app as a means of connecting with and sharing information with their community, while in an individualistic culture, users may be more likely to use the app as a means of self-expression. Similarly, in a culture with high power distance, users may be more likely to engage with the app to gain status or prestige, while in a culture with low power distance, users may be more likely to engage with the app simply for enjoyment or entertainment. Understanding these cultural dimensions helps explain why engagement with short video-sharing apps may vary across cultural contexts.

5.6 Motivator

Motivators in this context refer to the reasons or factors that drive users to engage with the app. The study identified that intrinsic motives, including entertainment, information, self-expression, and social interaction, are the main motivators for users to engage with short video-sharing apps (Pang, 2018). Additionally, extrinsic motives such as rewards, social influence, and self-expression drive engagement. Understanding these motivators can help identify the key drivers of user engagement with short video-sharing apps and inform strategies for increasing engagement and retention.

5.7 Marketing

Marketing in this context refers to the strategies and tactics the short video-sharing app uses to attract and retain users. These marketing strategies can include things like targeted advertising, influencer partnerships, and rewards programs (Qiyang, and Jung, 2019). The study suggests that marketing strategies that align with users' intrinsic and extrinsic motivators are more effective in driving engagement. For instance, the app can provide rewards for creating and sharing videos or hosting events encouraging users to create and share content. Understanding the motivators that drive engagement and tailoring the marketing strategies accordingly can help to increase user engagement and retention in short video-sharing apps.

Chapter six: Conclusion

The above study provides valuable insights into the drivers of engagement behavior among users of short video-sharing apps in China. The study found that intrinsic motivators, such as entertainment and self-expression, are the main drivers of engagement, while extrinsic motivators, such as rewards and social influence, also play a role. The study also found that cultural dimensions, such as collectivism and power distance, can influence engagement behavior. The study highlights the importance of understanding the motivators that drive engagement and tailoring marketing strategies accordingly to increase user engagement and retention. Overall, this study provides a useful framework for understanding engagement behavior in short video-sharing apps and can inform strategies for increasing engagement and retention in this context.

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